



South Platte Park...

a Natural Area

MANAGEMENT PLAN

Aug 2024



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ABBREVIATIONS

CAEE	Colorado Alliance for Environmental Education
CBCN	Chatfield Basin Conservation Network
cfs	cubic feet per second
Center/CNC	Carson Nature Center
CPW	Colorado Parks and Wildlife
CHEERS	Chatfield Environmental Education Resource System
CWSD	Centennial Water & Sanitation District
District	South Suburban Park & Recreation District
IGA	Inter-governmental Agreement
Lake 1	Blackrock Lake
Lake 2	Eaglewatch Lake
Lake 3	Redtail Lake
Lake 4	Ladybug Lake
Lake 5	Bufflehead Lake
MCGT	Mary Carter Greenway Trail (originally Arapahoe Greenway Trail)
NDIS	Natural Diversity Information Source
Park	South Platte Park
PFD	Personal Floatation Device
RTD	Regional Transportation District
Shop	Maintenance facility
SPP	South Platte Park
SSPRD/District	South Suburban Park & Recreation District
SCFD	Scientific and Cultural Facilities District
USACE	United States Army Corps of Engineers

KEY TO LAKES

Some Historic documents reference the lakes by their original number:

Lake 1 = Blackrock Lake
Lake 2 = Eaglewatch Lake
Lake 3 = Redtail Lake
Lake 4 = Ladybug Lake
Lake 5 = Bufflehead Lake
Olsen Lake became Cooley Lake
Kiewit Pond became South Platte Reservoir

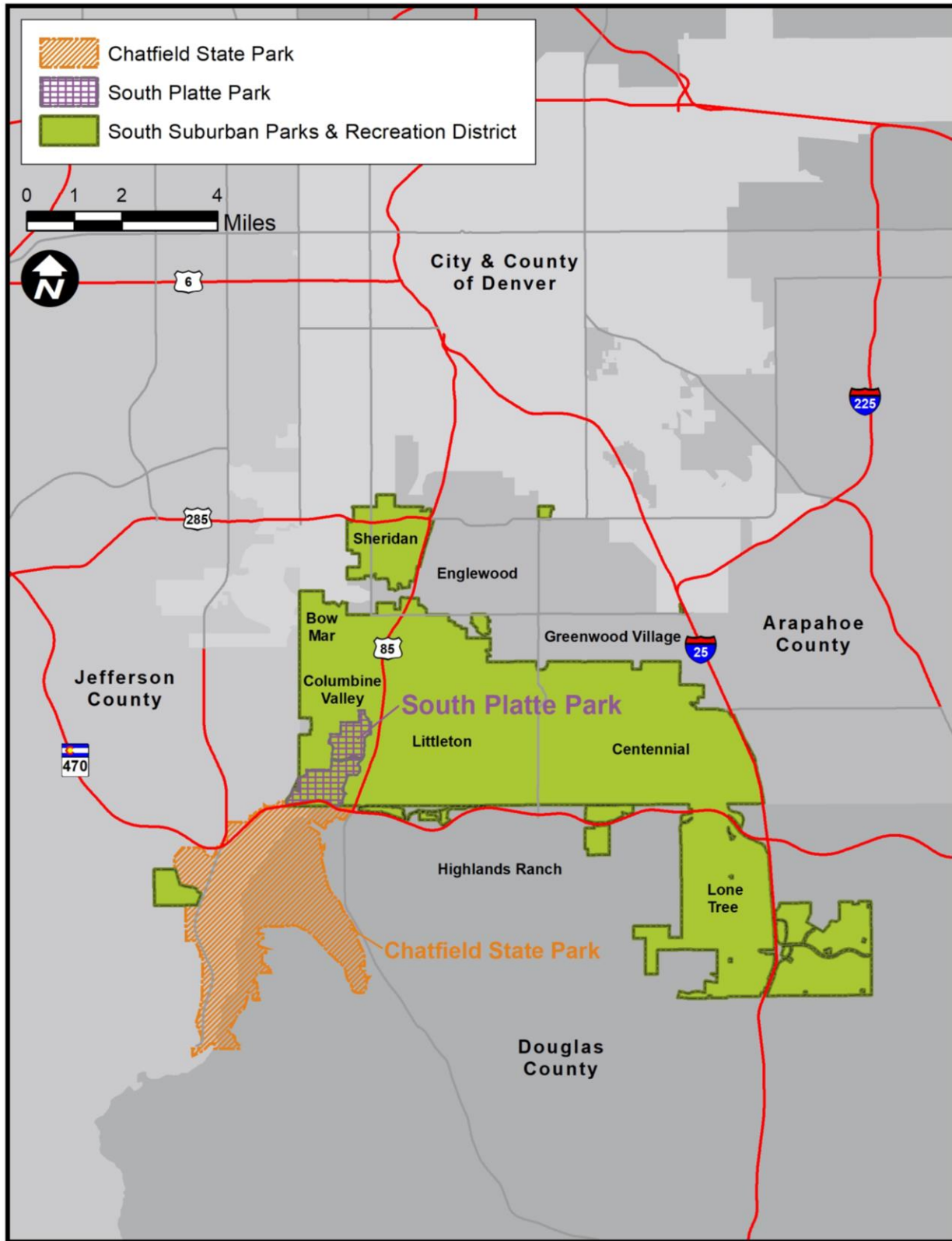
INTRODUCTION

South Platte Park claims its origins in the aftermath of the catastrophic flood in 1965 and the subsequent federal plan to channelize the river as part of the Chatfield Flood project. Littleton fought to maintain a natural floodplain for use as a public park and claims credit for precedent-setting legislation to allow this option. South Platte Park is the result of the hard work of numerous individuals and groups to maintain the natural beauty and function of the Platte River Valley. The vision for the Park was defined in a 1983 Master Plan (revised in 1988), to balance visitor use with preservation of the resources. That plan states the intent of this Park is to “capture the essence of a natural river valley and . . . allow for visitor opportunity while providing an undisturbed area for wildlife retreat.”

This management plan provides direction to meet the goals and objectives of the Master Plan in the current urban environment and using the best modern practices. The plan provides land use guidelines, summarizes water rights and property agreements, identifies important wildlife habitat, and addresses policies to protect the wildlife, vegetation, and wetland resources. The plan details visitor management policies including parking and access, trails, and facility development along with defining appropriate types of use. Interpretation and education are addressed as important aspects, due to their ability to enhance the visitor experiences and impact visitor behaviors, and the importance of the role of volunteers put forth in the Master Plan is embraced.

South Platte Park (herein referred to as the Park) is a natural area of approximately 880 acres located in Littleton, Colorado (Figure 1, Vicinity Map). The City of Littleton owns the majority of the Park and South Suburban Park and Recreation District (herein referred to as the District or SSPRD) manages it (Appendix 1, South Platte Park Management Agreement, as amended in 2017). The Park consists of approximately 644 acres of title-held property and 236 acres under lease or management agreements. An additional 47 acres on 13 additional parcels are held under conservation easements on private property, managed as contiguous buffers, or have not yet been formally annexed into the South Platte Park (Figure 2, Management Sites). They are addressed under this plan to provide consistent management of contiguous habitat. Currently 927 total acres fall under the management attention of the Park staff.

Figure 1: Vicinity Map



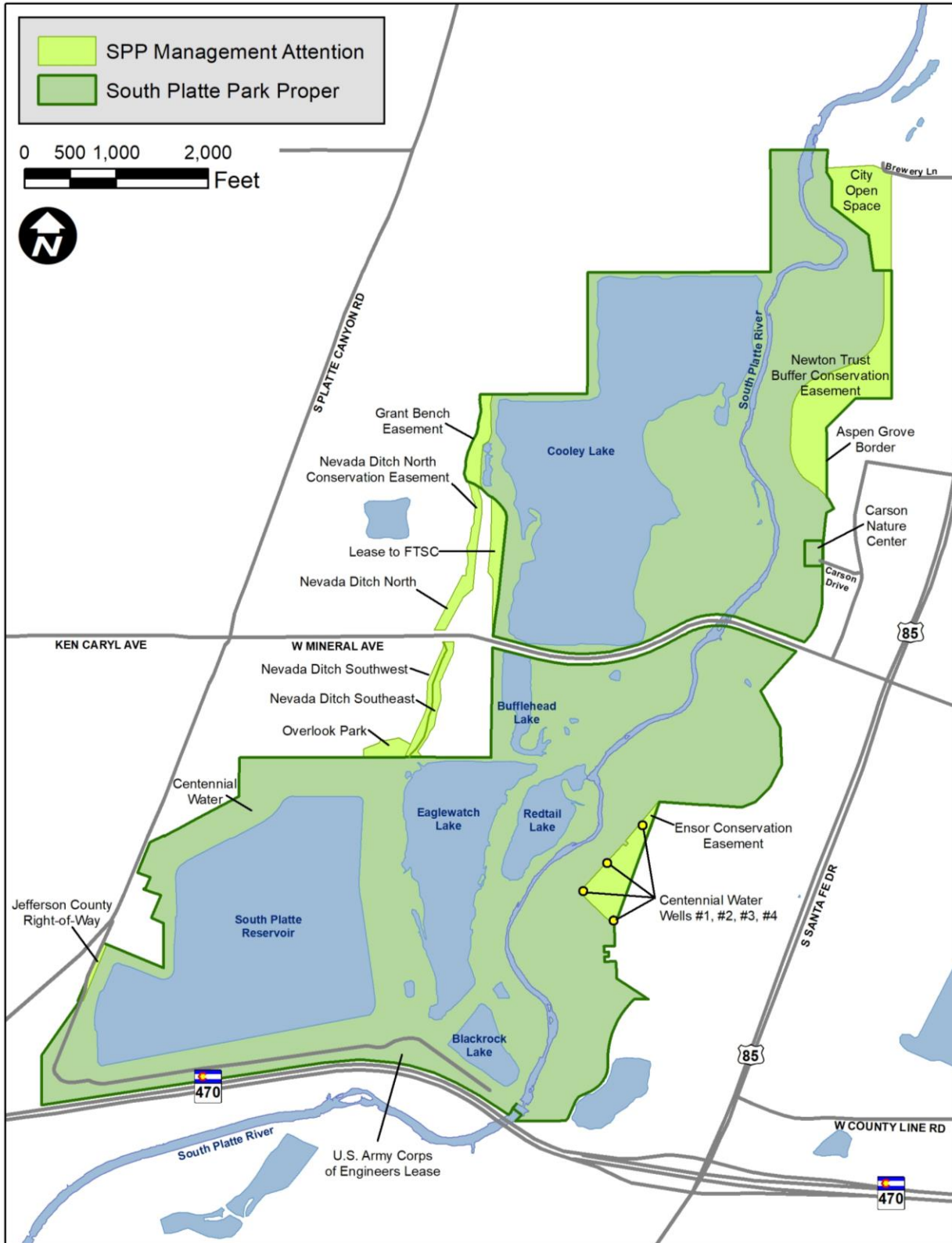
South Platte Park holds a designation from the National Audubon Society as an Important Bird Area for both its summer breeding habitat quality, with 66 species of birds confirmed to have bred here, as well as its value as a wintering area for more than 31 species of North American waterfowl and their kin. South Platte Park is open to a wide variety of public uses from several access points, except for several designated wildlife areas or revegetation zones. Hikers, horseback riders, and bicyclists are encouraged to stay on trails but have the freedom to explore off them. The Park is a heavily used natural open space within an urban area, which makes it vulnerable to overuse and disturbance, so it must be managed wisely. Some areas of the Park will not withstand impacts from major human intrusion or, if impacted, could decrease the habitat value of the Park overall. Sections of this plan, such as the Resource Management and Visitor Management sections will identify these areas and recommend management direction.

It is the intent of the City of Littleton and SSPRD to provide for visitor safety and enjoyment, provided it falls within what is needed for the protection of the natural resources within the Park. The 1983 Master Plan outlined a type of zone management for low, moderate, and high use areas with seasonal closures that is still commonly used in natural area management today.

The Master Plan recommended a strict capacity be set (a pre-determined number of people that the Park could accommodate) to guide the management decisions but did not suggest a number. Modern park management techniques recognize that while there still may be an ultimate capacity, numerous variables can reduce the visitation impacts and shift that limit so it may be difficult to define a specific number. The Master Plan was written when much of the Park was an active gravel mine or undergoing restoration, when there were few residential developments nearby, and when a one-day count of 183 visitors triggered concern for potential overuse. In 2020, trail counters recorded 629 visitors in one hour using the trail, and yet the habitat quality remains high.

With this plan, staff will begin more formally documenting baseline data on some key indicators of habitat quality and visitor experience. The trends in some of these quantitative components can be compared to user satisfaction reports to determine potential limits of change that visitors find acceptable. In conjunction with estimated use numbers, these indicators can help inform management actions when undesirable conditions begin to appear that indicate a change in the character of the Park.

Figure 2: Management Sites



The fact that this Park is in the middle of a metropolitan area means constant demands and disturbances. A number of compromises have already been made since the Park was first conceptualized, including the bisection of the Park with Mineral Avenue, a number of utility easements crossing the park, and conversion of land into regional stormwater facilities. The Mary Carter Greenway Trail has developed into a regional commuter connection, and as a consequence it operates on a schedule outside the park hours. Snow plowing was extended south of Mineral on this trail, so trail use that once dropped in the winter now remains high. Each of these changes impact the number of people and the types of uses, which ultimately impact habitat, wildlife populations, and visitor experience.

While certain aspects of the Master Plan are no longer valid, the goals remain unchanged (Appendix 2, South Platte Park Goals). This plan also serves to capture and leave clues of the numerous agreements that impact managing the Park. The Management Plan and all of its subsequent updates have been prepared by the District, reviewed by City of Littleton staff, and accepted by both the SSPRD Board of Directors and the Littleton City Council in a public forum. The IGA between the agencies states they will revisit the plan “from time to time” and staff generally prepare revisions approximately every five to eight years or as changes dictate.

To ensure the goals and objectives of the 1983 Master Plan are attained, it is imperative the policies, procedures, and management techniques in the Management Plan are implemented to achieve a balance between visitor use and the preservation of the natural resources.

LAND USE CONCEPTS

The ecosystem in South Platte Park is classified into four major ecological community types. These communities each have land use guidelines and management practices that maximize the protection and conservation of habitat. These practices include the restoration of native plants, control of invasive weeds, management of water quality, erosion control, fish stocking, wildlife monitoring, and wildlife population control. The South Platte Reservoir is uniquely managed for municipal water supply with an intergovernmental agreement with Centennial Water and Sanitation District (CWSD); and it also serves as an important habitat for waterfowl and shorebirds.

PROPERTIES MANAGED

Three different variables affect what happens in management areas of the Park: if a parcel is within the formal boundaries of South Platte Park (Figure 2, Management sites), who owns the property (Figure 3, Ownership), and the city, county, or federal rules in effect (Figure 4, Jurisdictions).

Properties are designated by the Littleton City Council as being officially within the boundaries of South Platte Park, which then fall under all aspects of this management plan. Additional areas such as essential buffer properties, conservation easements, or adjacent properties are considered Management Sites that are inspected and maintained by South Platte Park staff, but may have different rules and restrictions, and projects are funded separately from the Park.

In general, any construction actions within the Park – including facility construction or cut and fill operations require approval from the US Army Corps of Engineers (USACE) to ensure it does not impede flood conveyance. Additionally, approvals are needed from the Colorado Water Conservation Board, which has ultimate authority for recreational use of the river corridor from the USACE, the City and County Jurisdictions the project falls in, and the property owners which vary from governmental to private entities. Appendix 4, List of Agreements, may provide further insight into the status of particular parcels. Final approvals of any actions may require public process and joint approval of both the Littleton City Council and the South Suburban Board of Directors.

Figure 3: Ownership

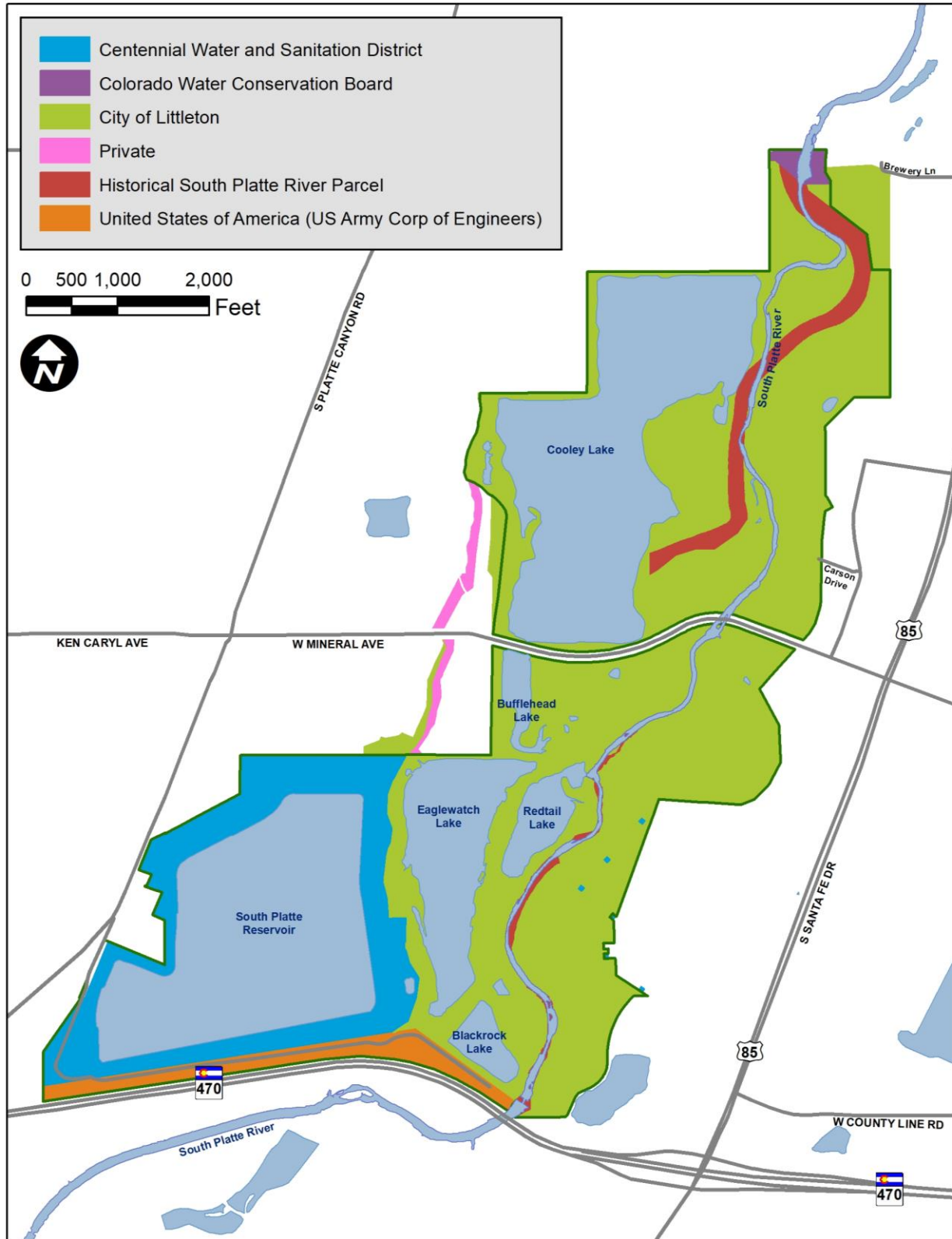
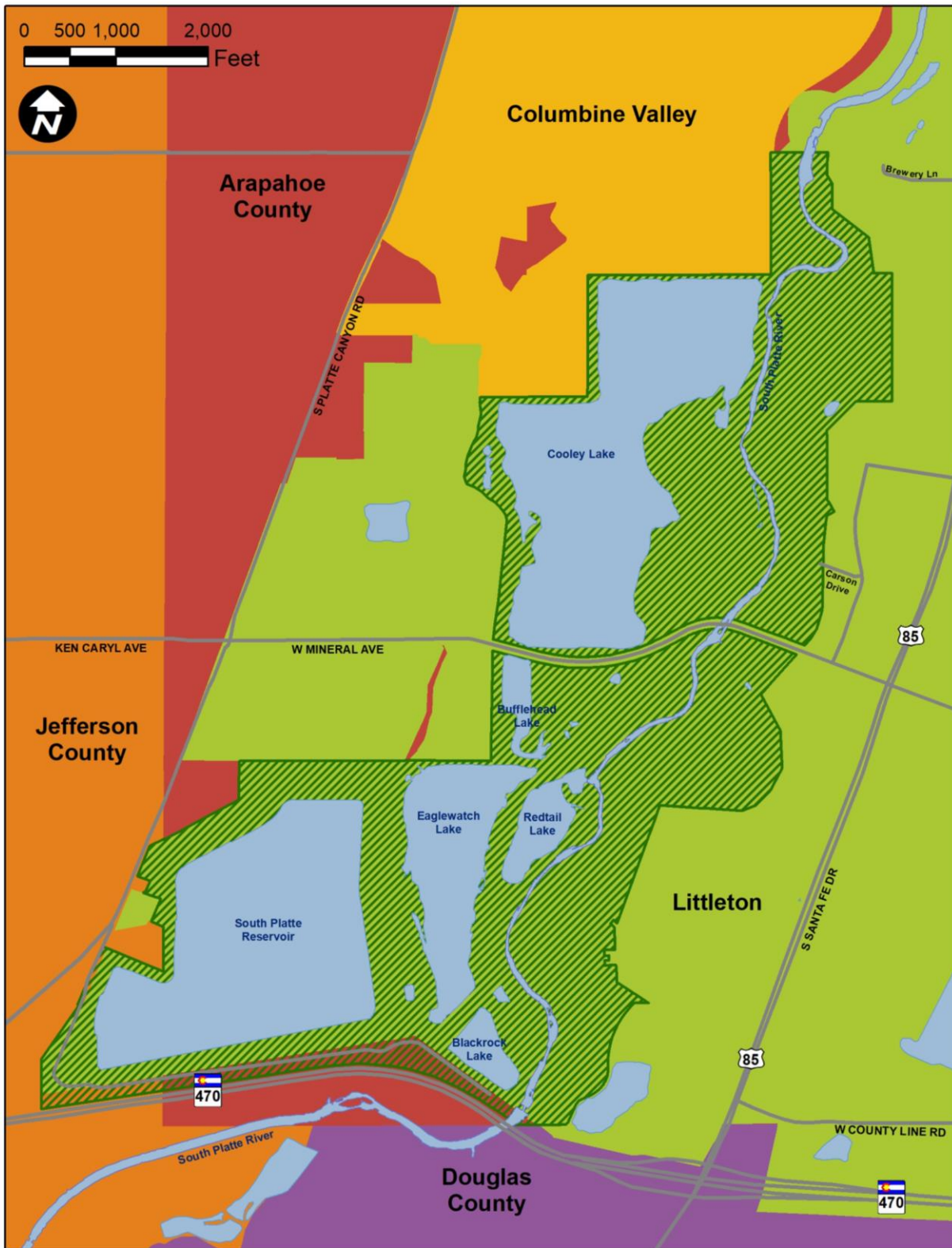


Figure 4: Jurisdiction



A formal conservation easement is in place for the Newton Trust Conservation Easement and for the Ensor Conservation Easement, both held by Colorado Open Lands. These are inspected annually. In addition, several conservation easements protect the Nevada Ditch that are currently held by the City of Littleton. The area is inspected each year for management needs.

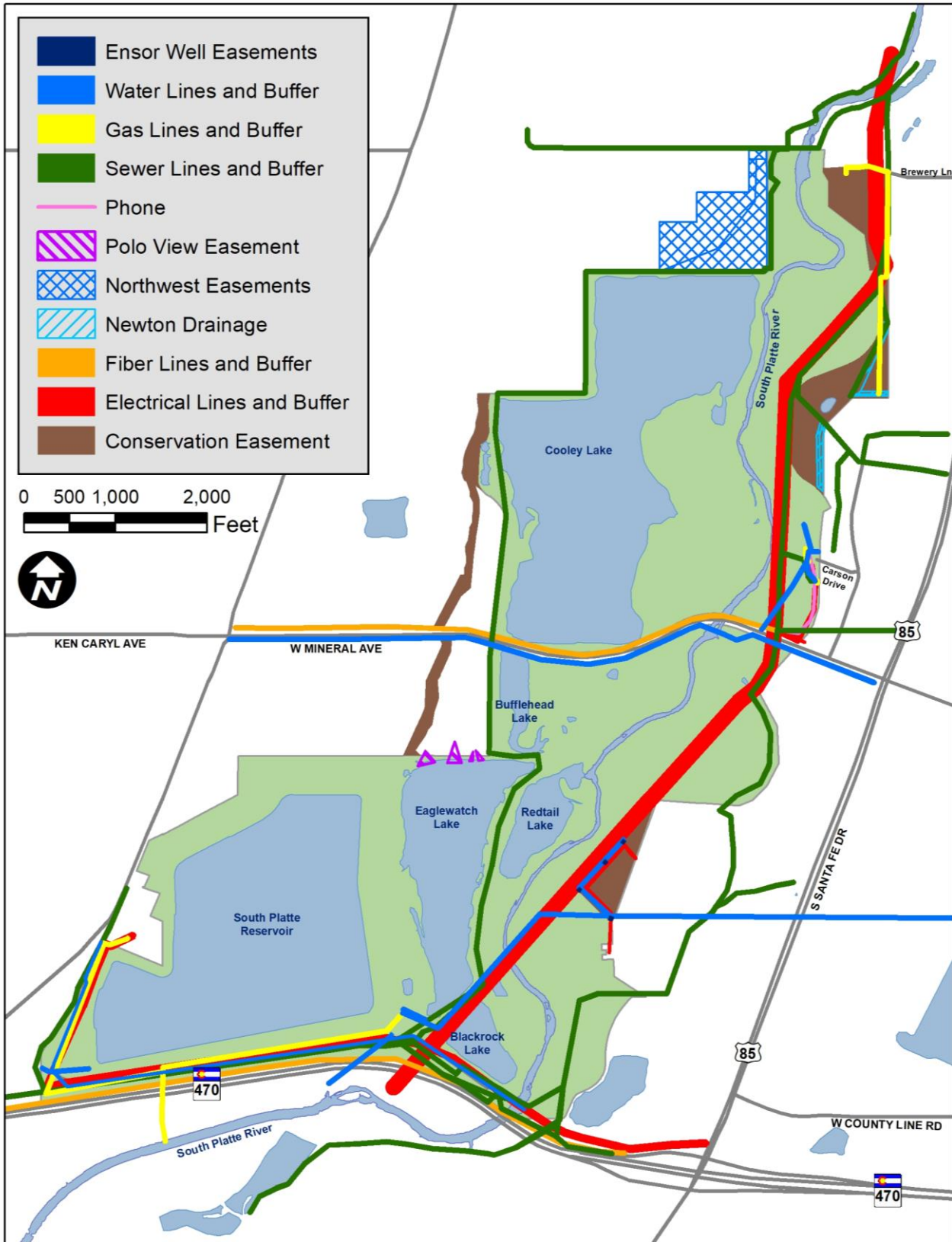
At the southwest entrance to the Park, the chain-link gate and park sign are near Platte Canyon Rd, but the first hundred yards beyond the gate are still Jefferson County Right of Way and not formally in Littleton or the Park. The road and parking lots lie on federal land leased from the Army Corps of Engineers. Another area worth noting is the border with the Aspen Grove apartments. The property border officially lies in the center of the swale, but by agreement the fence was built at the top of the privately held east side of the swale as an access barrier. South Platte Park staff maintain the property on the Park side of the fence as contiguous habitat, even though that strip is privately owned, and this is stated as such in the documentation with the developer to prevent any legal processes that would lead to changing ownership of the property.

LAND MANAGEMENT PROCEDURES

South Platte Park is owned by the City of Littleton and managed by SSPRD. Both agencies place high priority on managing according to sound ecological principles. The day-to-day operations are referenced in operating procedure manuals maintained by staff supervisors at the Park. Outside entities that need to work within the Park must obtain temporary access permits that hold them responsible for maintaining the standards set for the property.

The Temporary Access Permit fee schedule is established by SSPRD, who also manages the application process and monitoring. South Platte Park is crossed by over a dozen utility easements (Figure 5, Easements). Some of the major easements include sewer lines for Littleton, Roxborough, Ken Caryl, and Southwest Metro Wastewater Districts, Xcel Energy power lines and natural gas lines, City of Littleton and Denver Water conduits, fiber optic lines, the C470 right of way, and others. Entities that hold a permanent easement must be provided access to their utilities, however, they are required to make contact with Park staff prior to work, acquire permits when appropriate, and if doing any work that disrupts the surface conditions in their easement, they must meet the Park's standards for restoration or mitigation.

Figure 5: Easements



Park staff inspect the boundaries of the Park regularly for dumping and encroachment. New homeowners will sometimes dump yard waste over their fences into the Park or attempt to add new gates or private landscaping that are not allowed. These individuals are contacted by Park Rangers in accordance with the encroachment and dumping policies of SSPRD. In the Wolhurst Community on the southeast boundary of the Park, the structures and ornamental plantings of twelve mobile homes are documented as allowed encroachments. A licensed use agreement between the City of Littleton and homeowners was made to require non-replacement of these structures when they fail or are removed, but to allow residents to use a small portion of the park as a backyard with non-permanent alterations. Native trees and plantings on the encroachment are under ownership of the Park. It is important that any new staff, City and District Directors, and the Wolhurst Management remain aware of this border situation.

ECOLOGICAL COMMUNITIES

Four major ecological communities exist within South Platte Park: (Figure 6, Ecological Communities). Aquatic habitat and Upland Grasslands form the majority of the Park (Table 1).

Upland Woodland - Upland woodlands in South Platte Park primarily consist of cottonwoods in scattered groves within the riparian-prairie transitional zone and floodplains. Most woodlands now show significant stress and decline from changes in groundwater, reduced river flows, and a lack of regeneration tied to natural flood cycles. In 2023, a forest management plan is being developed to address the future of these areas.

Upland Grassland – These consist of meadows or fields dominated by grasses and forbs. A forb is any soft-stemmed, broad-leaved, flowering plant. Some of these areas are infested with non-native species for which control is mandated by the State of Colorado. Weed control and re-vegetation prescriptions are implemented to favor native species.

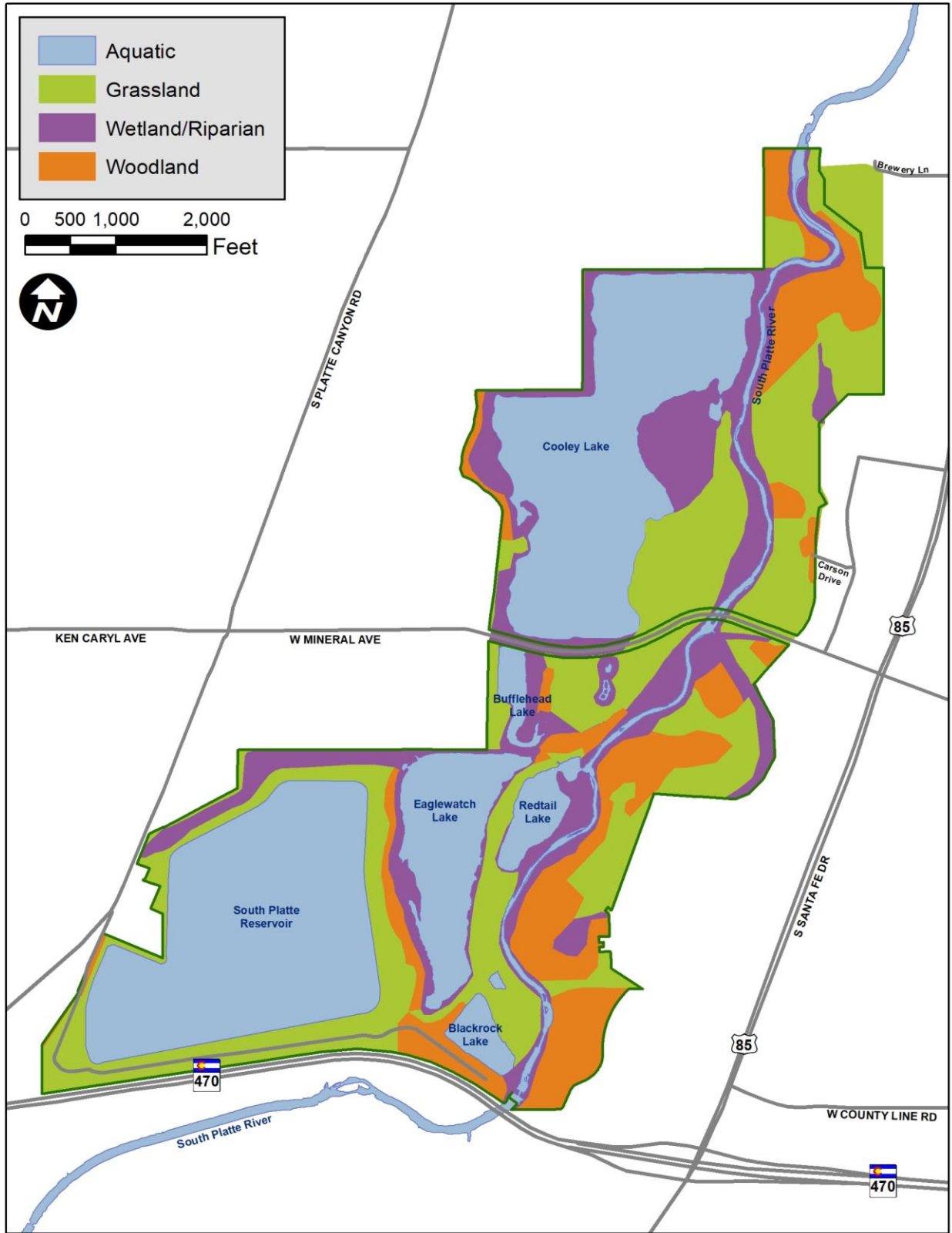
Aquatic – Warm water ponds and lakes, cold water lakes, the river, and tributary streams make up the aquatic community. More than one-third of the area of South Platte Park is surface water, including 2.5 miles of the South Platte River.

Wetland and Riparian – Wetlands, as defined by the U.S. Fish and Wildlife Service, is where the water table is at or near the surface of the land or where the land is covered by water up to six feet deep some time during the growing season each year, while having some wetland type soils and specific wetland plants. Riparian areas are transitional areas between upland and wetland or aquatic environments, also with unique plant communities.

Table 1. Ecological Communities in South Platte Park

Community	<u>Acreage</u>	<u>Percent of Park Area</u>
Upland Woodland	124	14
Upland Grassland (includes 10 acres of Mineral ROW)	216	24
Aquatic	375	43
Wetland and Riparian	165	19
Total	880	100

Figure 6: Ecological Communities



PROTECTION OF CONTIGUOUS HABITAT

With a high-volume trail bisecting the Park, and the physical boundaries of C470, Mineral Avenue, and surrounding developments, the Park has become a nearly closed-off natural system from what was initially envisioned as a rural open space park. It is imperative to assertively protect the resources in the Park from further degradation as its ability to rebound is limited. This includes the vegetation, wildlife, geological, and hydrological components, as well as the ecological processes necessary to maintain healthy, sustainable, functioning ecosystems. For example, the Mineral Avenue extension created an impact on the wildlife in the Park since opening May 1988. The road runs east-west, disrupting the north-south migration patterns of mammals, reptiles, and amphibians. To protect drivers on the road, a deer fence was completed along Mineral Avenue in 1990, creating a nearly complete barrier between the north and south sides of the Park. The trails under Mineral Avenue have the potential to serve as a wildlife corridor when the Park is closed, and this function would be disrupted by increased night visitation.

MANAGEMENT GUIDELINES

To continue good conservation practices, South Platte Park management will adhere to City of Littleton ordinances, and general rules and regulations adopted by SSPRD. Special areas of concern addressed SSPRD or by the 1983 Master Plan are as follows:

Pollution - Disposal of solid waste (trash/litter/residential yard clippings), sewage, and chemicals, as well as the environmental degradation of air, water, and soil are prohibited in the Park.

Wildlife Areas - A variety of Wildlife Areas will be designated, protected, and enhanced to ensure the perpetuation of native plants and wildlife. Some areas may have restricted use and may be accessed only on staff-led interpretive hikes and organized resource management activities.

Chemicals - The Master Plan raised concern about the misuse of chemicals which could harm the environment if improperly used. Herbicide formulas and integrated pest management have evolved significantly. All herbicides, pesticides, fertilizers and other chemicals are stored and applied only according to State and EPA regulations by licensed applicators.

Removal of Trees - Removal of living trees, snags, or dead wood is not allowed except when trees might pose a safety hazard to property or Park visitors. Non-native, weedy tree species such as Russian olive, buckthorn, and tamarisk, as well as diseased trees may be removed.

The City forester should be consulted before the removal of native trees over 4-inches in diameter. Contractors removing trees for any purpose in the Park must obtain their own permit and are typically required to plant two trees for each one removed.

Collecting Natural Materials - Collecting natural materials is prohibited except for educational purposes, recreational fishing, propagation programs, resource management, and scientific study by permit from the South Platte Park staff. Littleton City Code addresses collecting of plants and animals, and in South Platte Park, this designation is expanded to include minerals and wood as well. Gold panning by individual Park users or groups not coordinated through the Nature Center programming or a permit is not allowed.

Hunting and Trapping - Hunting of birds and wildlife within the Park is prohibited. Hunting and trapping are allowed for management or educational purposes only under guidance and supervision of South Platte Park staff. Trapping of crayfish is not described as a sport fishing method in the City Code, and therefore is only allowed under a special permit.

CORE HABITAT AND USE ZONES

The 1983 Master Plan introduced the concept of a core habitat area, protected by areas of low or restricted use transitioning into areas of heavier recreational use. This concept minimizes the impact of heavy recreational use on the wildlife and habitats of an area. The initial core area was identified as the Lakes area south of Mineral Avenue. At the time, these were restored gravel pits and Cooley was an active mining operation. At hearings on the Master Plan, the public response was to request the 'natural areas' of the park be opened for fishing and trail use now, so a conscious decision was made to identify the future Cooley Lake area as the core habitat zone with limited access in exchange for creating moderate to heavy use areas around the lakes. Figure 7, Visitor Use Zones, shows the arrangement of low, moderate, and heavy use areas that help inform management activities and trail types. Appendix 5, Cooley Lake Policy, gives more detail on the value and reasoning behind the Cooley Lake core habitat area concept.

High Use Area – these include the Greenway Trail Corridor, the area surrounding the Nature Center, and the closest access area for fishing the lakes. These areas are characterized by having other users nearby at almost all times, blending multi-modal activities, and including some commuter traffic. Voices and conversations can be heard, traffic sounds may be higher, wildlife sightings may not be as frequent, though habitat is still high quality, and animals may be moving in response to visitor use. Anglers can expect more of an 'urban' experience with bait/lures in use, and fishing occurring in the general area as other users. There is no

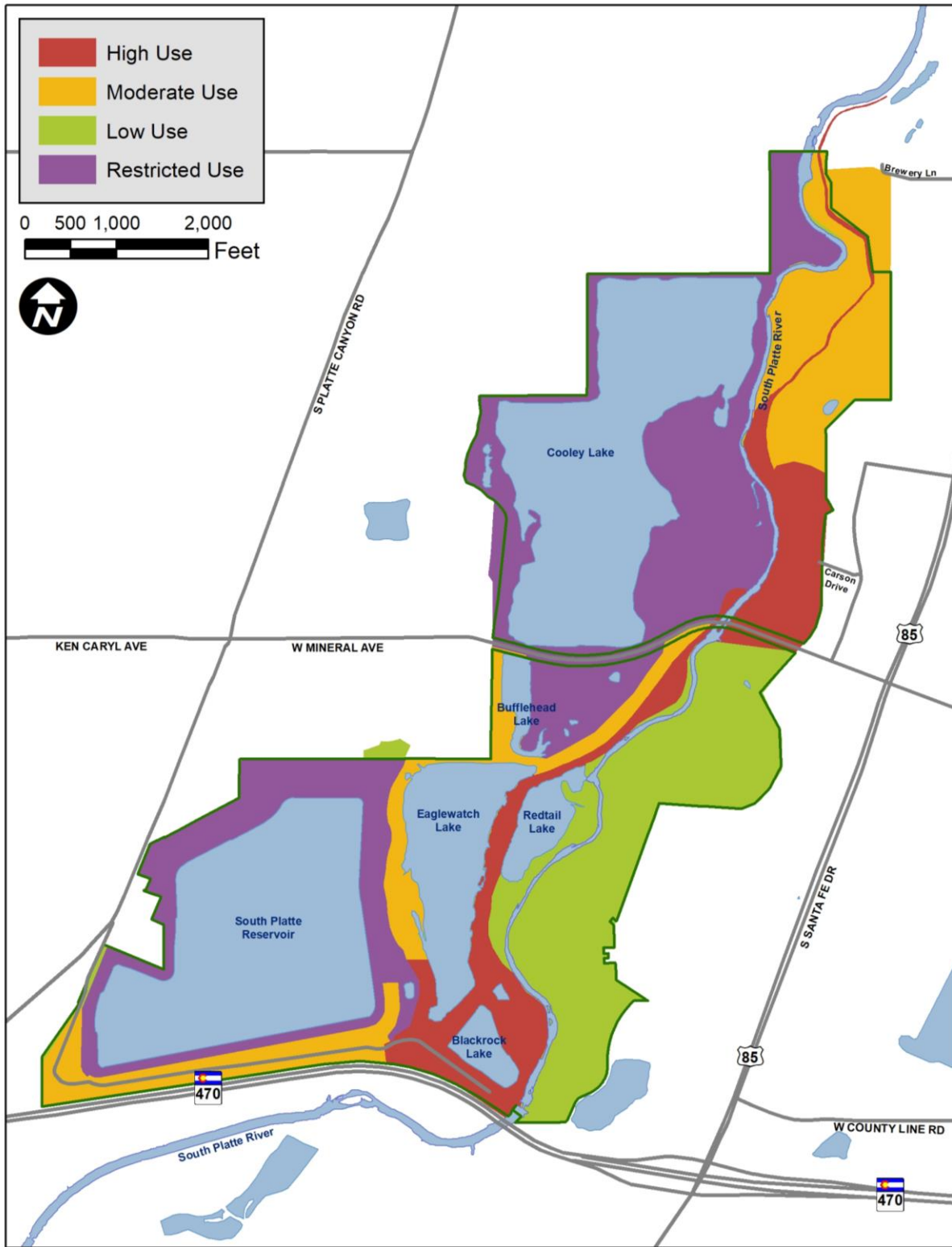
unauthorized motor use or noise, litter and wear might be more common but minimal, and paths may be wide and busy. Non-native plants are likely to be experienced and under management prescriptions.

Moderate Use Areas – Include the northern forest and meadows away from the trails and the areas around the lakes. Other users may be in sight at most times but are not likely immediately adjacent. Use is restricted to foot and horseback traffic with minimal bike traffic allowed, and routes are unpaved. Voices may be heard but conversations are unlikely to be understood. Wildlife sightings increase, and anglers would expect to be more isolated in their experience – other anglers may be adjacent but not necessarily competing in the same territory. No unauthorized motor use would be experienced, and litter or social trails would be infrequent.

Low Use Areas – East trail area – Opportunities for solitude of several minutes exist between users, and they would pass in and out of sight and hearing without continuous presence. Use is restricted to foot travel only. Natural sounds would dominate over the background city soundscape. Wildlife sightings would be frequent with opportunities to observe animals engaged in natural behaviors and of species less common to the urban landscape. Litter would be almost non-existent and trails, while maintained, may at times appear narrow and overgrown, contributing to a sense of adventure and exploration.

Restricted Use Areas – Cooley Lake and Heron Pond – visitors enter only in guided experiences which are limited to a few times per month. Travel is primarily cross-country without established trails. Natural sounds are dominant, wildlife sightings and signs are frequent. Habitat quality is highly diverse and have the highest proportions of native species.

Figure 7: Visitor Use Zones



WILDLIFE AREAS

Specific areas in the Park are designated as Wildlife Areas (Figure 8). These areas contain important and productive wildlife habitat. Some are a direct fit with the land use zones and others are subsections of those zones. Wildlife Areas are defined as those areas documented, through studies and observations, to have primary importance in providing habitat (food, water, shelter, and space) for a diversity of plants and animals. They are important for resting, reproduction, forage, and refuge from human activity, especially for species sensitive to disturbance. Some Wildlife Areas do not allow dogs whether they are on or off leash. The adjacent Chatfield State Park and nearby Wynetka Ponds Park offer off-leash dog areas. Additional acreage may be added or deleted to these areas upon recommendation of CPW, SSPRD, and approval by the City of Littleton. Staff shall, from time-to-time review Wildlife Area boundaries; re-define or designate new areas; order seasonal closures; and grant easements, license agreements, permits or leases with appropriate mitigation measures and approval from SSPRD. Recreational activities in these areas are limited to passive activities such as wildlife watching and hiking and to official Park programs. Interpretive and access trails may enter these areas but are subject to closure by the South Platte Park staff if deemed necessary to protect wildlife.

The following areas are presently designated as Wildlife Areas:

1. **East Trail Wildlife Area** – This area of the Park comprises an area south of Mineral and east of the river; the area west of Wolhurst Lake, and north of C-470. It is primarily riparian habitat with a cottonwood forest testifying to the South Platte River’s historic meandering. It provides nesting habitat for owls, ducks, rails, and a variety of songbirds. It is a prime migration stopover and nesting area for Neotropical songbirds such as warblers, thrushes, and flycatchers. It is one of the Park’s core areas of activity for deer and coyote. Additionally, the area is a potential habitat for the federally listed Preble’s meadow jumping mouse. Studies by the US Fish and Wildlife service related to the Chatfield Reallocation project deemed this area not to be critical Preble's mouse habitat, however, the species was positively identified during studies in the 1990’s so further investigation is necessary in this area. The area can be accessed by a spur trail that runs the length of the area and dead ends at the C470 overpass. Residents of the Wolhurst trailer community use two access points and one additional access point is anticipated for the future Santa Fe Park (the development name currently applied to the Ensor turf farm property) for pedestrians only. This wildlife area faces significant threat of overuse based on the current zoning for Santa Fe Park. Access point and trail design must be carefully considered to prevent degradation of the area. Reduction from two to one access point for Wolhurst might be a future consideration, as well as ways to limit new residents coming to the Santa Fe Park area from using the private Wolhurst Lake Trail

2. **Cooley Lake Wildlife Area** – This is the area north of Mineral Avenue and west of the Platte River. Cooley Lake offers valuable wildlife habitat. At least 15 animal species have been recorded in the Cooley Lake area and seen nowhere else in South Platte Park, including the least tern, which is on the federal Endangered Species List. Additionally, another 22 species are seen only rarely in other parts of the Park but can be found more regularly in the Cooley Lake Area. Deer raise fawns in the Cooley delta area, and the grasslands host larger groups of deer during the autumn rut season. Cooley consistently serves as a home for beavers. The expanse of undisturbed cattails in the delta area serves as a significant shelter area for migrant birds. The Cooley grassland areas have native wildflowers re-established better than most other areas in South Platte Park, and the noxious weed infestations are largely under control. The lake shores, free from social trails and fishing impacts, provide nesting habitat for ducks, rails, shorebirds, and a variety of songbirds. Wetlands along the lake contain uncommon species that rank high in conservation value. The lake surface is a prime migration stopover for waterfowl, grebes, loons, and shorebirds, and it is an important wintering, loafing, and foraging habitat for bald eagles and a wide variety of waterfowl. The public can access this special area by attending free, monthly, staff-led, interpretive hikes, educational programs, or organized resource management activities. More detail is available in Appendix 5, Cooley Area Policy.
3. **Nevada Ditch Wildlife Area** – The Nevada Ditch runs west of the lakes in South Platte Park and east of South Platte Reservoir from C-470 to the north end of Cooley Lake. The Ditch also serves as a natural buffer for the Park to housing further west. The Ditch is inhabited by a diversity of nesting songbirds equal to any place in the Park. As demonstrated in a series of mist net programs in the late 1990's and 2000's, it serves as prime habitat for migratory songbirds with a variety of less common warblers, thrushes, and grosbeaks found here. It also serves as a movement corridor for terrestrial wildlife. Camera traps regularly record the passage of coyote, bobcat, raccoon, deer and black bear. Because the Ditch was constructed in 1862, it has local historical significance. Parts of the Ditch are outside of Park boundaries and Littleton city limits. A conservation agreement is in place for the Ditch and a majority of the Ditch's edge falls under the management of SPP staff. The future of this habitat is vulnerable to decommissioning of the Ditch by Denver Water as the last remaining ditch customers switch to other water systems. This decommissioning would significantly alter water available to the trees and shrubs here, potentially leading to a significant loss of habitat quality and a costly clean-up operation to remove the more riparian-favored vegetation.

4. **Bufflehead Lake Wildlife Area** – The area is south of Mineral, west of the MCGT, and east of Bufflehead Lake. It includes Heron Pond, a CDOT wetland mitigation area (constructed in 2005), a maturing cottonwood grove, and a wetland-meadow successional area which includes a cattail wetland. This area has restricted access to the general public, except on staff-led walks and programs, and organized resource management activities. It offers excellent breeding habitat for a variety of wetland birds, woodland birds, and amphibians.

5. **Northern Wildlife Area** – This is the forested area on both sides of the river along the northern Park boundary, west of the MCGT, and east of the Wild Plum Farms development. The area consists of a declining and mostly dead mature cottonwood gallery forest east of the river, a late seral stage (successional, not climax) cottonwood forest west of the river, and an old riverbed. This has been a core area of activity for white-tailed deer in the northern sector of the Park and is also a fawning area for them. This area provides nesting habitat for owls and a variety of songbirds. It is a prime area for migratory songbirds such as warblers, vireos, and flycatchers. Wintering bald eagles regularly use this area to perch and fish. This area can be publicly accessed via a loop trail through the area.

FUTURE BUFFER RECOMMENDATIONS

A 1996 Task Force by the City of Littleton created a plan to evaluate surrounding properties and set priorities for additional parcels that could add value to South Platte Park. All of the properties addressed in that plan have been purchased or developed by private interests. The plan was critical in helping identify ways to reduce border conflicts with new developments. Only one parcel, north of the 7-11 Ditch at South Platte Reservoir, remains without development plans and that parcel is of minimal additional habitat value.

ANTICIPATED DEVELOPMENTS

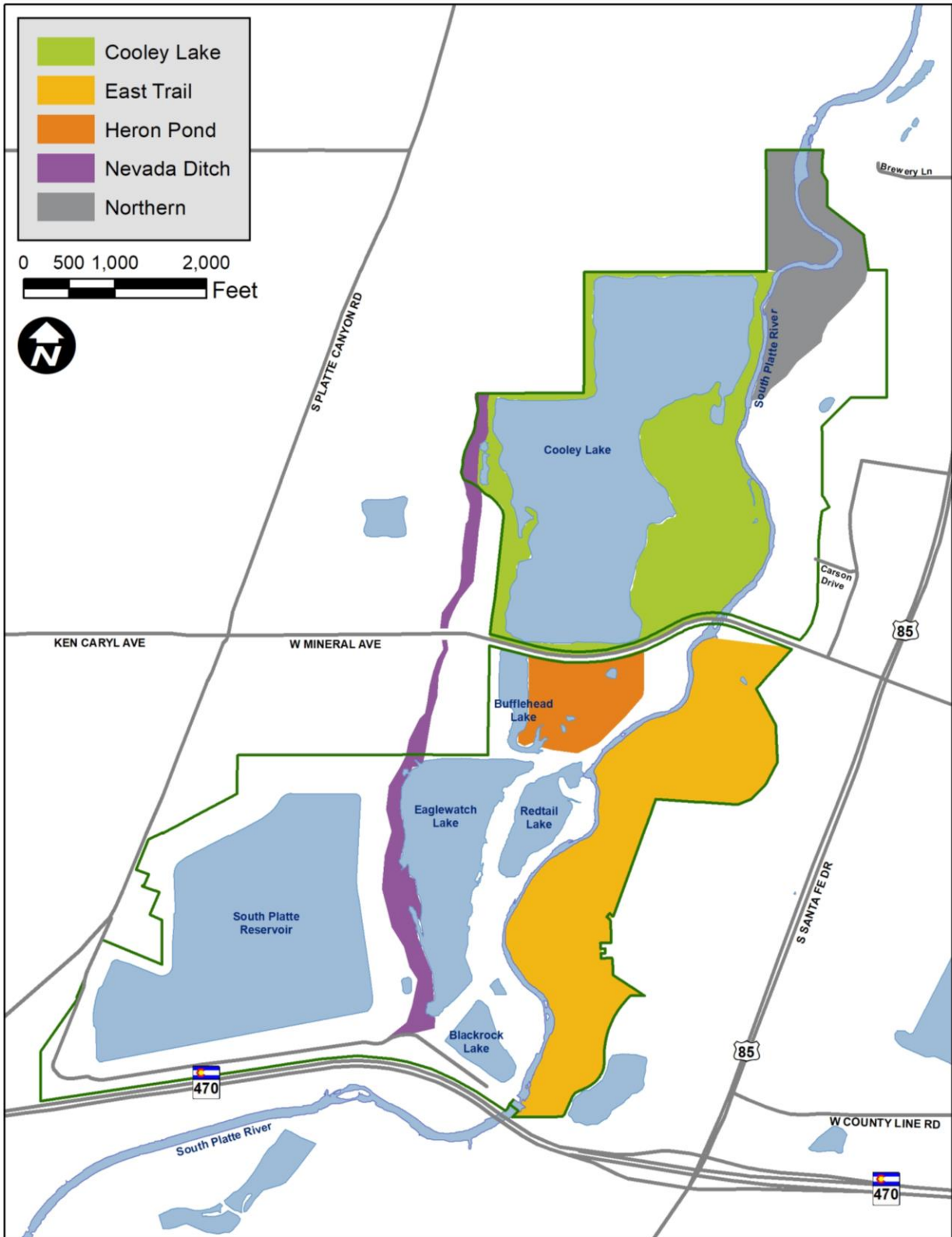
Santa Fe Park is under development on the southeast boundary of the park. It will likely have over 900 private family homes, with one access point from that community onto the East Trail. Riverpark is also anticipated, east of the river near Mineral Avenue with over 300 rental apartments and various retail and commercial uses. The intent is to maintain the East trail as a 40" natural surface interpretive trail, maintain the restriction on bicycles, and become more assertive with enforcement of leash use and park hours in this area. Every effort should be made to avoid creating a loop trail that would attract additional trail users into the East Trail Wildlife Area. A new sidewalk access along Mineral Avenue and under the river overpass is proposed to connect users the Greenway Trail. The east trail should be maintained as a low use area with fencing and signage to keep that commuter use to the new sidewalk. When the Ensor property was annexed into the City of Littleton, the agreement established an access

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easement for Park Staff along the current Dad Clark service road which will be maintained in the next phase of development. Regional planning agencies are recommending a trail under Santa Fe connecting neighborhoods from the east to the river. Care must be taken to ensure this does not deliver a high number of regional users into a low-use zone of the park with no outlet, and designs should account for ways to move those users easily to high-use zone while maintaining the habitat quality of the East Trail area.

A nimble user can scramble under C470 to connect to the trails in Chatfield from the East Trail, and access a nearby bridge across the river. Discussion with the managers of Chatfield indicated they were not interested in a formal trail connection here as they do not feel the need to encourage more free users into their Park.

Figure 8: Designated Wildlife Areas



RESOURCE MANAGEMENT

VEGETATION MANAGEMENT

Reclamation and re-vegetation in South Platte Park require time due to the xeric nature of the Park and the sandy and clay soils. This may at times take precedence over visitor use. Areas of the Park are occasionally closed to the public to allow vegetation adequate time to re-establish. Vegetative cover can serve as a key indicator towards decision points about when to close heavily used areas. Procedures for closing areas include signing, fencing, and barrier plantings.

Trees, shrubs, forbs, and grasses appropriate for planting in the Park are identified in Appendix 6, Recommended Re-vegetation Plant List, and Appendix 7, Construction Practices.

Upland Woodland Management

The climax cottonwood forests of South Platte Park are a declining system. This is a major departure from the 1983 Master Plan in which they were described as “self-maintaining, self-reproducing, and relatively permanent.” Cottonwood forests typically require a flood cycle to establish and thrive. That flood cycle has been eliminated except for within the active river channel itself, so few areas in South Platte Park have groves naturally establishing of any significant size. The mature forests are dying out rapidly as the 50- to 100-year age class is succumbing to the stress of altered groundwater flows, elimination of natural river migration, severe drought years in the early 2000’s, and hard freezes and prolonged submersion in 2014 – 2015. Many healthy middle-aged trees grow in the moisture zone around each lake and in a few low swale areas. As of 2023, a consultant has started working on a forest management plan to address the buildup of dead and downed material, safety hazards from standing dead trees, and a vision for management of the forest into the future.

The existing woodlands get inspected after any major rain, wind, or snow event for tree failures or hazardous situations along trails, and periodic inspections and branch removals may be required between storm events. In general, standing dead trees have been retained as habitat unless they pose a hazard to users, may fall across trails, or threaten facilities. However, as the number of standing dead and deadfall trees increase in the Park, reduction of this volume of wood is recommended for fire mitigation, access for weed management at the ground level, and maintaining a healthy balance for a functional system.

Replacement trees can be planted intentionally, though with careful thought for placement for long-term survival. It is recommended that tree and shrub plantings take place in the early spring (March/April) to take advantage of spring rains. Trees need to be watered thoroughly once or twice a week for at least the first two growing seasons or until they are established. During droughts, winter watering is required. Manual watering is currently accomplished by transporting water in tanks pumped from Cooley and debited from surplus shares available for the 10,000 Trees irrigation system (as described in the water resources section). However, once native plant materials are established, manual watering should be eliminated. Plants requiring more than 2 – 3 years of manual watering, other than those on established irrigation systems, will be carefully weighed for the benefit vs cost of labor to keep them alive. Several plantings have been abandoned rather than manually maintained on irrigation water.

Several areas of vegetation are maintained by long-term irrigation systems. In April of 1991, the 10,000 Trees planting project was completed through South Platte Park along the MCGT. The project trees are watered by a solar-powered irrigation system that draws water from Cooley Lake. These trees and the irrigation system are maintained by the South Suburban Mary Carter Greenway Crew, not Park staff. Water for this system is addressed in the water resources section. Another irrigation system covers a large section of the East Trail. See the Ensor Wellfield Section under Water Resources for further details.

Federal standards for power line easements have given Xcel Energy and their contractors the directive to clear all woody vegetation from within the power line easement or that could fall into the easement. This has led to a large, cleared swath through the center of the Park. Low-growing tree and shrub species such as box elder, plum, and cherry are allowed to grow in this area and it would help to create contiguous habitat by encouraging this growth. Root treatment to prevent regrowth of the taller trees is required of the subcontractors, but has not been consistently implemented, resulting in more frequent disturbances than necessary. Staff must carefully supervise their work for this reason and minimize excessively aggressive cutting.

General guidelines for tree and shrub planting within each section are prioritized as follows:

Physical Conditions

1. Proper moisture regime: Plant trees in areas that are naturally irrigated such as natural depressions or drainage ways. Willows and cottonwoods will be planted into areas that are periodically flooded, with care to provide sufficient diversity of shrub vs grass areas to accommodate ground-nesting waterfowl,
2. Drought tolerant species and alternative water sources are considered wherever possible,

3. Proper soils: See 1983 Master Plan pages 29-32 (copies are stored in the Nature Center library, the Park Manager's office, and as electronic scans on the shared drive).

Planting Patterns

These vary depending on the goals described below, which are identified before deciding to implement any new planting projects.

4. For general revegetation, plant in random clumps of 6 to 12 trees to establish a grove effect, taking into account mature canopy diameters,
5. Plant trees and shrubs together to re-create forest layers and vertical diversity,
6. Create habitat patches by looking to connect separated groves of trees or establish contiguous wildlife corridors,
7. Barrier plantings: plant in double rows, per the 1983 Master Plan, to reduce sound and hide unwanted views of roads, power lines, or buildings. These barriers can also provide habitat corridors for wildlife movement and create landscape buffers along property lines. Such living fences also mix varying height shrubs with trees and can serve as a visual barrier for prairie dog control.

*Note: On the north side of Eaglewatch Lake, the living fence created issues with neighbors. Through negotiations, homes along that border were granted 'view easements' where gaps would be maintained. This border continues to have vegetation management issues and gates directly into the Park, and because of this no new view easements or private access points will be allowed into South Platte Park.

8. Maintain trees on edges, not within the grasslands to ensure unbroken grassland habitats remain.

Aesthetics

9. Maintain Scenic Vistas: Plant trees where mountain vistas are already blocked.
10. Beautify the MCGT and other trails within the Park.
11. Screen man-made structures.

Locations

12. Safety of Trail Users: Do not plant on the inside of curves, in high use areas, within 10 feet of transport trails, or within five feet of interpretive and access trails. Keep mowing clearance in mind – both height and distance from trail
13. Maintain accessibility for watering.
14. Control erosion.

Upland Grassland Management

South Platte Park is designated a natural area by the city, exempting it from mowing ordinances for plants over 8" tall. The largest grass fields are selectively mowed once the dominant grasses establish

themselves. The tall and mid-range grasses form an excellent cover for small animals and are a good source of food. Mowing is used to help the grasses establish and to control noxious weeds, and on occasion to mimic grazing and promote diversity. No more than a twenty-inch border is mowed along each side of trails to better identify and maintain them. A lack of mowing along trails in some areas may be a tool to help combat trail-widening from overuse by discouraging side-by-side travel.

Fire has been used as a management tool to maintain grasslands in South Platte Park. A scheduled burning of fields on a rotation basis would help re-establish grasses and increase soil quality. Burns must be scheduled and done by South Metro Fire Rescue, Open Land Department. As of 2015, concerns about air quality, traffic safety, cost, and training experience made prescribed burns unlikely. South Metro would require a forest prescription plan written by an expert and they prefer to help with large-acreage mountain fires for their training experience. It is still an important tool in grassland management if conditions or planning are ever appropriate. Appendix 7 provides recommended seed mixes and rates for South Platte Park. Periodic mowing to mimic grazing could potentially help stimulate grasslands and impact succession if done with weed-free equipment.

A complete floral inventory of the Park has been in development. Information gathered includes species present, when they flower, where located, percentage of total population and for many a pressed mount of each species to use to educate staff and the public. Park staff maintain inventory records. Attempts will be made to propagate and enhance plant species noticeably absent to vegetative communities common to nearby native landscapes, and for species of state concern for this region.

Mowing may be conducted along some borders of the Park where native vegetation encroaches on fence lines and private property, as well as along the roadside Right of Ways. One mower-deck width of three to five feet is the maximum clearance to mow to minimize impacts and encourage establishment of native grasses and resistance to weeds is recommended along any borders shared with private homes.

Currently, noxious weeds are controlled by mechanical, biological, and chemical means. Methods described in the 1983 Master Plan have changed with the introduction of new chemicals and research on Colorado's weeds. The staff places highest management priority on List A state-classified weeds first, Watch List species and List B species next, List C species that create large monocultures or seem to be rapidly spreading, and finally any non-native species that are spreading in such density as to crowd out native plants. Weeds managed in the Park currently include A list species hairy willow herb, yellow flag iris, and purple loosestrife; B List species of various thistles, bouncing bet, toadflax, teasel,

Dame's rocket, knapweeds, hoary cress, hounds tongue, quack grass, leafy spurge, Russian-olive, tamarisk, yellow nutsedge, and sulfur cinquefoil; List C species include bulbous bluegrass, common burdock, common mullein, St. John's wort, cheat grass, bindweed, perennial sow thistle, poison hemlock, puncture vine, Siberian elm, Tree of Heaven and red stem filaree; Watch List species include common reed and pampas grass, Caucasian bluestem, hoary alyssum, and yellow bluestem; non-listed species include common buckthorn, Tartarian honeysuckle, Japanese wayfaring tree, kochia, white-top, small-flowered alyssum, ornamental junipers, and some poison ivy near trails. The treatment methods, seasons, chemicals, and processes used change regularly and are recorded in the operating manuals maintained by supervisors. Continued use of existing control methods, use of fire, and over-seeding or planting native competition for weeds are recommended parts of the integrated pest management plan.

Park staff are responsible for the grassland management between Mineral Avenue and the deer fencing. The Mineral Avenue median will be managed by the City of Littleton crews as natural native grass with some restriction on plant height. A mid-summer mow of the median and a strip on either side, to a height of 6 – 8" will be conducted prior to when the warm season grasses complete their growth cycle. This will allow a small amount of additional growth after the mow to maintain a natural look through the winter without impeding visibility. Guardrails and reflector poles will be trimmed to make the job look complete or should be treated with chemical and surrounded by granite fines to eliminate future vegetation in their immediate vicinity radius. Due to safety concerns of staff on the roadway or damage to vehicles from thrown stones, Staff should use extreme caution and PPE's when working near the roadway. Trash and litter should be managed regularly by orange-vested paid staff or CSW's to keep the area looking neat.

WATER RESOURCES MANAGEMENT

South Platte Park has a large amount of aquatic habitat including seven lakes (previously gravel mine pits), several small streams, and the South Platte River. Adjacent to these habitats are abundant wetlands and riparian species habitat (Figure 9). The water quality of the river and lakes is generally good. The Park staff may, from time to time, work with other entities to monitor water quality. Major concerns include extremely low flows (with anticipated future reductions still possible), run-off from surrounding roadways and existing and future developments, and river flow consisting of a high percentage (greater than 80% at times) of treated effluent many days of the year. Increased urban run-off and effluent would likely have higher levels of nutrients and increased temperatures that could result in increased algae problems, which can result in offensive aesthetics, smells, or reduced fish survival.

The river though South Platte Park is designated by the Colorado Department of Public Health and Environment as Segment 14 of the Upper South Platte River from the outlet of Chatfield Reservoir to

Burlington Ditch. Former references and guidance from the master plan about Segment 6c from Chatfield to Bowles Ave being a cold-water fishery are no longer valid. This segment was redefined in the late 1990's with the following water quality designations: Aquatic Life Warm 1 (capable of supporting warm-water and plains species; trout survival is possible, reproduction is unlikely); Recreation Class E, Primary (appropriate for recreation requiring full body contact such as kayaking and rafting, less than 126 fecal coliforms per 100 mL); Water Supply (suitable for domestic drinking water supply with treatment); and Agricultural (suitable for livestock drinking water). The temperature and chemical standards and associated species for these designations change periodically, and the State occasionally implements special exemptions for this reach of the river, so before the Park staff implement any changes to recreation activities in the future, the current state standards should be review and confirmed.

Channel Management

The river must be able to deliver at least 5000 cubic feet per second (cfs) in a flood event, and it is the responsibility of the City of Littleton (thus Park staff), per the initial agreement with the USACE, to follow the Army Corps maintenance manual found in the Nature Center files. Daily inspections of the channel, removal of major debris, and elimination of obstructions are required. Mile High Flood District partners on most of this work by sending crews through six times per year on 'debris cycles' and staff can usually contact them for downed trees or beaver structure removal. Trees and willows are not currently allowed to grow in the defined flood channel downstream from South Platte Park, however, opposition has never been voiced towards the status of natural riparian vegetation within the active river channel of South Platte Park during previous USACE inspections.

Cut Bank Management

The cut banks along the river are an important ecosystem component but can be difficult to manage in a bound urban river. These low erosion cliffs on the outside of river bends are used by northern rough-winged swallows, bank swallows, and kingfishers for nesting, and their nestlings are a seasonal component of the diet of bull snakes. The river enhancement project made some efforts to stabilize critical bank areas while maintaining some cut-banks for nesting. No active nests were found in South Platte Park in the first two years following the river work. Artificial cliffs might be considered in some of the Park's remnant aggregate piles or in more stable river sections as an option to remedy this lost habitat opportunity. The stabilized cut banks will continue to migrate away from the river during high water events so long-term management actions may be needed.

Figure 9: Waterways



Instream Flow Rights

The City of Littleton and SSPRD jointly hold instream flows rights in the South Platte River below Chatfield Dam to attempt to maintain minimum flow. The decree has been perfected, so rights are absolute and no longer conditional, with appropriation date of Aug 2, 1991, and an administration date of Dec 31, 1993. The decree stipulates Boat Chute 4 (Figure 10, near Mineral Ave.), and Boat Chute 9 (Brown Ditch, near Reynolds Landing), have rights for 100 cfs for boat chute operations from April 1 – Oct 31; and 70 cfs from April 1 – Oct 31 or 30 cfs from Nov 1 to March 31 for recreation in the form of habitat enhancement. These quantities are not cumulative, so the 100 cfs of boat chute operations incorporates the 70 cfs for fish habitat enhancement. Boat Chute 10 (C470) also has a designated right with the same date of appropriation for boat chute operation only, of 100 cfs from Apr 1 – Oct 31. These flow rates were based on *A Minimum Flow Study for the South Platte River Downstream from Chatfield Reservoir 1991* by Miller Ecological Consultants, that helped determine survival flows for aquatic life, and can be found in the Nature Center files or in the Chatfield Reallocation Environmental Impact Statement. An additional study by Miller Ecological Consultants from 1998, *Habitat Control Structure Investigations, South Platte River in South Platte Park below C470*, and hydrologic opinions by Fisher, Brown, Bartlett and Gunn might provide additional information on the fishery downstream from the dam.

A point of measurement was installed in 2003 at Boat Chute 10 to measure low flows of the river including releases from Chatfield, flow from Marcy Gulch, and any groundwater gains to that point. This gauge is maintained by Park Staff per the 2017 amendment to the management IGA between the City of Littleton and South Suburban. The gauge requires regular maintenance and periodic calibration. The numbering of the boat chutes is a relic convention. Chute 10 was designated after the downstream chutes were named, so they are not in a logical order and in 2015, five chutes were converted to riffle features. The date of appropriation is very junior, so calls from upstream users are rarely possible; however, these rights ensure that future appropriations or exchanges will not reduce the river flows further. Water commissioners have indicated they don't know how to implement the boat-chute operational rights due to the lack of constant boating use, and this concept could require further legal exploration. September 2016 is the first recorded exercise of the rights and calls should be placed at each turning of the dates as noted above to ensure they remain exercised. The report reads "Littleton Boat Chute #10 - Admin. No. 52595.51713 (12/31/1993) - Recreation in Stream Flow - This Call Currently Only Affects Exchanges Through This Section of River. When the flow through the Boat Chute is less than 100 cfs no exchange junior to 12/31/1993 can operate. The CALL at xxx controls diversions upstream of the xxx headgate." The benefits of securing minimum flows include improved water quality, effluent dilution, better recreational opportunities, improved growth of trees, beautification

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of the river corridor, improved wildlife and fisheries habitat, and maintaining functional river processes. Periodic, moderate, in-bank flooding would be beneficial to the Park ecosystem.

Figure 10: Boat Chutes and River Features



River Enhancements

The 1983 Master Plan makes reference to enhancement of the river fishery by creating fish habitat structures and adding boulders to the river bottom. The USACE, CPW, the Colorado Water Conservation Board, Mile High Flood District, and other authorities reviewed this plan, and several versions of habitat improvements were created in 1990 – 91 with the USACE Feature Design Memorandum No. PC-45, *Fish and Wildlife Habitat Restoration Downstream Channel Improvements, South Platte River* (Federal document, copies stored in Nature Center Library and Park Manager’s office).

In 2010, the Park initiated a study in river function that resulted in implementation of the River Enhancement Plan for a low-flow channel the length of the Park. The study found that the river has one-sixth of its historic flow, while maintaining the historic geometry. The 120-foot-wide channel was formed by a river with an annual bankfull depth of 4000 cfs and 40,000 cfs flood potential flows; but now it only has an annual bankfull depth of 650 cfs due to water appropriations, and a maximum flow of 5000 cfs due to Chatfield Dam operations. A 3-phase river project constructed a narrower channel throughout the Park condensing flows under 650 cfs. This was accomplished by importing riprap, converting a number of existing drop structures to more natural riffle/pool features, and creating some bank stabilization structures. The 5000 cfs flood capacity of the channel was maintained, but in low flow conditions, water would be concentrated into a more-appropriate channel that is 25 to 40 feet wide. Willow plantings along with fish habitat boulders and erosion control structures improve aesthetics, create wildlife habitat, and enhance fisheries. Historic high flows in 2015 damaged the restoration phase of this project, and in 2016 significant repairs were implemented to return the banks to the initially designed enhancements.

Ensor Wellfield

On the East Trail, the management parcels (Figure 2) show five square inholdings around well-heads owned and operated by Centennial Water and Sanitation. The northern-most one was determined to be low-productivity and is not in use, the southern-most one was being tapped at the time of this writing. This wellfield pumps alluvial groundwater and is tied to McClellan Reservoir. Operation of the wellfield began to negatively impact the surrounding forest, so an agreement was put into effect to create an irrigation system within the forest to keep the trees alive. The system was installed at Centennial’s cost, and a \$250,000 endowment was given to the City of Littleton. Annually, South Suburban invoices against the interest in that account for maintenance and repairs of the system, currently around \$15,000 per year. The water for irrigation is provided directly from the wells by Centennial, up to 100 ac/ft. per year. Centennial has a permanent easement to access these wells for maintenance through Park property.

Evaporation Rights

The lakes south of Mineral Avenue were completed prior to 1983, so have no evaporation rights designated, nor required. Cooley Lake, completed in 1989, does have evaporation rights, with an absolute degree in the amount of 18.79 ac/ft. annually. This is to be provided, by agreement, by the City of Englewood using water held in McClellan Reservoir, up to a total of 35 ac/ft. per year. The agreement references a well-permit reduction of 280 gallons per minute that is included in the calculation. Since approximately 1991, Englewood has released approximately an additional 5 ac/ft to the river during the growing season for establishment of the 10,000 Trees via an irrigation system that pumps groundwater from Cooley Lake. Of this amount, around 1.25 ac/ft. annually is moved through the irrigation system, with another 0.2 ac/ft. pumped from Cooley to fill a water trailer used to establish restoration plantings. The 10,000 Trees irrigation system was envisioned to be a short-term aide to establish the trees, but many trees are still dependent on the system and begin to die if the zones are shut off.

Cooley Outfall Agreement

The outfall of Cooley Lake to the river has a concrete pan, set at an elevation of 5340.8 ft. This is an adjudicated agreement originally with the Tuck family that owned The Wild Plum Farm in Columbine Valley and is defined in paragraph 36 of the Cooley Lake Augmentation Plan, Case No. 93CW011 in District Water Court. A section of the property is identified as a floodplain flow easement and another as a ponding easement by the USACE. During high flow events, this area may be naturally inundated, however, staff must perform regular maintenance on the Cooley outfall to ensure no debris or beaver activity contributes to a further increase in lake elevation. In 2022, this became the Wild Plum Farm development, but these easements were built into open space and trails for those residents.

Training Dikes

At the north end of the Park, at the border with Reynolds Landing, are a set of training dikes that transition from Reach 1 of USACE flood project, which is the South Platte Park flood plain, into Reach 2 of the flood project which is a trapezoidal flood channel. The USACE maintenance agreement from the creation of the Park references a sediment trap in the river in this location requiring periodic dredging and the Master Plan recommends mineral rights be leased to an aggregate company. Further research with the USACE, Colorado Water Conservation Board, and Mile High Flood District found no one familiar with a sediment trap structure, no evidence of it being physically present, and doubt as to whether it was ever actually installed. In terms of modern river management, a mid-channel sediment trap is no longer a recommended practice. Because management of the sediment trap is referenced in

the founding documentation and responsibilities for South Platte Park, it is important to maintain awareness of this requirement until designs change or maintenance agreements are updated.

Flood Plains

The 1983 Master Plan Appendix IV lists the Flood Plain Agreement with the Colorado Water Conservation Board and the City of Littleton. The staff generally inspects the river daily in order to assure compliance under Section 88 of the Water Resource Development Act of 1974, Public Law 93-251, which requires park management prevent encroachments in flood plain detention areas which would reduce their capability for flood transmission. A map of the floods plains within South Platte Park is shown in Figure 11. As part of the anticipated Santa Fe Park development on the southeast side of the Park, the developer is redirecting Dad Clark (and all of its associated supplemental flows of 2 cfs regularly) from its historic channel, north to the SE Feeder Stream. This channel could deliver 1800 cfs during flood conditions which would sheet-flow across the northern part of the East trail area. Adjustments to trails and bridges may be needed.

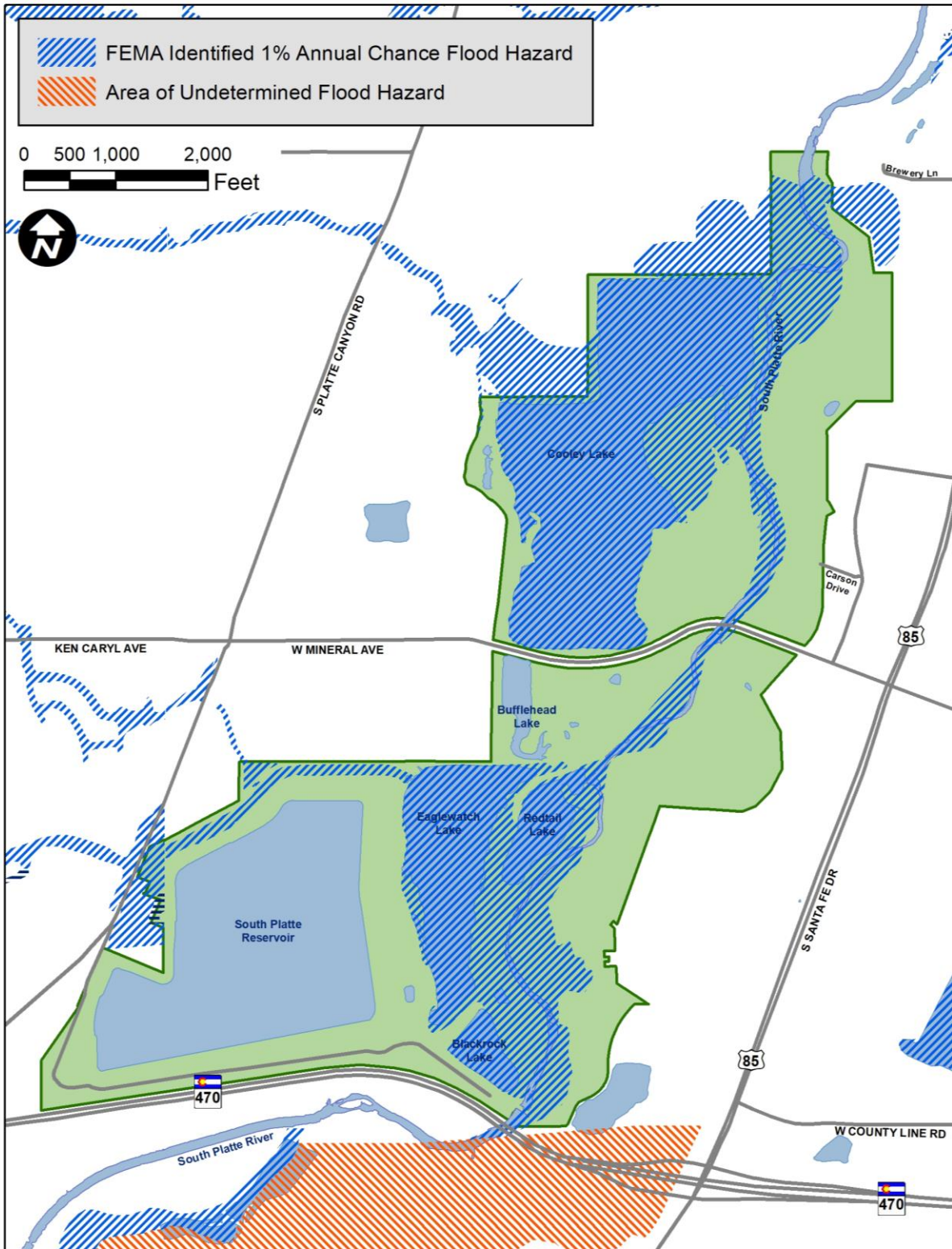
Reservoir Releases

On the eastern border of the Park, near the Ensor Conservation Easement, Englewood maintains a pump station connected to McClellan reservoir. If McClellan needs to release water, an outlet near their pump station can discharge up to 75 cfs. When this happens, the Dad Clark wetland will overflow, a number of drainage swales fill, and over 100 yards of the East Trail go under water (Inundation Zone on Figure 11). At least three culverts run under the trail in this area but do not accommodate the full flow. If the McClellan spillway is operating, additional flow will come down Dad Clark gulch into the beaver pond wetland area from Santa Fe Drive, and flooding could be significant.

Connected to the north side of the McClellan outlet is another outlet structure from South Platte Reservoir. Again, in the situation that they must release water from their pump-works, this 48" pipe can deliver over 110 cfs onto the East Trail area. These outlets are tested annually, which temporarily closes trails, but recreates beneficial flood conditions that maintain the health of the cottonwood forest in that area.

South Platte Park is on the emergency call list for South Platte and Chatfield Reservoirs. Should either begin emergency releases or begin to experience failure, the Park must be immediately evacuated, and all entry points closed, as inundation could exceed 15 feet deep.

Figure 11: Flood Zones



Sinkholes

Several times in the Park's history, sinkholes have appeared. Because of the number of utility easements, any sinkholes should be investigated carefully to ensure no leaks or damage to water or sewer lines. Some sinkholes have been attributed to collapsed animal burrows like beaver dens, some to cottonwood stumps that were buried and have decomposed, but some appear to be related to soil movement. These have typically occurred in cut bank areas and are hypothesized to be pockets of very fine silt material from historic river meanders that get washed out by groundwater movement. In the Northern Wildlife Area, these holes were opening in the tread of the trail, trees were dying and falling over, and some holes were a hazardous five to six feet deep with collapsing edges. As part of the river enhancement project in 2015, hollow areas were compacted and filled by excavators, and a geotextile fabric was installed to filter the groundwater and minimize soil movement. This buried fabric follows approximately the eastern edge of the river-side trail north of the middle entrance. The area must be inspected annually and if the fabric is visible, it must be buried or cut out to prevent damage to still-buried sections. Other areas to inspect for sinkholes include the City of Littleton Open Space near Reynolds Landing, and on the East Trail near the Dad Clark wetland, and near the confluence of Jackass Gulch with the river.

Storm Response

Operating manuals for staff include a list of locations to be inspected during storms for blocked culverts and flooding, and following storms for damage and repair. This includes various overflow channels, culverts, and tributary streams.

Chatfield Reallocation

Since approximately the year 2000, water providers had been investigating a plan to 'reallocate' some of the flood storage capacity of Chatfield Reservoir to water supply storage. The project was completed in 2020 and in 2023, water was stored 12-feet higher than the historic base pool level for the first time. This is causing a significant shift in riparian zone locations, tree age classes, upland habitats, and the location of recreation facilities. A complete Environmental Impact Statement (EIS) and Mitigation Plan was approved by the federal government. South Suburban was an initial proponent of the plan, anticipating the concept would store water in surplus times, and release it to downstream agricultural users during times of drought, which would be of benefit to the Park. The EIS process, however, showed the plan to be assembled with junior rights or for primarily upstream users. The anticipated impact is a likelihood to store water during free river days (when no water rights are in effect) in fall and winter and consume the water upstream of South Platte Park to a significant degree. Careful attention to the call for the Park's existing instream flow rights is necessary to ensure management of the reservoir does not harm those rights. The Chatfield plan creates a process for adaptive management

and commits to making attempts to provide water to the river downstream in beneficial ways but makes no guarantee nor authority for SSPRD to influence the process beyond making our needs known. A portion of this additional storage is a dedicated 'environmental pool' that will be used to flow through the fish hatchery and to augment the river in low flow conditions. River runoff cycles have been unpredictable the past few years with fewer early-season high flow days and more late-season bumps above the near-zero releases of autumn.

Retention/Detention Systems

South Platte Park contains a number of artificially created wetlands that retain or detain storm flows from nearby developments and put that water to work providing habitat within the Park. Arrangements vary by wetland for construction and maintenance. The Grant-Nei Wetland was built by the developer and falls within South Platte Park and maintenance falls to Park staff. The Aspen Grove Wetlands are on an easement on a city-owned buffer, so while the Park manages the wetland, repairs and maintenance of the drainage system currently falls to the City of Littleton. The Riverpark development, just south of Mineral, will be combining their storm water with some needed flood improvements for Mineral and Santa Fe and will be constructed within South Platte Park proper, with approval from the City of Littleton and SSPRD. These ponds will feed into Jackass Gulch and the beaver pond wetland area, with a maintenance agreement with South Platte Park but repairs and major work remaining with the planned metro district for the development. Developers of Santa Fe Park are planning to divert the regular inflow of water to Dad Clark wetland north through the beaver pond wetland, but periodic flows from reservoir releases will remain. Their runoff will move into retention/detention ponds on their property and will be released slowly into the Southeast Feeder stream and beaver pond wetland area. The Wild Plum Farm Development manages its storm flows through retention ponds on their property, with multiple outlets and spillways into Cooley Lake that should be regularly monitored.

Sperger Wetlands

At the south end of Eaglewatch Lake, a small, constructed wetland is known as Sperger wetland, with an agreement in place with Centennial Water to release surplus groundwater that would flood the underground Reservoir Pump Station into the wetland then into Eaglewatch. This flow varies on the time of year and helps maintain wetland plant diversity.

Wetland Maintenance

The wetlands east of the river are important natural areas. In a report prepared for the City of Littleton in October 1986, David J. Cooper, PhD, describes, "Wetlands along the proposed Mineral Avenue extension between South Santa Fe Drive and Platte Canyon Road." A total of 56 wetland species were found. According to Dr. Cooper, "Some of this habitat surely represents the last vestiges of the types of

communities and the wetland diversity and complexity that occurred throughout the South Platte River system of the Colorado Piedmont in pre-settlement condition." Other wetlands of significant value include: the Cooley Delta; the Bufflehead Lake Wetland; the wetlands between the Nevada Ditch and Eaglewatch Lake; CDOT and Heron Ponds; the Grant-Nei Wetland, Aspen Grove drainage pond, and the Sperger Wetlands (Figure 9). All efforts must be taken to protect and maintain these areas. The water level and cattail over-abundance are managed to keep open water and plant diversity. Management may include raising or lowering the water level, occasional dredging, and mechanical or chemical treatment of cattails and woody vegetation.

Efforts are needed to protect existing and create additional vernal ponds, which are temporary pools of water created by snow melt and spring rains that dry up in the summer. Several dozen low areas with clay bottoms currently serve this role and are important habitat for amphibians like frogs and salamanders. Vernal ponds do not support fish or non-native bullfrogs that feed on native amphibians. However, they hold water long enough for native amphibians to mature into adults. Opportunities to create vernal ponds occasionally arise during construction and utility easement access work and should be sought out as appropriate.

Aquatic Nuisances

South Platte Park is currently relatively free of aquatic nuisance species. Educational materials are available to alert visitors to the risk of introducing New Zealand mud snails, zebra mussels, and aquatic plants such as Eurasian watermilfoil. The snails, watermilfoil, and other aquatic specimens that do live in the park must be periodically identified with a biological key to ensure they are of the native varieties. Some non-native species that are not defined as noxious have been found in the Park including carp, Asian clams, bullfrogs, and others. If an infestation or significant change in the desired baseline ecology should be discovered, staff will work with CPW specialists to determine the best options to stop the spread while protecting native species. Algae blooms are becoming more common, as eutrophication triggered by urban runoff impacts the lakes. Occasionally low concentrations of toxic blue-green algae have developed. This should be monitored and treated if it becomes frequent or extensive.

FISHERIES MANAGEMENT

South Platte Park is part of the metro fisheries program managed under Colorado Parks and Wildlife (CPW, referenced in some documentation by its old name Colorado Division of Wildlife). The lakes are a significant attraction to anglers in the region and are not native ecosystems. CPW continues to manage these lakes as game fisheries with occasional supplemental stocking and habitat improvements for optimal fishing. The fishery quality has improved greatly since the initial Master Plan

and is considered primarily self-sustaining with occasional stocking necessary every year or two. Cooley Lake is managed for the natural habitat for fish that already exist without any supplemental stocking of game species, as fishing is not allowed. If carp, bass, and sucker populations were to be controlled in the river and ponds, then stocking of small native minnows in support of the original native ecosystems, might be possible.

The South Platte River is managed as a trout fishery as long as the water conditions remain conducive and CPW provides the fish. Species selected for stocking must have minimal negative impacts on native populations and include rainbow trout and cutbows (cutthroat and rainbow trout hybrids). Brown trout in particular, and even Brook trout are not recommended for stocking in South Platte Park because of their aggressive behavior and higher rates of predation of native fish. Habitat improvements, such as riffles and weirs help oxygenate water, and pools have been constructed to create low-water retreats for the fish, given the highly variable nature of the river flows.

Occasionally, CPW and Park staff conduct fish sampling studies in the lakes and the river to record species population stability. Appendix 8, Fish Checklist, lists fish species found in the lakes and river of South Platte Park. Periodic surveys and improvements of fish habitat are conducted. The State currently has in place a special regulation that is different from standard State Regulations allowing only bass greater than 16" to be kept in the areas south of Mineral. This was recommended by CPW and is posted at the Park. The only other current variation from state regulations is that while bow-fishing is a legal form of take in Colorado, it is not allowed in South Platte Park based on City Code and Park Rules regarding the limits placed on projectile weapons and hunting.

As fishing pressure continues to impact the Park, staff will monitor impacts in terms of levels of fishing-related litter, catch success, shoreline impacts, and visitor experience to determine if intervention is needed.

Habitat Structures

To improve fishing quality in these low-habitat gravel pits, a variety of structures have been added to the lakes. Maps of some of these can be found in the fishing guide brochure and Park files. Current structures include log cribs, concrete debris, towers of tires, and Russian-olive or waste Christmas trees sunk in concrete. These will decompose over time, so projects to add habitat diversity may be needed in the future, though waste tires or visible concrete debris will no longer be added to the South Platte Park environment.

WILDLIFE MANAGEMENT

Inventories and Monitoring

South Platte Park staff in cooperation with CPW completed inventories of breeding birds and wintering waterfowl 1990 – present; fish in 1990, 1991, 1995, 2005, and 2007; 2011, and 2015; and benthic (aquatic) macroinvertebrates of the river in 1993. Additional collections of fish and benthic macroinvertebrates also occurred as a supplement to these inventories. Small mammals were systematically trapped on multiple occasions in the Park in 1992, 1995, 1996, 2004, and 2005. However, no thorough Park-wide trapping inventory was conducted. The 1995 and 1996 surveys were conducted for the federally-listed, threatened Preble’s jumping mouse. Past Resource Specialist, R. Sperger, anecdotally captured, identified, and recorded a Preble’s meadow jumping mouse along the wetlands of the East Trail Wildlife Area in the early 1990’s. While Sperger’s report is highly credible, it was not fully documented with dated photos and anatomical measurements sufficient for federally-listed species documentation. The occurrence of large and medium-sized mammals is fairly well-known through casual observations, the use of infrared camera traps, visitor sightings and photographs, and the evidence of tracks, scats, and other signs. Casual observations of reptiles, amphibians, insects, and lake invertebrates are documented, and several student surveys have created additional anecdotal evidence, and infrared camera traps are used occasionally. Inventories as part of the metro-wide All Species Count Bioblitz were conducted in Sept 2004, Oct 2005, and June 2006. In 2023, sightings of bobcat, mink, elk, and turkey were periodic. Prior to 2018, elk were spotted once or twice, and there were no reports from these other species.

Ongoing systematic monitoring programs include participation in the Colorado Breeding Bird Atlas, Spring and Fall Migratory Bird Counts, Winter Waterfowl Census, participation in the CPW Annual Waterfowl Count, and Nest Box Monitoring. Survey priorities include the distribution and abundance of rare and uncommon breeding, wintering, and migratory species, as well as the utilization of adjacent lands by wildlife. These surveys are summarized and assessed for management implications. Species lists were compiled using the data from these surveys (Appendix 9, Wildlife Species in the South Platte Park Area). Currently, 324 species of vertebrates have been documented in South Platte Park, of which 253 species are birds.

Sick or Injured Wildlife

In general, wildlife populations will be allowed to live naturally and unmolested within South Platte Park. If particular species become overabundant, this might change the management prescription for them, or if species are missing or severely impacted, staff may consider projects to improve habitat or

introduce species under careful planning with CPW. Natural diseases may move through wild populations, such as mange, distemper, rabies, and plague. When visitor safety may be at risk, areas might be closed, animals might be treated or euthanized to limit disease spread. If animals are found to be suffering or injured, staff may intervene by calling for animal control, police, or CPW to assist. In general, however, the policy is to let nature take its course as the Park does not have sufficient facilities, resources, permits, or training to perform wildlife rehabilitation.

Feral or Non-Native Species

In the interest of the Park's goal to promote native species, feral and non-native wildlife must be evaluated for control. In the past feral cats and small packs of feral dogs were known in the Park and required management with the assistance of Littleton's Animal Control officers, but these have not been seen in recent years. Naturalized species like starlings, Eurasian collared-doves, and house sparrows may not be controllable. Staff will monitor and make reasonable low-cost and humane efforts to remove released domestic species (ducks, geese, and swans have been found historically) and to prevent non-native species from reproducing. Educational and management actions may be considered to prevent the introduction or spread of invasive species.

Wildlife Releases

Wildlife will typically not be released into South Platte Park as a 'disposal' option from private property, commercial animal control operations, or other SSPRD properties. Most wildlife relocations are subject to State regulations and often include the potential for introducing disease, developing unsustainable populations or over-competition, or making released animals more vulnerable to predation. Exceptions may be granted when working with licensed wildlife rehabilitators or based upon recommendations by the District Wildlife Manager for CPW.

Species Reintroductions

The 1983 Master Plan references species for possible reintroduction. Any proposals must be carefully weighed with input from the District Wildlife Manager for CPW. There may be implications for Park use areas, Park neighbors, and management activities that are not immediately obvious. Some discussions have included re-introducing ground birds such as grouse, reintroducing amphibians such as leopard frogs, or reintroducing native fish. All would have an impact on current species populations and may not be sustainable without long-term management programs, and no reintroductions are recommended at this time.

Wildlife Corridors

The connection of South Platte Park to other Parks and habitats is important to maintain population health and wildlife diversity. Maintaining a zone for wildlife to travel through the underpass to Chatfield State Park and the Mineral underpass with limited physical barriers or human disturbance is an important management task. Permeable fence line connections to adjacent properties (that discourage public access) and connections to other corridors with trails or irrigation ditches is a priority.

Native Pollinator Management

Strong efforts are needed to support populations of native pollinator insects and the native wildflowers they depend on. Restoration plantings will incorporate a mix of native wildflowers, or after establishing grasses for stability, wildflowers will be introduced to return the diversity to the upland grasslands of the Park. Selection of pesticides and their use in the Park is carefully considered to minimize the impact on pollinators. Staff have also installed nesting posts designed for native cavity-nesting bees. The Park has previously allowed a volunteer beekeeping program. However, as honeybees are not native, this activity no longer seems an appropriate fit for the Park.

Mosquito Management

The wetlands and river channels provide breeding areas for mosquitoes that can be quite voracious at times. Mosquitoes, while an important part of the Park ecosystem, are also vectors for human diseases including encephalitis and West Nile Virus. To protect visitors and staff health and comfort, and to protect native bird species threatened by West Nile Virus, staff will take measures to control mosquito populations through the use of bacterial larvicide added into breeding waters. Aerial spraying to control biting insects is not recommended due to the indiscriminate impact on native pollinators and other beneficial species. This process was formerly managed by the counties but fell back into South Suburban's management responsibilities in 2013.

Beaver Management

In the 1983 Master Plan for South Platte Park, CPW recommended a site-specific capacity such that if there were more than two active lodges, animals would be removed. In the practice of managing the Park since then, higher population levels have been sustainable without an impact on habitat or health in various environmental conditions.

The 2017 update of this management plan reflected a move towards observing the impacts of the beaver population and managing based on the desired habitat conditions. The variables that would determine when the beaver population is getting too large would include if there is damage to older/mature forests, damage to recreational facilities, loss of significant amounts of vegetation, disease

spreading through the beaver population, flooding of unacceptable areas, or blockage of storm drainage systems without a specific target number of animals or lodges.

Beavers are constantly on the move in South Platte Park and there may be numerous lodges at any given time. With help and training from CPW and the Colorado Department of Agriculture, Park staff is trained to remove problem beavers through the use of live traps. Relocation is only allowed with a permit from CPW, and then would be carefully considered areas, otherwise removed beavers are euthanized. All methods of management by staff are completed with the knowledge and approval of CPW.

In order to mitigate habitat degradation and minimize removal of animals, the majority of beaver control efforts are to wrap trees with welded wire and rebar to deter beavers from cutting trees. The Park also uses 'beaver paint' (a mix of latex paint and sand, color-matched to cottonwood bark and painted on the trees to discourage chewing). These methods of reducing damage are very useful. Thousands of trees have been protected to date, and this project is a good option for volunteer groups. Cages need to be readjusted regularly to prevent girdling trees and must be removed if trees become stressed or damaged by them.

Prairie Dog Management

Prairie dogs are a keystone prairie species in large-scale grassland ecosystems where colonies migrate over time. Small, constrained urban colonies, however, can have significant negative impacts on the landscape and the health of the animals themselves. South Platte Park does not have sufficient space to maintain a migrating colony that would give vegetation communities a chance to recover from grazing. For this reason, prairie dogs are closely managed in a few key locations. Currently two colonies are active – one west of Bufflehead Lake, and one southwest of South Platte Reservoir. If prairie dogs appear in additional locations, they must be carefully monitored and managed to ensure high-quality grasslands are not degraded by overgrazing.

When populations expand onto service roads, into neighbors' properties, where animals become frequent roadkill, or spread beyond the accepted boundaries for the colonies, management action must be taken. The preferred method is to strengthen boundaries to the colonies through installation of visual barriers which are effective at stopping the spread of colonies. These consist of living fence (visual plant barriers) or prairie-dog fencing (a thick, plastic or steel sheet visual barrier). Plastic fencing can be expensive, unsightly, and difficult to maintain, and is appropriate in some of the outer boundary areas in the Park, and living fence usually requires a consistent irrigation source.

Occasional reduction of population is necessary in some areas of the Park. Dam safety requirements of the State and Federal government impose a zero tolerance for burrowing species within the dam boundaries where they could compromise dam integrity. All prairie dogs and harvester ants must be eliminated from within the dam boundaries and a defined buffer zone. All population reductions must be undertaken by licensed technicians approved by SSPRD to trap and remove when possible or to apply chemical control methods. In areas outside dam safety zones, populations may be thinned to reduce issues of overgrazing, starvation, and disease spread.

Control of Other Mammals

On occasion, management of other mammal species may be required. Rabbit, squirrel and vole populations show regular shifts that have been self-correcting historically. Rabbits have been known to chew on wiring and vehicle hydraulic lines, mice can cause damage throughout the buildings and stored materials at the Nature Center, and Mexican wood rats can sometimes create issues with their nests or middens in equipment or vehicle engine compartments. Efforts to exclude these animals are preferred, but the use of snap-traps or poisoned baits may be necessary when legal and appropriate. Large animals such as bears, elk, bobcat, or mountain lions have been known on rare occasions to travel through South Platte Park. These species should be monitored, and if any safety concerns arise, CPW should be consulted for solutions. Otherwise, visitor education and awareness efforts will be undertaken as the animals are left to their wild habits.

Artificial Nests

The flood of 1965 removed a large number of mature cottonwoods. This led to a decrease in the number of snags and holes available to cavity-nesting species such as chickadees, tree swallows, wrens, kestrels, and others. In the 1990's, more than forty wooden nest boxes were installed in a variety of sizes, and later wood-duck boxes, cylindrical waterfowl hen-houses, and bat boxes were added, most of which get regular use. Currently the number of dead and decaying trees is more than sufficient that nest boxes may no longer be needed. The 2023 Forest Management Plan should address leaving trees with nesting cavities or creating a balance of reducing nest boxes and dead trees. An osprey nesting tower was added in 2013, and ospreys have been successfully using it annually. These items all require maintenance and monitoring. This is a popular activity for volunteers but does take time and oversight.

VISITOR MANAGEMENT

Uncontrolled use or unchecked growth of visitation could cause shifts in the natural character of South Platte Park including a loss of vegetation cover and diversity, a loss of wildlife diversity, an increase in injuries and visitor conflicts, or a degradation in user experience. Visitation dramatically increased with the opening of the Arapahoe Greenway Trail (now called the Mary Carter Greenway Trail (MCGT) in 1989, then later with the opening of the RTD Mineral Light Rail station in 2000, the Aspen Grove Lifestyle Center in 2000; the Berkshire Apartments in 2010, Breckenridge Brewery in 2015 and other residential and commercial developments in the area. The 1994 visitor estimate was 219,168 and in 2023 was estimated at 350,000 for trail use alone at Mineral Avenue, with an additional 110,000 vehicle entries through the south end for fishing and river use. Impacts from his tremendous growth have occurred and have been minimized through the management practices and use-zone concept. Within the next 5 years, an additional 900+ residential units are expected at Santa Fe Park, 300 units at Riverpark, and 400 units at Aspen Grove.

In 2020, during the COVID shutdowns, trail use increased over 40%, and the park became worn-looking. Trail treads increased with social trails on both sides of main trails, interpretive trails grew at times to 25 feet wide, and dog waste became an issue. Through a variety of educational campaigns, trail barriers, chalking trail-edge indicators, and restoration seeding, much of this damage was recovered, but it helped set a precedent for indicators of overuse.

KEY INDICATORS

Staff can use indicators to help track and illustrate changes in the Park with uses that might help identify undesirable changes. This allows for management decisions to be flexible in setting targets for the visitor experience, with opportunities for rapid response to changing conditions. Some of these indicators can include feet or miles of habit/social paths, number of unofficial river or lake access trails, trail tread width, number of uncollected dog waste piles or bags, quantity of litter, trail complaints or accident rates, ranger contacts or citations, and more. While best practice is for regular monitoring of these things, the resources and staffing are currently best to observe these elements anecdotally and quantify those when significant changes area noticed by using aerial photography, photo-point changes, or periodic measurements.

VEHICULAR ACCESS

One of the primary methods of regulating visitor use is to regulate vehicular access. This is done by limiting parking opportunities and resisting the urge for more parking, which could elevate use beyond what the resources can handle. Currently, Park staff manage four parking lots for visitors (Figure 12,

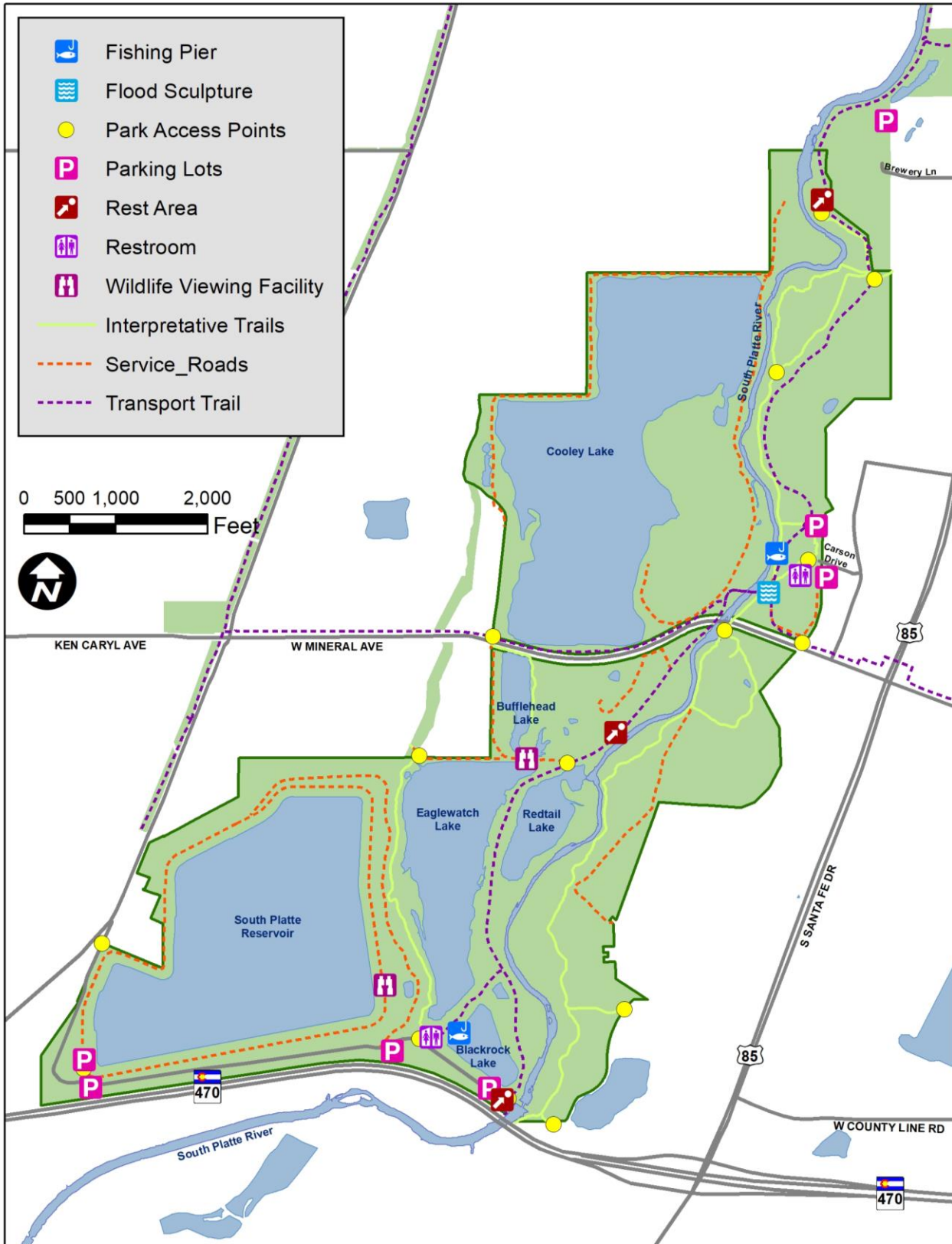
Recreation Features) and a parking lot for staff, volunteers, and paying program participants that can accommodate around 25 vehicles.

The 1983 Master Plan calls for a parking area next to the CNC (3000 South Carson Drive), where a current lot sits to the northeast of the buildings. The gate to this lot is opened consistent with the Park hours, which are currently sunrise or by 6:30 am, until sunset. A formal agreement in the annexation of the RTD lot into Littleton (copy available in Park Manager and City files) allows MCGT users to utilize the Mineral Station for overflow parking on weekends when space is available as a condition of annexation of the RTD lot into Littleton. No further expansions of parking opportunities will be created to meet the goal of controlling user numbers and minimize the sensation of crowding in the Park.

PERMITS

South Suburban policies dictate that individuals cannot run businesses or alter conditions in district-managed parks without appropriate permits. South Platte Park currently provides Temporary Access Permits (for easement holders, public utilities, or private individuals that need to access their property through the park), Commercial Use Permits (for individuals collecting fees for activities in the Park), Park Use Permits (for special events, collection activities, or educational group use by outside groups), River Use Permits (for groups over 15, or anyone collecting a fee to use the river and its facilities), and Photography Permits (for professional photographers using the park for business purposes). The implementation of these permits changes regularly, and current details can be found in the Park Manager Standard Operating Procedures.

Figure 12: Recreational Features



The south entrance to South Platte Park is located off Platte Canyon road with a Jefferson County address of 8100 South Platte Reservoir Access Road, and an Arapahoe County address of 5198 West South Platte Reservoir Access Road. Via this entrance, two accessible parking spaces are provided near the Reservoir trail, plus a 10-car lot, 2 accessible parking spaces near the restroom facility plus a 50-car lot, and a 15-car lot and loading area near the river, also with an accessible space. This gate is opened at sunrise or by 6:30 am and closes at sunset.

Staff maintain six service roads within the Park boundaries, totaling 5.9 miles. The first is a non-paved, unimproved, surface road around Cooley Lake; the western and northern sections of the road also serve as the sewer line access for both Southwest Metro and Roxborough Water and Sanitation Districts. A service road lies to the north of Eaglewatch Lake with a spur along the west side of Bufflehead Lake. To access the southeastern section of the Park, the Centennial Wellfields, and the power line easement, a service road is maintained on Santa Fe Park's western-most fence line. The fifth service road allows quick and easy access from the maintenance shop to the Mineral Avenue Trail and MCGT. A service road provides access around the CWSD's South Platte Reservoir and 7-11 Gulch. The roads around Cooley, South Platte Reservoir, and the Maintenance shop are signed or gated for staff use only, while the others are incorporated into the public trail system. Staff, contractors, and easement holders also use the MCGT for maintenance purposes and emergency access within the Park. Due to high volumes of trail traffic, pedestrians get the right of way, maximum speed is 15 mph, travel off the sides of the trail are discouraged to protect irrigation systems and native vegetation, and with hourly counts at times over 500 users per hour, flaggers are required to help with traffic safety during projects that impact the Greenway Trail.

To help with staff training and for emergency access, maps were created showing emergency access routes, as well as agency jurisdictions for emergency response, which get particularly complex at the south entrance. Emergency responses in that gate could involve Littleton Police, South Metro Fire Rescue, Jefferson County Sheriff, or Arapahoe County Sheriff depending on the emergency location (Figures 4 and 13).

TRAILS

The trails in South Platte Park have been characterized in the 1983 Master Plan as transport trails, interpretive trails, and access trails. No paved or concrete trails (Transport Trails) will be located within the Park, except the MCGT and Mineral Avenue Trail. The trail characteristics are as follows:

Transport Trails

1. Transport trails are for multiple use including biking, hiking, horseback riding, roller skating, strollers, and rollerblading.
2. Trails are constructed of concrete or crusher-fine to accommodate wheelchairs and wheeled recreation devices.
3. Overhead space of ten feet minimum will be maintained.
4. Trails have a minimum width of five feet and a maximum width of twelve feet.
5. Dual trails have paved trails of no more than twelve-foot width with a parallel crusher-fines trail of eight feet width.
6. Maintenance of the transport trails within the Park will be handled jointly with SSPRD Trails crews working with SPP staff for functions of surface repairs, snow removal, and sweeping. Clearance mowing may be conducted in-house or shared jointly.

The MCGT is a concrete trail that enters the Park on the east side of the river at the north boundary of South Platte Park and crosses the river just north of the Mineral Avenue Bridge. South of the bridge, it follows the west side of the river towards C-470. Wildlife Areas adjacent to the MCGT will be designated with a barbless-wire fence and signage.

In 2004, a dual trail system was added to improve safety and provide an optional separation of user types. The trail starts at Blackrock Lake and continues through the Park and follows the MCGT to the north. Currently, there are no specifications for types of use on each trail – bikes may travel on the gravel path, and pedestrians may use the paved surface. This decision generates some complaints, but accommodates a wide variety of accessibility, connection between mixed-use groups, and options during inclement weather when soft-surface trails are unusable. After the dual trail was installed, the District decided for safety concerns to stripe the MCGT with a broken yellow line along the entire length and a solid yellow line 100 feet before the approach of an underpass or bridge to separate the directional flow of traffic.

Certain rules and regulations on the MCGT, which is a regional trail, are different from those in the rest of South Platte Park. Regional trail hours (6 a.m. – 11 p.m.) go beyond sunset, whereas South Platte Park closes at sunset. Use of the MCGT through South Platte Park is allowed during these hours for

regional commuter traffic, which is generally considered to be single-direction travel, not returning to the same point of origin, and typically would not involve exercising pets. Users may be contacted by Park Rangers or police if they are found in the Park after hours if they are off of the transport trails, using the lakes or river, using access points beyond the regional trail entries, or if loitering near the buildings. In the interest of accommodating neighbors, residents of Wolhurst Landing may use their access point to reach the MCGT to recreate north of South Platte Park or for commuting. The park vs trail hours create some management challenges. Park vandalism often occurs during overnight hours, and S Platte Park has limited or no staffing to enforce the park hours. In 2024, staff will begin research on timed automatic gates for both pedestrians and vehicles. The periodic scheduling of a ranger at night or coordinating with police for inspections or contacts would be recommended. Due to seasonal day-length changes and ranger scheduling, the park signage indicates that gates will be open by 6:30 am. This means users may enter through non-controlled regional access points between sunrise and when the gates are unlocked to use the park resources, but prior to sunrise must remain on the paved Transport Trails.

The Mineral Avenue Trail enters the Park at the west boundary along Mineral Avenue and connects with the MCGT on the west side of the river. This trail is on the north side of Mineral Avenue connecting the Columbine Trail, west of South Platte Canyon Road, to Santa Fe Drive. The Mineral Trail also extends east from the river to the RTD lot. As pedestrian access is not allowed on the Mineral Avenue Bridge, this transport trail is also open to pedestrian traffic outside of the Park Hours. The parking lot at the Nature Center has a 3-hour parking limit, requiring regional commuters to use off-Park options such as the RTD lots to leave parking near the CNC for day-use visitors. That turnover is critical due to the small lot and high parking demand.

Roundabouts were installed on the Greenway Trail at major intersections to slow bike traffic and provide for safer interflow. It is recommended to have pedestrian routes through or around these structures to minimize the time pedestrians are on or crossing the paved trail.

Commercial transport or vending operations on the trails are not currently allowed nor recommended. Any changes or improvements to the trails within South Platte Park must be approved by Park staff or the SSPRD planning department.

Interpretive Trails

1. Interpretive Trails are for pedestrian use only. Trailheads are gated and signed as such.

2. The trail surfaces are well-compacted, natural soils, with enhancements of crusher fines added in mud-prone areas to improve drainage and reduce resource damage from visitors avoiding mud or ice.
3. Trails are designed to provide a specific experience rather than to provide a route from point A to point B.
4. Water bars and fill help stabilize the trail and provide for visitor safety, and new or refurbished trails will be rebuilt with a crowned or out-sloped design to shed water.
5. Trails are maintained to a 40-inch maximum width with a 6.5-foot minimum overhead-clearance height.
6. Trails are subject to closure at any time for as long as deemed necessary to provide for public safety and/or protect the natural resources and wildlife in the area.
7. Minimal bike locking/horse tie posts are available at some trailheads to allow riders an opportunity to walk the trail, but no more than two shall be provided at each interpretive trail.
8. Park Rangers may use bikes to patrol these areas on occasion.

Two interpretive trails wind along the east side of the river. The first is the Northern Wildlife Area Trail, located north of the CNC off the MCGT. The main trailhead is west of the MCGT nearest the Aspen Grove drainage pond in the Newton Trust area. The trail is open to the public with three designated entry points that also limit bike and horse traffic.

The second trail, the East Trail, follows the east bank of the river south of Mineral Avenue. The trailhead is located at the east end of the Mineral Avenue pedestrian bridge. The trail dead-ends at C470 and visitors return along the same trail. This trail has a spur trail that ends at private property in the Wolhurst Mobile Home Community. It also has two loops including the east-boundary service road and a small loop through the beaver pond wetland. With coming developments on the eastern border and the potential for flooding from additional stormwater, the current recommendation is to close the beaver pond loop when construction begins in 2024 or 2025.

Two interpretive trails are located on the west side of the river. One is south of Mineral Avenue along the west shore of Eaglewatch Lake. This trail is situated between the west bank of Eaglewatch Lake and the Nevada Ditch. Trailheads are located at the southwest and northwest corners of Eaglewatch Lake.

Another interpretive trail is located in the South Platte Reservoir area on the south rim of the Reservoir. The trail has two public access points. One trailhead is at the parking lot along the southwest corner of

the lake off Platte Canyon Road. The second trailhead is by the Reservoir pump house on the southeast corner of the Reservoir.

Access Trails

The 1983 Master Plan recommends a maximum of one access trail from each bordering subdivision, and no more than four total on either side of the river. Currently SSPRD maintains two access trails at Wolhurst Mobile Home Community, and one access trail each at Wolhurst Landing, the Sanctuary, and the Preserve. Aspen Grove/Berkshire Apartment residents and Wild Plum Farm residents have no direct entrance to the Park and use the main entry point at the Nature Center.

1. Access trails into the Park may be limited to pedestrian use only if they lead to interpretive trails or Wildlife Areas. However, the Wolhurst Landing Access and The Overlook Access are accessible to horses and bikes because of their close proximity to the MCGT.
2. All access trails remain unpaved. These trails will contain no artificial barriers that would limit access to users with mobility aids, but due to trail surface and grade may have a greater degree of difficulty than the fully-accessible transport trails.
3. The Park will have no less than two and no more than eight access trails leading into the Park. The last access trails into the Park are presently reserved for future pedestrian-only access from the Santa Fe Park development.
4. In the interest of pedestrian safety, a paved access to the Mineral underpass may be allowed along the south side of Mineral Avenue, within the right-of-way, to connect to the MCGT from future Santa Fe Park developments, provided the East Trail heading south from the right-of-way continues to meet the interpretive trail standards.

River Access Points

In addition to Park access trails, a number of designated river access points offer stable routes to the river's edge. River access points are needed for the safety and convenience of Park visitors, as well as the protection of riparian habitat. Prior to their installation, as many as 50 social trails to the river developed north of Mineral Avenue and as many or more formed to the south. River access points are designed to the specifications of access trails and are for pedestrian use only. In places where the riverbank is steep, river access points may provide steps for the safety of the user and mitigation of erosion. River access points are signed and where appropriate, designated with a simple split rail fence entrance and shrubs to prevent short-cutting. Access points are limited in number, installed in places with stable, sustainable slopes, and direct users to points of interest near the river. They are generally no closer than 75 yards apart.

Accessibility and Other Power-Driven Mobility Devices

The Park trails provide varying degrees of accessibility throughout the Park. Many of the routes formed along well-established social trails, have had no formal construction, and do not fully meet accessibility standards. As new trails or facilities are developed, they should strive to meet ADA standards or provide equivalent experiences where slope or floodplain regulations make this impossible. Visitors of all levels of mobility are welcome to travel all public routes in the Park, while some routes provide greater natural challenge than others due to grade, cross-slope, surface compaction, or natural features. New bridges and water crossings will strive to meet accessibility standards when trails approaching them are accessible. Gates must provide a minimum access width of 40” and may be signed for no bikes but will not contain artificial barriers to access.

South Suburban’s Other Power-Driven Mobility Devices Policy is in effect, which defines the types of mobility devices appropriate for the Park. The current district policy on mobility devices may change at times as technology changes, however, in general this policy allows wheelchairs on all routes open to pedestrians and allows electric wheelchairs and electric-assist bikes on trails closed to other ‘motorized’ use. It prevents adding barriers at trailheads that restrict allowed devices, and disallows gas-powered devices, Segway-style vehicles, and golf-carts.

Table 2. Trail Classifications

<i>Class of Trail</i>	TRANSPORT	INTERPRETIVE	ACCESS
<i>Approximate Length</i>	¼- 3 Miles	¼- 2½ miles	0-¼ miles
<i>Width of Trail</i>	8-12 feet	40 inches	40 inches
<i>Slope of Trail</i>	1:50-1:12	1:50-1:4	1:50-1:3
<i>Surface of Trail</i>	Concrete. crusher fines	Unpaved. compacted soil or crusher fines	Unpaved. compacted soil or crusher fines, steps and grade reversals

<p>Trails in South Platte Park</p>	<ul style="list-style-type: none"> • MCGT (Carson Nature Center to: C-470 1.5 miles, north boundary 0.8 mile). • Mineral Avenue Trail (0.5 mile) 	<ul style="list-style-type: none"> • Riparian trails on east side of river south of Mineral (1.15 miles). • Loop Trail through Beaver Pond south of Mineral (0.3 mile). • Trail on west side of Eaglewatch Lake (0.65 mile). • Northern Wildlife Area Trail (0.72-mile loop); • South Platte Reservoir Trail (0.7 mile from western parking lot to gazebo) 	<ul style="list-style-type: none"> • From the south and north areas of Wolhurst Mobile Home Park to riparian trail. • From Wolhurst Landing to Greenway Trail. • From The Overlook to the NW corner of Eaglewatch Lake. • From Polo Reserve Sanctuary to Bufflehead Lake
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SIGNS

The 1983 Master Plan set standards for signage in the Park. The basic principles of that system continue to guide signage decisions, however, modern signage materials and studies in communications have led to sign systems with different materials, colors, and content than specified in the Master Plan. SSPRD maintains the most current specifications for design as an operational document.

The primary guidelines for signage remain unchanged:

- South Platte Park will use a unified system of text, font, color, and layout for signs, consistent with SSPRD Standards for the Park and Greenway Trail,
- Visitor behavior will be managed by the fewest effective number of signs to reduce a sense of crowding and urbanization from too many signs,
- Placement will be carefully considered to ensure signs fit legal boundaries and most effective locations,
- Messaging will be clear, simple, and positive in nature wherever possible and may use universal icons where appropriate,
- Sign materials and colors will be generally complimentary to the open space to reduce the visual pollution of signs in the natural area, while maintaining effective, readable signs,
- Outdated or damaged signs will be refurbished or removed regularly,
- Basic park identification and rules signage is provided at park entry points.

Interpretive signage will be of a consistent color and design to existing signage, follows the principles of interpretation (Appendix 11, Summary of Interpretation Plan), be minimal in number, and located in the most strategic and impactful locations possible. The preference is for location-specific maps to orient to the landscape where appropriate rather than having north to the top, while larger system maps will be oriented with north up. Additionally, South Platte Park may allow other government agencies, e.g. CPW or the City of Littleton, to add signs where it is mandated and appropriate, with an effort made to meet existing standards.

FACILITIES

Buildings

Facilities in the Park include the Theo L. Carson Nature Center (CNC), the classroom also referred to as Kingfisher Studio, the Dunahay Amphitheater, the Meadowlark Pavilion shelter and a maintenance facility (the shop). The CNC and Studio buildings were donated to the Park in 1986. The CNC building was constructed by the Carson family and served as their home from 1949 to 1986 and was moved from its original location atop Jackass Hill in 1986. All buildings are located within Park boundaries and all public areas attempt to meet accessibility standards within their historic construction when possible. A detached solar shed building was reconstructed in 2005 to serve as a classroom to accommodate larger groups. Structures within the Park have an architectural theme that is consistent with the existing buildings and Littleton building code to complement the natural, rural, and agricultural themes of the area.

Carson Nature Center

The CNC functions as an orientation point for Park visitors and a place where an individual becomes acquainted with the Park (Figures 15 and 16). The name Carson Nature Center refers to the building, but is not promoted as the programming entity, which is publicly marketed as South Platte Park. At the Center, a visitor can ask the staff and volunteers questions about the Park, recreational opportunities in the area, general information, directions, or seek help in emergency situations, as well as collect brochures or interact with exhibits supporting the interpretive theme for the Park.

Maps, displays, and the River Table exhibits are available in the Center to enhance the visitor's experience or aid the individual who likes to discover on their own. After the visitor is acclimated to the Park through the use of the Center, he/she can further enhance the experience through the use of the Park's trail system. The CNC and the Studio serve as an orientation point for interpretive programs conducted by staff, interns, and volunteers. The educational program is discussed in more detail in the Interpretation and Education section.

The CNC also serves as the general office for Park staff. The offices are located on the second floor, which is generally not open to the public. The resource library is open to staff, interns, and volunteers daily and to the public by appointment only. The CNC also provides restrooms and a drinking fountain for the public during all hours the Park is open.

Studio

The Studio is utilized for programs, groups, meetings, and environmental education (Figure 16). It accommodates up to 55 people in a stand-up meet-and-greet format, though generally is most comfortable for up to 40 adults if it is a seated event. The building is heated with a propane furnace and is designed for passive solar heating to minimize fuel use. It is rented to the public per a set of pricing and policies approved by the South Suburban Board of Directors.

Amphitheater and Pavilion

The Dunahay Amphitheater was donated in 2017 and completed in 2019. The Amphitheater is used for outdoor field trip introductions, rentals, and special event presentations. It can seat up to around 75 people on the stones, or 150 people with their own blankets or seating. The Meadowlark Pavilion is a covered shelter area with stacking benches sufficient for around 40 youth to sit for a shaded presentation, or shaded summer camp, birthday party, or bike repair class. It is rented to the public per a set of pricing and policies approved by the South Suburban Board of Directors.

Maintenance Facility

A maintenance facility constructed just south of the CNC serves as the maintenance and construction shop for the Park. Most tools, materials, and equipment to maintain the Park are housed in this facility or in the adjacent storage bins.

Figure 14: Nature Center Facilities Map

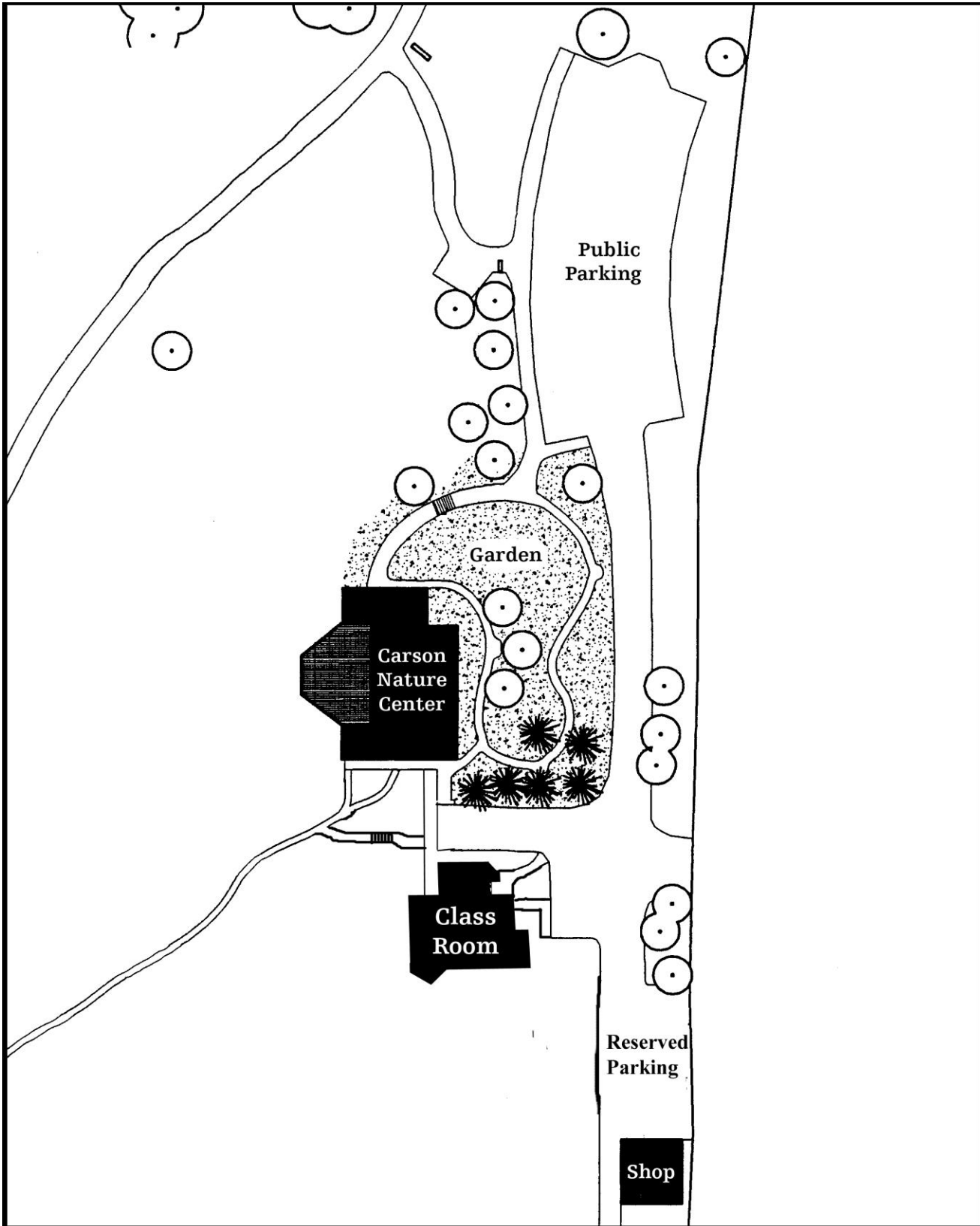
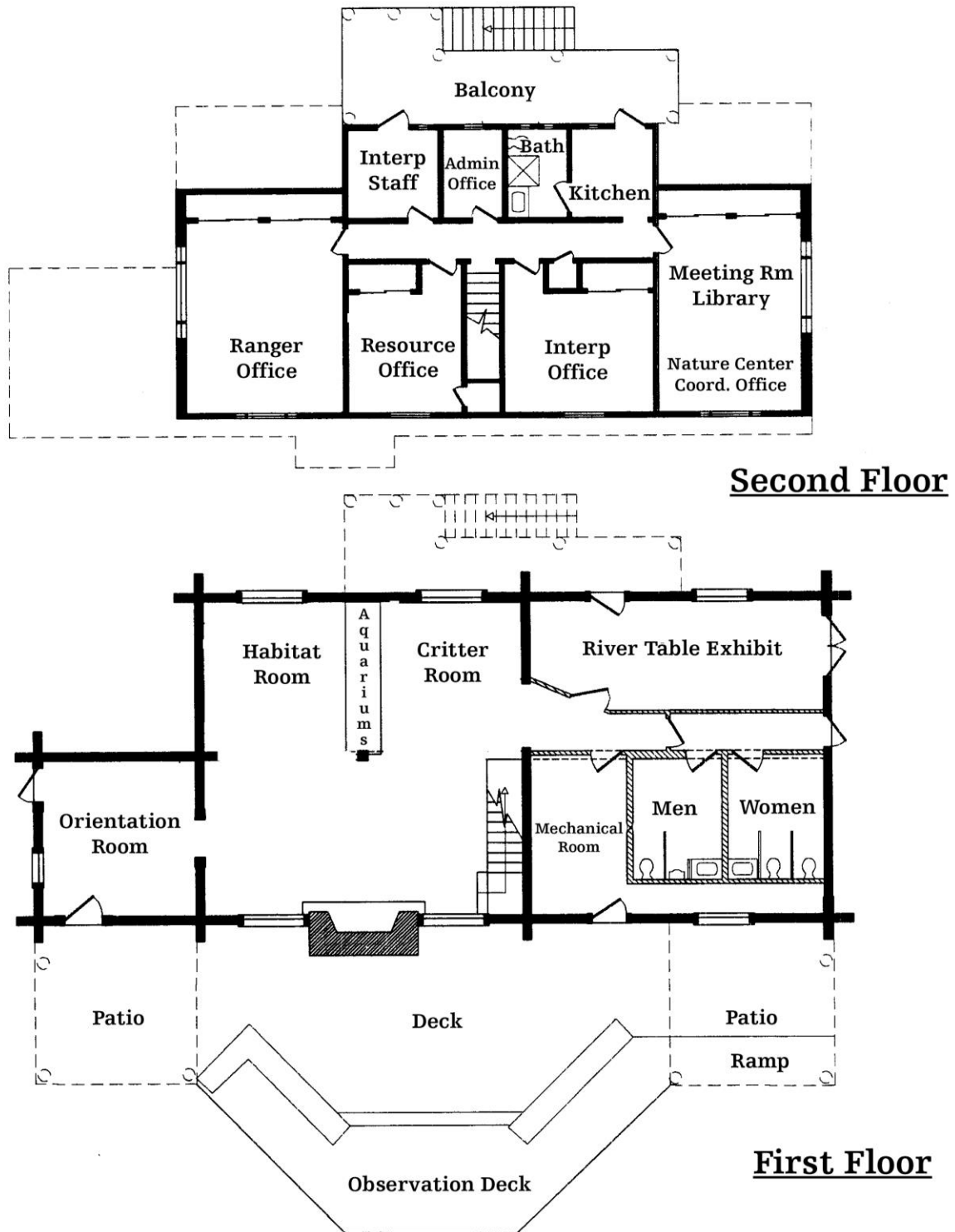
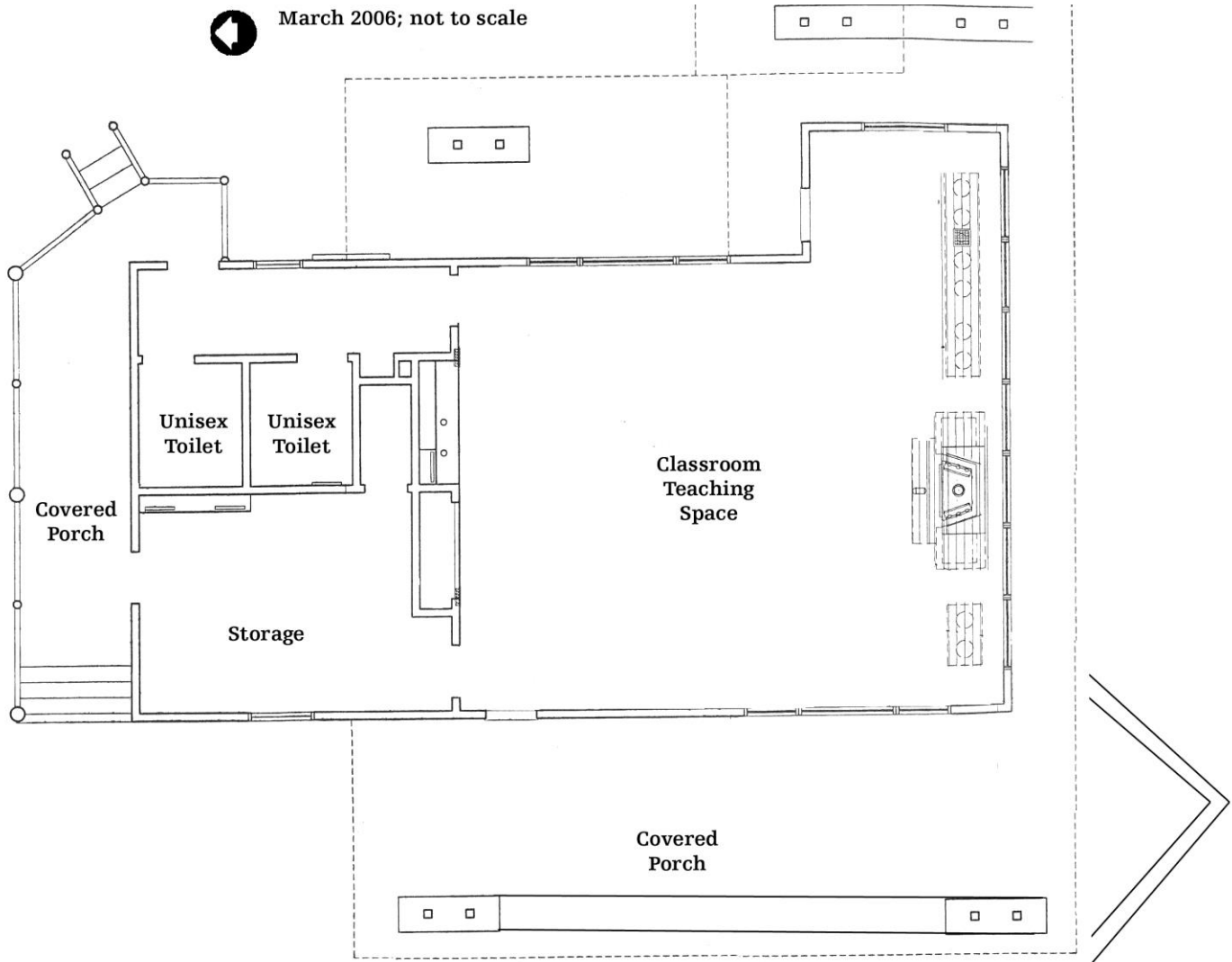


Figure 15: Carson Nature Center Floor Plan



◀ Not to Scale

Figure 16: Studio Floor Plan



Benches and Rest Areas

The Park currently has three rest areas along the MCGT, shown on Figure 12. One is the Weber Rest Area, located along the trail north of Redtail Lake. Another is the Kiewit Rest Area, located on the west side of the river southeast of Blackrock Lake. The last is the Ulche Creamer Rest Area, on the east side of the river near the northern Park boundary. All rest areas provide scenic vistas of the Park as well as opportunities to view wildlife. Five other rest areas are located just north of the Park within two miles. No other formal rest areas are allowed along the MCGT within the Park. Wooden benches were replaced in 2023, and periodic maintenance is required.

To maintain the natural character of the Park, no additional benches will be added along the trails or beyond the extent of the building envelope of the Nature Center, wildlife viewing facilities, or along the south side of South Platte Reservoir. Large cottonwood logs and rocks provide stopping points for users with limited endurance in strategic locations along the trails. These should be maintained or replaced with some regularity, with more added to provide an appropriate place to rest approximately every one-tenth to one-quarter mile in lieu of additional rest benches.

Bridges and Boardwalks

Two bridges cross the South Platte River within the Park: the Mineral Avenue Bridge and the MCGT Bridge. The C470 overpass is not within Park boundaries and was reconstructed in 2017, with safety improvements for the MCGT but a failed design for a protected wildlife underpass. Additionally, the MCGT has a small bridge over a drainage channel near the Wolhurst Landing access point.

Bridges and boardwalks within the Park may be added when needed in areas identified by the South Platte Park staff and appropriate administrative staff. These structures are subject to closure at any time as deemed necessary for public safety and/or to protect natural resources. Some structures may be submerged by high water. Current locations include: two near the Wolhurst north entrance, one over Dad Clark and one over the Dad Clark overflow channel, two over Jackass Gulch, one across the Southeast Feeder Stream, one near the Studio, one in the Native Garden two in the Northern Wildlife Area, and one on the west side of Eaglewatch Lake. Near this bridge, a rock crossing allows the 7-11 Gulch to inflow into Eaglewatch Lake, while a route of large boulders allows pedestrians to follow a non-accessible route through the large spillway. The two bridges on Jackass Gulch are being studied for more robust replacements in 2023.

Cooley Canoe Launch

To prevent injury and shoreline erosion when used for occasional canoe programs, a small launching beach was constructed in 2005 along the eastern bank of Cooley Lake. It consists of a few hardened

stairs. A gravel launching dock was quickly destroyed by ice movement, so the current design is sufficient. No further improvements are recommended as it is used no more than twice per month during summer for programs. Minor maintenance and occasional filling may be required due to impacts of lake ice.

Accessible Fishing Piers

Accessible piers have been constructed in Blackrock Lake, with access from the South Entrance parking lots; and two overlooking a pool of the river due west of the Nature Center. Lake and river structures are submerged when river flows exceed 2000 cfs. Following inundation, an inspection of footings will be conducted, and maintenance of the steel railings may be required. No other fishing docks or platforms are anticipated or recommended at this time.

Wildlife Viewing Blinds and Observation Decks

Photo blinds and observation decks provide unique access to wetlands and other appropriate wildlife viewing locations. Designs blend into the surrounding landscape and facility theme for the Park.

The William Peacock Memorial viewing blind was constructed between Eaglewatch and Bufflehead Lakes (See Figure 12) in 1996. This three-sided structure provides a shaded rest area and wildlife viewing opportunities for Bufflehead Lake and its associated wetlands. In the blind are six interpretive panels about the habitats and wildlife in the area. The unenclosed entry of the structure is open to minimize vandalism and criminal activity. Shrubs were established along the road to minimize disturbance of waterfowl on the lake as people approach and enter the blind.

Another viewing station is the gazebo on the southeastern corner of South Platte Reservoir along the east rim. This gazebo provides a shaded rest area and wildlife viewing opportunities for the South Platte Reservoir, Nevada Ditch, and a 360-degree view of the Front Range and plains. An interpretive sign in the gazebo discusses the unique history, vegetation, and birds of the Nevada Ditch. One additional structure is on the East Trail, near the Beaver Pond Wetland and is a pond overlook that now straddles a small stream but was once an observation platform in a large pond.

Any further structures of this kind, or significant changes to existing facilities require the approval of the South Platte Park staff, Parks Director, Planning Department, and City of Littleton. Structures are subject to closure at any time as deemed necessary by appropriate administrative staff to provide public safety and/or protect the natural resources and wildlife in the area.

Interpretive Waysides and Artworks

South of the CNC is an interpretive wayside. The wayside, designed by the private firm ECOS Communications, consists of a weathering steel sculpture that illustrates the depth of the 1965 flood, recreating a historic marker visitors remember from a tree or pole in the early years of the Park. It includes a small gravel pad and three interpretive signs. These structures may require occasional maintenance and weed control. Near the CNC is a decorative entrance gate by Joshua Weiner that supports the river theme of the Park. The Kiewit Rest Area near Blackrock Lake has an interpretive sign about the mining history of the Park. No further artwork is recommended for the interior of the Park but may be considered in the development envelopes of the existing structures.

Picnic Areas

Two picnic areas were installed in 2010 within the development envelopes of the existing buildings. One with three tables is north of the CNC parking area, the other is near the main parking off the Platte Canyon entrance with two tables. No further picnic facilities will be constructed.

Trash Stations

Several trash stations are available throughout the Park to minimize litter. These consist of a trash barrel and a recycling barrel, and some contain a fishing line recycling bin.

Restrooms

Restrooms are available in the Carson Nature Center and in the Studio. A vault toilet facility with a storm shelter porch is provided near the middle parking area of the Platte Canyon entrance. Originally a composting toilet, the ventilation systems failed, and it was converted to a vault toilet only in 2022. In 2016 a flush restroom was installed at Reynolds Landing.

Lighting and Security

The Park and its facilities will be managed with the minimum amount of lighting possible to balance night sky preservation and wildlife impacts while maintaining public safety. Building exterior lights are directed towards the ground and have short-duration, motion-detector lights for staff and visitor safety approaching the building, stairs, and parking lots. They also help to ward off potential vandals. Brighter and timed exterior lighting is used during public programs to allow visitors to travel to and from their vehicles safely. Parking lot lights were installed in the staff lot in 2017. Some minor safety lighting may be needed in some underpasses and the public parking lot; however, no additional street or trail lighting is recommended. This policy may be re-visited if adjacent development brings increased vandalism or safety concerns.

Memorials

SSPRD offers several memorial options for honoring a special person or occasion. Specific locations have been identified throughout the District where a memorial serves to enhance the beauty or use of parks and trails. Specifically, within South Platte Park, recommendations for memorials include: the enhancement of the South Platte Reservoir entrance, interpretive trails, art adjacent to the Carson Nature Center, and benches within the development envelopes of the buildings. Memorial trees and groves may be considered but are discouraged unless there are provisions for watering and replacement. The roundabout near the Nature Center contains boulders dedicated to members of the South Metro Land Conservancy. Additional plaques or memorials will be limited to being incorporated within the development envelope or structure of each facility, and not posted on separate signage. A memorial policy for SSPRD is updated periodically. The South Platte Park Fund holds dedicated contributions from developers, memorials, or towards specified projects. Funds will only be carried over if they are designated towards a specific purpose. All other donations currently go into a scholarship fund used to bring students to programs.

RECREATION ACTIVITIES

The 1983 Master Plan recommends that South Platte Park offer limited leisure opportunities for Park visitors. Activities consistent with the intent of the Park include hiking; fishing (both cold and warm water); non-motorized boating, canoeing, kayaking, rafting, paddle-boarding and tubing on the river; horseback riding; bicycle riding; wildlife viewing; and photography. Ice fishing is no longer allowed due to the unpredictable nature of the ice in the gravel pits from groundwater upwelling. Cross-country skiing and snowshoeing are enjoyed in the winter. No formal ice-preparation or skating rinks may be maintained, and ice-skating is not allowed. Geocaches and letter boxes, which are outdoor treasure-hunting games, are allowed according to the SSPRD Geocache policy which may be updated on occasion. In general, users must contact the Park for approval first, stations may not be located on facilities, in sensitive or closed areas, and if they begin to create trails off of the formal system, the installer will be contacted, and the cache removed if they do not respond. Land uses and recreational activity zones are diagramed in Figures 7 and 8. Some of the activities not consistent with the intent of the Park include athletic programs enjoyed at many parks throughout SSPRD such as softball, soccer, golf, races and marathons, fitness camps, and other organized sports and activities.

Horseback Riding

Horseback riding is allowed within 30 feet on either side of the MCGT and on service roads within the Park unless they enter designated wildlife areas or are marked for vehicles only. Horse use is greatly diminished from the past due to increased trail use, loss of nearby horse properties, and limited trailer parking. Speed is limited to a trot or lope. Horses are not allowed in the river.

Swimming and Boating

Littleton City Code prohibits swimming, wading, boating, rafting, or tubing unless specifically allowed in a park. The intent for South Platte Park is to allow the river to be used for recreational boating, tubing, and fishing, to allow shore-use only of the lakes, and to eliminate a higher-impact environment like a swim-beach. State regulations set testing, water quality, and safety standards for designated swimming areas, none of which are implemented in the Park. Conflicts in definitions between city code and state law make this a complex issue. Signage will indicate boating is allowed on the river only, and swimming and bathing are not allowed. Implementation of this rule will follow these guidelines:

- Boating is allowed in the river only, and this includes all state-defined non-motorized vessels such as kayaks, rafts and stand-up paddle-boards. All boating must comply with Colorado State regulations, which require an approved Personal Floatation Device (PFD, like a life vest) onboard for each adult user, and children 12 and under must be wearing such devices. Boating on lakes may be possible under a Park Use permit for management activities and interpreter-guided programs. Cooley canoe programs are currently offered monthly to provide unique opportunities for wildlife viewing, solitude and silence. Boating is prohibited on South Platte Reservoir due to a management agreement regarding drinking water standards with CWSD. All commercial and organized group use of the put-ins and take-outs of the South Platte River is by permit only.
- Swimming is prohibited in the lakes and the river, generally defined as travel through water waist deep or greater, with or without the use of floatation aids, except as described below.
- Tubing is managed by the state as a form of swimming. Tubing is allowed in the river only. Tubing encompasses single-chamber rafts, pool toys, and similar full-body floatation devices. Downriver travel without a floatation aid capable of keeping the majority of the body out of the water is considered a prohibited form of swimming. Fishing float tubes on the lakes are not allowed. While not strictly enforced under state law, PFDs are encouraged for all tubers and especially children 12 and under. Tubing at flows below 50 cfs are discouraged through signage and visitor education as it tends to cause more significant damage to the benthic (river-bottom) environment and an increase in litter like damaged tubes and items people tire of carrying when they are forced to walk long shallow sections.
- Wading is allowed as a part of fishing or nature exploration in the river and along the lake edges.
- Bathing, such as sitting or lounging in water waist deep or less, or washing of the body, is not allowed.
- SCUBA and related forms of underwater diving are not allowed in the Park.

Partial or complete closure of the River may be declared by the State or by the Littleton City Manager upon the advice of Park staff or emergency officials for the protection of public safety in times of high-water flows or obstructions in the River. This could include closure to all use, or closure for tubing but not to designated river vessels. In the past, officials have leaned towards stronger advisement of the public rather than restricting activities. Short-term closures have been implemented when the channel was impassable due to obstructions. Park staff should not attempt debris removal in high water conditions and in the past have been able to coordinate with South Metro Fire Rescue, Mile High Flood District, or the USACE to coordinate reduction in flows, work by swift-water-trained teams, or removal reaching from the riverbanks using cranes.

Remote Control Devices

Remote-controlled motorized toys or devices are not allowed. This is to preserve the natural character of the Park from noise issues, to preserve a wild character to the space, to prevent disturbance into restricted use areas, and to protect nesting songbirds and raptors, resting waterfowl and other wildlife from potential harassment. Use of these devices may be allowed under a permit by staff for management and educational purposes.

Races and Special Events

The Park receives frequent requests to be a route or start for races and special events. In general, these are not consistent with the management goals of the Park and will not be allowed.

Tree Climbing

South Platte Park has had a relationship with recreational tree climbing since around 2006, and it has been a staple of birthday parties and public programming in low annual numbers. Tree-climbers leading programs must follow contract requirements for insurance and qualifications for commercial use permits. Independent climbers may climb freely, provided they are certified and use proper equipment (no spikes and use cambium-savers for ropes) to leave no lasting impact on the trees. Contractors may, with permission from management, conduct occasional mulching or pruning to create safer climbing conditions. Very few mature cottonwood trees in the park remain safe for climbing due to the declines in forest health.

PARK RULES AND REGULATIONS

Rules and regulations specific to South Platte Park are covered under Littleton City Code, Chapter 9 of Title 6, Conduct on Public Property, Section 6-9-3 (Appendix 3). These are summarized in Park literature and signs. City Code regulations do not need to be posted on the property to be enforceable,

however, any additional regulations specific to South Platte Park may need to be. Regardless it is recommended to post signage reinforcing the most common rule violations at trailheads and entrances. SSPRD's rules and the CPW regulations are also enforced within the Park's boundary. Ranger staff make public-relations contacts to educate the public about the rules, regulations, and the reasons for them, with law-enforcement contacts as the next approach.

With increased used, the need for law enforcement at South Platte Park may increase dramatically. Potential problems - such as accidents, user conflict, violations of rules and regulation, vandalism, or homeless individuals camping or living in the Park - may increase the demand for police action on a year-round basis. This might require an increase in staffing or further coordination with Littleton Police to actively patrol the Park. Park Rangers are granted authority through the City of Littleton to issue summons for violations of Park rules, regulations, and parking codes, as well as codes covering wildlife and fishing violations as stated under Colorado Title 33. With certain safety-related offenses (e.g., juveniles with alcohol, hunting, any weapons violations, and/or vehicles off-road, individuals appearing to be in a mental health crisis) or when situations escalate beyond their training and empowerment, Rangers will request backup from the appropriate agency (Jurisdiction Map, Figure 4). The Park has adequate signage to warn the public of the offenses. Public safety and legal liability demand that proper authorities be called.

The use of the Park by unhoused individuals has been on the rise due to the proximity of light rail and changes in rules enforcement in surrounding cities. Refer to the current SSPRD policy and federal law regarding the methods for addressing camping and after hour's violations.

EXEMPTIONS

Park staff may grant exceptions to the posted Park Rules and Regulations, as listed on Park signs and in Appendix 3, by written permit for resource management and educational purposes. This is not limited to, but may include activities such as: allowing falconers to hunt during public program display; allowing the planting of boxelders; allowing staff-led bonfires for public programs; allowing consumption of alcohol in accordance with personal use or permitting processes within the City of Littleton for Studio rentals; allowing overnight camping as part of specific guided programs; allowing swimming or boating on any of the lakes as part of guided-public programs or towards specific management goals; allowing aquatic diving for management purposes, allowing gold panning for public programs, etc.

SECURITY AND EMERGENCIES

With increased development and use come some new risks for staff and visitors. In recent years, minor crimes and police activity have increased as the population increases in surrounding areas. A full

emergency plan is available in the office of the administrative assistant and is kept up-to-date with Standard Response Protocols, evacuation processes, guidelines for working with youth in the field during emergencies, and access maps. 911 is the primary contact for all emergencies, with a very short response time, and Park Rangers should be contacted immediately after calling 911. Staff are encouraged to respond to their degree of comfort and training for the situation while waiting for emergency professionals to arrive as jurisdictional questions or travel to remote emergency scenes have taken extra time in the past.

INTERPRETATION PROGRAM

In accordance with the 1983 Master Plan goals, South Platte Park offers educational programs in natural and cultural history to persons of all ages and abilities in a variety of locations. The field of outdoor education has developed significantly since the Master Plan was released, and in 2006 staff developed an overall Interpretation Plan (Appendix 11) that aligns with the 1983 Master Plan goals, to address changes in the field and in the curriculum demands of the local school districts.

The term interpretation is used under the definition of the National Association for Interpretation to describe a purposeful approach to communication that facilitates meaningful, relevant, and inclusive experiences that deepen understanding, broaden perspectives, and inspire engagement with the world around us. This is often done by forging emotional and intellectual connections between the interests of the audience and the meanings inherent in the resource. Meanings and relationships are revealed, creating an understanding, appreciation, and respect for natural open space, and specifically South Platte Park through storytelling, hands-on experiences, and personal discoveries. The educational vision defined in the Interpretation Plan is to make South Platte Park a regional example of excellence that helps the community find meaning and value in natural open space through direct positive experiences, with the ultimate goal to create future stewards of the resource. To accomplish this vision, each program and product supports the over-arching theme “The South Platte River shapes life in our community.”

Interpretive programs are offered at South Platte Park in the form of interpretive walks, campfire programs, night hikes, workshops, demonstrations, training classes, continuing education opportunities, live animal programs, volunteer service, illustrated lectures, youth camps, and seminars. The Park also provides an EcoTour travel program throughout the western United States, as well as to international destinations. These trips cover all direct and indirect expenses, as well as contribute a portion to the Park Scholarship fund.

South Platte Park has a history of collaboration with surrounding environmental education groups such as Colorado Parks and Wildlife, Denver Water, Denver Audubon, Jeffco ENOR, Thorne Ecological Institute, the SOLE program, and Great Outdoors Generation Wild Sheridan Inspire coalition. Groups and coalitions change over time, but there is significant value in the remaining part of the metro network, the Colorado Open Space Alliance, the National Association for Interpretation, and the Colorado Alliance for Environmental Education.

The Outdoor Recreation Coordinator for South Suburban is part of the South Platte Park staff. Outdoor recreation programs that are appropriate and consistent with South Platte Park as a natural area are also offered. Programs, such as hiking outings, canoeing, water safety classes, and fishing classes are offered, and many are contracted to occur off-site.

The number of people attending programs at South Platte Park is limited to maximize the user experience and protect the Park's natural resources. Field trips for schools and special interest youth groups are limited to a maximum of 60 children per program, with no more than 15 children per one interpreter plus one or two adult chaperones (provided by the group), with a 1:10 ratio the preferred target. When possible, these programs are limited to 30 students on trails at any one time and 30 in self-guided activities at the Carson Nature Center as recommended in the Master Plan. Private and special interest groups visiting on their own are limited to a maximum of 60 participants.

The general public is welcomed and encouraged to participate in the natural and cultural history programs and volunteering, which are publicized in the SSPRD brochure, the South Platte Park Newsletter, social media channels, various schools, club publications, and newspapers, radio, and television coverage through press releases.

Staff shall, from time to time, review and revise fee structures associated with all interpretive programming and facility use. Fees are approved by SSPRD Board of Directors during the annual budget cycle. In 2015, a Business Plan was implemented along with an annual One Year Marketing Plan. This plan includes recommendations on the pricing and logistics for programs based on customer analyses.

The CNC and Studio are integral parts of the educational and volunteer programs. They serve as a meeting point for program participants and volunteers, an area to conduct indoor programs and training, and an opportunity to combine indoor and outdoor programming.

In 2013, a scholarship fund was created. Educational donations and any non-designated funds donated to South Platte Park are placed into this fund, which can then be used to offset program or transportation costs for qualifying schools. Teachers and families are more engaged if they must pay at least a small portion of required fees, scholarships will generally not cover 100% of costs and at least \$1 per student is the recommended minimum unsubsidized share. Groups must be qualifying schools or non-profits, ideally with greater than 60% lunch subsidies or serving a known community in need, though there is flexibility for other barriers to receiving a program. Funds are held as revenue and transferred as such when utilized. For public programs, SSPRD offers RecMoney that is distributed through community non-profit groups, and scholarships that can be applied to direct costs of programs for qualifying individuals. Since 2023, the nature scholarship fund has supplemented the funds available through the District policy. Scholarship eligibility is determined by the registration department and current SSPRD policies.

Since 1989, the Park has received a grant from the Scientific and Cultural Facilities District (SCFD) to support programming by keeping fees for school programs and family events affordable. This process is constantly evolving but has typically provided around 15-20% of the costs of programs.

Interns and Academic Studies

Interns are accepted at the Park for specific studies or projects in Resource Management or Interpretation. These may include but are not restricted to inventorying and monitoring the flora and fauna of the Park, creating photo documentation and collection of specimens; behavioral studies and trends of resident wildlife populations; bird migration patterns and studies in relation to habitats within the Park; visitor behavior patterns and visitor impacts; restoration ecology techniques; and interpretive program development or impact studies. Compensation and procedures will comply with SSPRD Human Resource policy regarding educational internships as well as requirements from the school. The Park also welcomes low-impact scientific research by students and classrooms. Such work must be covered by an approved Temporary Access Permit and a copy or summary of the results is requested.

Volunteers

The Volunteer program recommended by the Master Plan has grown significantly and is designed for most ages. Families are invited to participate in activities together through the Parent/Child naturalist team program, Nature Teens, and similar opportunities. These programs give young adults experience for future career choices and provide community outreach for senior citizens. Volunteering can instill a strong sense of pride, community, and accomplishment as well as a lasting connection for stewardship of the Park.

Most training for volunteers is an “on-the-job” experience and involves shadowing experienced staff or volunteers in activities. At intervals, as time and demand allow, a more intensive natural history course or interpretive skills course may be offered. Periodic training sessions are offered to volunteers and may include but are not limited to orientation, birds, mammals, reptiles and amphibians, cultural history of the Platte River valley, interpretive skills, first aid and CPR certification, and other natural and cultural history topics as they relate to the Park and its operations. Volunteers may also receive a discounted rate of up to 20% for public programs, the nature center gift shop, and may have instructor fees waived for the Interpretive Guide certificate course.

Volunteers include individuals, Girl and Boy Scouts, school programs, corporate employee project days, special interest groups, Transition Programs, and court-ordered community service workers. Volunteers are encouraged to participate in projects or studies conducted by interns or Park staff. If interested, volunteers are encouraged, supported, and trained to lead projects, programs, or studies in the Park.

Benefits to the volunteer may include limited insurance coverage for duty-related injuries secondary to personal insurances; a general training session and manual; the opportunity to build job experience and references for his or her résumé; experience implementing land care techniques; chance to expand skills; task-specific training; social opportunities, and recognition. Job descriptions are available for volunteer positions in their Volgistics profiles. They provide a clear purpose, job responsibilities, qualifications, training, and time commitment.

CONCLUSION

The South Platte Park Management Plan is an operational guide covering land use policies, resource management, visitor management, and interpretation/education. To achieve the goals and objectives of the 1983 Master Plan, this Management Plan must be closely followed. Specific processes and procedures are included in individual Operation Procedure manuals for each full-time position.

This Plan defines the Park's natural communities, identifies important Wildlife Areas, addresses management of wildlife, vegetation, aquatic and wetland resources, and recommends appropriate land management policies. Vehicular access, trails, signage, and structural development are discussed with appropriate visitor management guidelines and minimal impact to natural areas. Interpretation and education are important aspects to the management and overall goals of the Park.

In addition to maintaining the Park per this management plan, the Park Manager is responsible for identifying and initiating Park improvement projects. A section on Future Improvement Projects was moved from the Management Plan into an operational document and is maintained by staff for needed improvements and wish-list ideas.

In conclusion, the South Platte Park Management Plan addresses the overall management needs of the Park. It allows visitors a variety of opportunities while providing undisturbed areas of wildlife habitat. It creates a balance between preservation of natural resources and visitor use in an urban setting.

SOUTH PLATTE PARK AGREEMENT

This agreement, made and entered into this 19th day of April, 1983, by and between THE CITY OF LITTLETON, a municipal corporation, hereinafter called the "City", first party, and SOUTH SUBURBAN METROPOLITAN RECREATION AND PARK DISTRICT, a quasi-municipal corporation, hereinafter called the "District", second party.

W I T N E S S E T H :

WHEREAS, the City owns the real property known as South Platte Park, which property is located generally on both sides of the South Platte River between Bowles Avenue and Interstate 470 in Arapahoe County, Colorado, hereinafter called the "Park", which property is devoted exclusively to flood control, park, recreation and open space purposes, and

WHEREAS, both parties desire that the District manage the subject property for the City,

NOW, THEREFORE, IT IS AGREED by and between the parties hereto as follows:

1. The City does hereby appoint the District as the managing authority of the Park for the purpose of providing maintenance and operations, including the construction of buildings and other improvements thereon as may from time to time be agreed upon between the parties. The District shall further have the responsibility and the right to maintain said property on a regular basis.

2. The following procedure for park and recreational planning, design, and development of the Park shall be adhered to:

- (a) The District staff shall design the preliminary plan.
- (b) The District shall submit preliminary plans to the City for critique and input.
- (c) The preliminary plan shall then be redesigned by the District for mutual acceptance by the District and the City. Should there be elements in the plan that are not acceptable to either or both parties, then a joint meeting of the Board and Council shall be held to determine the content of the preliminary park plan.

(d) Either separately or in joint session, the District Board and the City Council shall mutually accept and approve the final, preliminary park plan; and

(e) Conduct a joint public hearing at which time citizens shall be given the opportunity to review the plan and provide input.

(f) The District shall then design the final plan and it shall be formally adopted by the District Board and the City Council.

(g) The District shall develop the proposed park and/or its facilities in concert with the adopted final park plan.

(h) In the event either party desires to substantially amend the final park plan, the full procedure of this section (§2) shall be followed.

3. The funding of the development and maintenance of the Park shall be as follows:

(a) There will be joint funding of the Park between the District and the City.

(b) Such joint funding will be agreed upon between the District and the City prior to each party's adoption of its respective annual budget. The District will submit to the City an itemized statement of all elements of its proposed Park budget.

(c) The minimum annual contribution of each party for maintenance of the Park shall be \$25,000.

4. The interests of the City and of the District in the real property and in the personal property of the Park shall be as follows:

(a) The title to real property of the Park will be held and owned by the City. The District will be the sole manager of the Park for the purposes so stated herein.

(b) The City has previously purchased equipment to be used solely on the Park. Such equipment is and shall remain the property of the City and is to be used in the Park.

(c) All equipment, supplies, provisions, and furnishings purchased for the Park from the joint budget shall be the joint property of the City and the District.

(d) Equipment purchased out of the Littleton South Platte Park Improvement Fund will be owned solely by the City. Such equipment purchased from Littleton South Platte Park Improvement Fund shall be used only for the Park. The District shall have the responsibility of maintaining and insuring such equipment.

5. This agreement shall continue and remain in force and effect for an indefinite and perpetual period of time. This agreement may, however, be terminated by either party, by giving written notice thereof to the other party at least one (1) year prior to the effective date of such termination. In the event of a termination of this agreement by either party or by order of Court, the disposition of the personal property relating to the Park shall be as follows:

(a) The personal property purchased solely by the District for use on the Park shall be returned in whole to the District. Such personal property shall be removed by the District within three months of the termination of this agreement. All such personal property remaining thereafter shall belong to the City.

(b) The personal property purchased solely by the City for use on the Park shall be retained in whole by the City.

(c) The market value of the personal property purchased from the joint budgets of the City and the District shall be determined by appraisal, based upon such value existing at the effective date of termination. Each party shall select an independent, qualified, and licensed appraiser, and if the two appraisers cannot agree between themselves, they shall select a third appraiser. Each party hereby agrees to be bound by the majority decision of said appraisers, and the cost of such appraisal shall be borne by both parties equally. If a majority decision cannot be reached, then and only then shall the parties have the right to apply to an appropriate court of law for the purpose of obtaining a hearing and ruling on the question of valuation. In the event of court proceedings, each party shall be responsible for its own costs incurred.

The City and the District shall, by joint agreement, determine which party, if either, will purchase, at the termination of this agreement, the personal property of the joint budget. If one party

agrees to purchase the property the market value shall be the purchase price. If both parties or neither party desire the purchase of the said personal property, the said personal property shall be sold on the market to the highest bidder with the proceeds being divided equally between the City and the District.

6. District personnel whose employment is used in relation to the Park shall remain employees of the District. City personnel whose employment is used in relation to the Park shall remain employees of the City.

7. The City and the District each shall carry insurance to protect against liability for injury resulting from the operation and maintenance of the Park. The City and the District hereby each agree to provide insurance in the amount of \$150,000 per person and \$400,000 per occurrence for personal injury, and \$100,000 for injury to property.

8. This agreement shall be fully binding upon and shall inure to the benefit of the parties hereto, their successors and assigns.

IN WITNESS WHEREOF, the parties have set their hands and seals the day and year first above written.

By L. W. Barbout
CITY ATTORNEY
4/13/83
DATE

THE CITY OF LITTLETON,
a municipal corporation,
First Party

By [Signature]
President of City Council

ATTEST:

Janet H. Breslin
City Clerk

SOUTH SUBURBAN METROPOLITAN
RECREATION AND PARK DISTRICT,
a quasi-municipal corporation,
Second Party

ATTEST:

[Signature] Secretary By [Signature] President

**FIRST AMENDMENT TO SOUTH PLATTE PARK AGREEMENT
DRAFT 10/11/2016**

This First Amendment to South Platte Park Agreement ("Amendment") is made and entered into this ____ day of _____, 2016, by and between the City of Littleton, a municipal corporation ("City") and South Suburban Parks and Recreation District, a quasi-municipal corporation ("District").

WITNESSETH:

WHEREAS, the parties entered into that certain South Platte Park Agreement, dated April 19, 1983 ("Agreement"), in which the parties agreed to procedures and funding for the District to manage the real property, known as South Platte Park, located generally on both sides of the South Platte River, between Bowles Avenue and C-470 in Arapahoe County, Colorado (the "Park"); and

WHEREAS, the parties desire to update and revise the Agreement to reflect current practices and to establish procedures for future management of the Park.

NOW, THEREFORE, IT IS AGREED by and between the parties hereto as follows:

1. Section 2 is hereby deleted and replaced with the following:

The following procedure for park and recreation management shall be adhered to:

- (a) The District staff will develop and propose any major projects and submit to the City for critique and input. Should there be elements in a project that are not acceptable to either or both parties, then a joint meeting of the District Board and the City Council shall be held to resolve it.
- (b) Either separately or in joint session, the District Board and the City Council shall mutually accept and approve major projects. District staff will be responsible for implementing approved projects, while funding is shared jointly.
- (c) In the event either party desires to substantially amend the final park Master Plan, the District Board and the City Council will both approve the proposed changes after public input.
- (d) The management plan will be reviewed and approved by both the District Board and the City Council, either separately or in joint session, at least once every ten years.

2. Section 4(b) of the Agreement is hereby deleted in its entirety.

3. Section 4(c) of the Agreement is hereby deleted and replaced with the following:

All equipment, supplies, provisions and furnishings purchased for the Park from the joint budget shall be the joint property of the City and the District. For equipment such as a ranger truck, which is purchased for use in the Park as well as on other District properties, the purchase contribution and ownership value will be prorated in proportion to how it is used. Any such equipment will be tracked as part of the annual budget process with vehicle description and purchase proration for as long as that equipment is in such service.

4. Section 4(d) of the Agreement is hereby deleted in its entirety.

5. Section 7 is hereby deleted and replaced with the following:

The City and the District shall carry insurance to protect against liability for injury resulting from the operation and maintenance of the Park. The City and the District hereby each agree to maintain insurance in the amounts equal to or in excess of the limitations on judgments established by the Colorado Governmental Immunity Act, as such amounts may be amended from time to time.

6. District agrees that it shall be responsible to maintain, calibrate and monitor the stream gauge located below C-470.

As a requirement of the instream water rights jointly held by the City and the District, a stream flow gauge must be maintained at Chute 10 near C-470. The state water commissioner requires remote access to the real-time readout any time a call is placed and the gauge must meet the state's expectation for accuracy as defined by the commissioner. Management of this gauge will hereby fall under the overall park management responsibilities of the Park such that District staff will be responsible to coordinate maintenance, calibration, and upkeep of the equipment and management of any contracts for repairs, calibration, or replacement. The fiscal responsibility for these duties will be incorporated into the Park budget and shared equally by both agencies.

Maintenance means periodic visual inspection of the physical staff gauge compared to the digital data, keeping the gauge clear of river debris, periodic replacement of dessicant containers as required by the chemical indicators, ensuring power and data connectivity, and other periodic maintenance as recommended in the equipment manuals. Repairs may be needed on instream equipment if damaged by high flows, tampering, or natural wear and tear; and to electronic equipment based on circuit-board failures, power surges, or other issues. Calibration should be done on a monthly basis at the unit to ensure the water height on the gauge visually matches the computer ratings curve, and annually to physically confirm the device measurement and stream profile have not changed to sufficiently impact the ratings curve. Replacement duties would be to research and propose replacement equipment should the system become unrepairable, with the overall cost to be shared by the agencies equally. An in-depth review of the ratings curve may be required every few

years or when equipment is replaced, in accordance with the expectations of the water commissioner. Currently the City hosts the gauge data on the city website and would continue to maintain that component unless City and District staff agree otherwise.

7. This Amendment shall be fully binding upon and shall inure to the benefit of the parties hereto, their successors and assigns.
8. Except as modified by this Amendment, the Agreement is in full force and effect and has not been amended.

IN WITNESS WHEREOF, the parties have signed this Amendment on the day and year first written above.

ATTEST

CITY OF LITTLETON

Wendy Heffner, City Clerk

Bruce O. Beckman, Mayor

APPROVED AS TO FORM

ATTEST

SOUTH SUBURBAN PARK &
RECREATION DISTRICT

John Ostermiller, Chair

APPROVED AS TO FORM

Appendix 2

From the South Platte Park Master Plan

South Platte Park Goals

The Goals set forth by the Master Plan remain unchanged. In 2009, Littleton City Council and the South Suburban Board of Directors voted that the order of the goals indicate a priority order, such that should a proposed rule, project, or activity create conflict between goals, those with lower number ranking take precedence.

GOAL 1: Preserve and maintain the defined floodplain according to the Federal guidelines outlined in the agreement between the *City of Littleton* and the State of Colorado (October 13, 1977) which safeguards the community from the potential flooding danger of the South Platte River.

1. At all times, staff will implement the most practical management methods while maintaining compliance with the U.S.A.C.E. standards as defined in Design Memorandum Volume I and II and as stated in the floodplain regulations prescribed by the Secretary of the Army, *Code of Federal Regulations, Title 33. Navigation and Navigable Waters, Chapter II. Corps of Engineers, Department of the Army, Department of Defense, Part 208. Flood Control Regulations, Section 208.10, Local Flood Protection Works; maintenance and operation of structures and facilities.*
2. On a weekly basis, staff shall monitor the floodplain and report any events or changes which would require additional U.S.A.C.E. management recommendations or could impede flood flows.
3. Staff will actively seek the recommendations and approval of the U.S.A.C.E for all construction projects undertaken in the park prior to budget allocation for those projects.
4. The purpose of South Platte Park as primarily a flood-control solution will be a component of the messaging and brand presented in brochures, programs, exhibits and articles whenever practicable, in accordance with the overall Interpretive Plan.

GOAL 2: Manage the resource as a natural ecosystem while maximizing the restoration of natural habitat areas for indigenous species.

1. Staff will maintain and follow a Resource Management Procedures manual, updated annually, that documents the most successful and practical resource management techniques for the Park based on actual outcomes or industry research.
2. By the end of 2017, South Platte Park will implement a Temporary Access Permit system for all construction projects, easement disturbances, or park improvements to ensure any disturbed areas achieve equivalent or greater habitat quality than prior to work.
3. Staff will eliminate non-native invasive species using an integrated weed control plan outlined in the operations manual and developed with input from County, State, and industry specialists. The target will be to treat all List A species present annually, to reduce populations of List B species, to prevent growth if not reduce populations of List C species, and to target specific non-list non-native species that cause habitat degradation in the Park.

4. Seed native wildflowers into 20% of South Platte Park's upland grassland areas by 2025 to improve wildlife habitat, weed suppression and increased diversity, visual aesthetics, pollinator support, and soil stabilization.
5. By the end of 2018, Staff will establish a baseline of key indicators for habitat quality and condition to observe trends in habitat quality over time.
6. Staff will communicate at least twice per year with the District Manager for Colorado Parks and Wildlife regarding local populations and wildlife health trends.
7. Staff will communicate annually with the metro fishing program for Colorado Parks and Wildlife to advocate for a strong urban fishery and to maintain a quality fishing experience.
8. Interpretive programming will integrate with the wildlife monitoring objectives to share data, make use of information for program planning, and adapt program logistics to minimize impacts to wildlife.

GOAL 3: Provide environmental education opportunities on a regional level.

1. By the end of 2017, the standardized curriculum materials will be updated to the current State and local district teaching standards, and these will be kept current with local school changes.
2. Staff will market and schedule field trips as specified in the Interpretive Plan and Business Plan to maximize our current capacity.
3. By the end of 2017, the park will be utilizing a special use permit and tracking system to monitor group size and the number of groups using the Park for educational outings to establish a baseline for potential limits. Permit communications will provide groups with stewardship guidelines to minimize their impacts.
4. Catalog and public programs will continue to expand within the scope of the Interpretive Plan, Business Plan, and current staffing capacity.
5. The South Platte Park volunteer program will be managed to maximize resource management and program delivery to extend the budgetary resources for meeting all Park objectives, while providing those volunteers with a positive learning experience.

GOAL 4: Provide limited leisure opportunities on a regional level.

- By the end of 2017, a Special Use permit and tracking system will define and control the number and types of groups making use of South Platte Park, compliance with the management plan policies on races and special events.
- By the end of 2018, staff will establish a baseline of key indicators for visitor experience with to monitor and evaluate the impacts caused by increasing use.
- Defend the current trail system from increased width, habit trail frequency, or paving that would attract more rapid user growth. By the end of 2019, develop a signage or rotational use system that successfully reduces development of undesirable social trails.
- In accordance with the Business Plan, marketing will focus on engaging current park users in educational programs, rather than attempting to draw more users to the Park.

Appendix 3: LITTLETON COLORADO, CITY CODE

As obtained from: <https://online.encodeplus.com/regs/littleton-co-cc/doc-viewer.aspx?secid=1236#secid-1236> on April 15, 2024.

6-9-3: UNLAWFUL CONDUCT IN PUBLIC PARKS AND OPEN SPACE:

In addition to the provisions contained in section 6-9-2 of this chapter, the following regulations are hereby established regarding the prohibitions of or limitations on certain activities in public parks and open spaces within the city or owned or leased by the city outside of the corporate limits of the city. (Ord. 30, Series of 2004)

A. The city manager or his designee or agent may require permits or licenses for certain uses or activities including, but not limited to: guaranteed reservations; consumption of alcoholic beverages; fishing, boating or special events. Such permits or licenses may be subject to a fee established by the city manager or his designee and may be subject to a monetary damage/cleanup deposit sufficient to defray unusual and/or extraordinary expenses to the city or its designee. At termination of use, the area used shall be restored to a litter free condition. Costs of repair and/or cleanup beyond normal use will be billed to the user based on the cost of such repair and/or cleanup less any monetary deposit.

B. All motorized vehicles, except electrically powered wheelchairs, are prohibited, including vehicles for purposes of unloading or loading picnic supplies or sports equipment, and all catering or concession vehicles. This restriction shall not be deemed to prohibit motorized vehicles from designated public streets or parking lots located within parks and open space areas.

C. No commercial concessions shall be operated, nor charge or donation of any kind be solicited of the general public on the premises.

D. No advertisement, programs, circulars, pamphlets or handbills shall be sold or distributed without express written permission of the city manager or his designee, and no such advertisement, program, circular, pamphlet or handbill shall be affixed to any public building, fence, power or light pole, telephone pole or other public structure. Banners, flags, placards or other similar devices, limited to organizational identification may be temporarily installed subject to approval of the form and method of installation by the city manager or his designee.

E. Installation of any structure including, but not limited to, tents, booths, stands, awnings and canopies is prohibited without express written permission of the city manager or his designee. Installation of unauthorized items including, but not limited to, tree houses and rope swings, is prohibited.

F. Destruction, damage or removal of any vegetation and damage or defacement of any public property is prohibited.

G. Swimming, wading, boating, rafting or tubing is prohibited except where specifically permitted by signage on the premises.

H. Any machine or device which amplifies the human voice, music or other sound is prohibited without express written permission of the city manager or his designee. No amplification of the human voice, music or other sound shall be permitted which violates Title 7, chapter 3 of this code, including, but not limited to, the operation of radios, musical instruments, television sets and phonographs.

I. It shall be unlawful for any person to enter into any public park or open space except during hours of normal operation. Unless otherwise specifically stated by signage on the premises, hours of normal operation shall be from six o'clock (6:00) A.M. to ten o'clock (10:00) P.M., daily. (Ord. 26, Series of 1981)

J. Pets shall be on a leash not to exceed six feet (6') in length. No pet shall be permitted to run at large under any circumstances in any public park or open space. (Ord. 26, Series of 1981; amd. Ord. 30, Series of 2004)

K. Consumption of alcoholic beverages shall be permitted only upon express written consent of the city manager or his designee, and permitted alcoholic beverages shall be limited to malt and vinous liquors (beer and wine). (Ord. 26, Series of 1981)

L. Possession of any weapon or the discharge of any weapon including, but not limited to, rifles, shotguns, airguns, archery equipment and slingshots is prohibited in any public park or open space. Discharging any weapon in such a manner so that the discharged projectile lands within or passes through any public park or open space shall be deemed to violate this provision.

M. It shall be unlawful for any person to possess, or to place or set, any trap, snare, net or other device for the purpose of entrapping, snaring, netting or otherwise capturing any animal, fowl or fish in any public park or open space⁵. It shall be unlawful for any person to use, train or possess in any public park or open space, any bird of prey or any other animal or fowl for the purpose of hunting any animal, fowl or fish. These provisions shall not be deemed to prohibit fishing in authorized locations, using accepted methods of sport fishing, including, for example, rod and reel. (Ord. 30, Series of 2004)

N. Any form of cooking and picnicking may be prohibited in certain public parks and open spaces if specifically prohibited by signage on the premises. (Ord. 26, Series of 1981)

O. Overnight camping and open fires are prohibited in any public park or open space.

P. Glass bottles and littering prohibited:

1. It shall be unlawful for any person to bring or possess any glass bottle in any public park or open space; provided, however, it shall not be unlawful for a person to have glass bottles in a vehicle located in a park as long as the contents are not consumed in the vehicle.
2. It shall be unlawful for any person to bring in and dump, deposit or leave any bottles or other containers made of glass, any broken glass, ashes, papers, boxes, cans, dirt, rubbish, waste, garbage, refuse or other trash in or upon any public park or open space, or other recreational area or facility.

3. It shall be unlawful for any person utilizing any public park or open space, or other recreational area or facility, to leave such area or facility before placing in disposal receptacles, where provided, all trash in the nature of boxes, papers, cans or other containers, garbage and other refuse in the possession of such person. If no disposal receptacle is available, then such person shall remove said refuse or trash in his or her possession from the premises. Said refuse or trash shall be disposed of in a proper and legal manner elsewhere.

Q. It shall be unlawful for any person to operate any vessel in violation of any Colorado statute, rule or regulation for the use, operation and equipment of such vessel.

R. It shall be unlawful for any person to violate the rules and regulations promulgated by the state of Colorado pursuant to section 33-1-106 Colorado Revised Statutes regulating the taking, possession and use of wildlife and fish. (Ord. 30, Series of 2004)

6-1-8: TRAPPING AND HUNTING OF ANIMALS

1:A. When deemed necessary by police officers or the animal control officer for the health, safety and welfare of the residents of the City, such officers and/or their agents may place a humane trap on the property of the resident of the City when the resident requests such trap for the purpose of capturing any wild pet animal creating a nuisance in the City.

B. Animal control officers are authorized to use and may designate others in writing to use any tranquilizer guns, firearms, humane traps or other suitable devices to subdue, transport or destroy any animal that is deemed by the animal control officer to be of a danger to itself, other animals, persons or property.

C. It shall be unlawful for any person to hunt, set, or cause to be set within the City any trap or snare for the purpose of sport, capturing, killing or injuring any animal, whether wild or domestic, without having received written authorization by the animal control officer as provided for in subsection (B) of this section.

(Ord. 18, Series of 1982)

6-1-5: WILDLIFE HABITAT:

6-1-5-1: DAMAGE OR DESTRUCTION OF DENS OR NESTS - HARASSMENT OF WILDLIFE:

A. Unless permitted by the State Parks and Wildlife Division, South Suburban Parks District or the Urban Drainage and Flood Control District, it is unlawful for any person to willfully damage or destroy any wildlife den or nest or their eggs or to harass any wildlife located in any City park, Park District Park, public property or private property designated as a wildlife habitat. The City or any Parks District exercising management over City property may post signage indicating that areas within a park are protected areas for wildlife dens or nests. Any person who violates this subsection (A) is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than one hundred dollars (\$100.00). For the purposes of this subsection (A) nothing shall prohibit:

- 1.The removal of wildlife, wildlife dens or nests when necessary to prevent damage to property or livestock;
- 2.The hazing of wildlife that has lost its natural wariness of people.
- 3.The removal of wildlife, wildlife dens or nests by the State, City, Parks District, Urban Flood Control and Drainage District or a private landowner to preserve human safety.

B.Unless otherwise allowed by the State Statute, rule or regulation or rule or regulation of a Parks District or Urban Drainage and Flood Control District managing or operating a wildlife habitat upon the property, it is unlawful for any person to knowingly or negligently allow or direct a dog or other domestic animal which they own or which is under their control to harass wildlife, whether or not the wildlife is actually injured by such dog or other domestic animal. Any person who violates this subsection (B) is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than one hundred dollars (\$100.00).

C.Unless otherwise allowed by State Statute, rule or regulation, it is unlawful for any person to knowingly or negligently use any drone, model aircraft, light, fireworks, or noise maker or any other personal property to willfully attempt to damage or destroy any wildlife den, nest or their eggs or offspring, whether or not the wildlife is actually injured. It shall be presumed that use of any drone, model aircraft, light, fireworks or noise maker in an area posted as a protected area for wildlife dens or nests is a negligent use in violation of this section. Notwithstanding the above, hazing as defined in this chapter or as defined by the State of Colorado, Division of Wildlife shall not be a violation of this subsection. Any person who violates this subsection (C) is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than one hundred dollars (\$100.00).

D. A south suburban parks ranger; Colorado wildlife officer or other peace officer may capture and impound any dog or other domestic animal he or she determines to be harassing wildlife. The provisions of this subsection (D) shall not apply to dogs that are under the direct personal control of a person through use of a leash. Such dog or other domestic animal shall not be released to the person having control of the animal without payment of all impound fees. (Ord. 10, Series of 2018)

6-1-5-2: ITEMS USED IN HARASSING WILDLIFE CONSTITUTING PUBLIC NUISANCE - WHEN - SEIZURE:

A. Public Nuisance: Every drone, model aircraft, light, fireworks or noise maker, or other personal property used in the harassing of wildlife in violation of the provisions of this title is declared to be a public nuisance. Every such item shall be subject to seizure, confiscation, and forfeiture or destruction as provided in this section, unless the possession of said property is not unlawful and the owner of said property was not a party to the violation and would suffer undue hardship by the sale, confiscation, or destruction of the property.

B. Seizure, Confiscation, And Forfeiture:

- 1.Any personal property subject to seizure, confiscation, and forfeiture or destruction under the provisions of this section, which is seized as a part of or incident to a criminal proceeding for violation of the provisions of this title and for which disposition is not

provided by another Statute of this State or provision of this Code shall be disposed of as provided in this section.

2. Any such property, the possession of which is illegal and which in the opinion of the court having jurisdiction over the criminal proceeding is not properly the subject of a sale, may be destroyed pursuant to a warrant for the destruction of personal property issued by the court and directed to the agency holding the property. The court shall stay the execution of any such warrant during the period in which the property is used as evidence in any pending criminal or civil proceeding.

3. Any forfeiture pursuant to this title shall be done in accordance with the provisions of Colorado Revised Statutes title 16, sections 16-13-505 - 16-13-508.

4. Except as otherwise provided in this section, the court may order any such property sold by the City in the manner provided by this Code for sales of surplus personal property owned by the City. The proceeds of the sale shall be applied as follows:

- a. To the fees and costs of removal and sale;
- b. To the payment of the State's costs on such action; and
- c. The balance, if any, or any portion thereof not otherwise distributed pursuant to this subsection (B)4, to the City to be used for the maintenance and enhancement of open spaces.

(Ord. 10, Series of 2018)

6-1-5-3: DAMAGE TO PROPERTY OR HABITAT UNDER CITY OR PARKS DISTRICT:

It is unlawful for any person to remove, damage, deface, or destroy or to use any instrument, fireworks, drone or model aircraft to remove, damage, deface or destroy any real or personal property or wildlife habitat under the control of the City, Parks District managing property within the City or Urban Flood Control and Drainage District. Any person who violates this subsection is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than one hundred dollars (\$100.00) nor more than one thousand dollars (\$1,000.00), or by imprisonment in the County Jail for not more than three hundred sixty-four (364) days, or by both such fine and imprisonment. In addition, the court may require the defendant to reimburse the City, the Parks District managing property within the City or the Urban Drainage and Flood Control District for any damages. (Ord. 10, Series of 2018)

(Ord. 12, Series of 2020)

Effective on: 5/5/2020

Appendix 4: List of Agreements for South Platte Park 2024

Quick reference only, refer to full documentation on shared drive or in Park Manager's files for current dates and legal details.

Agreement with	Regarding	Start date	End date	Agreement between	Summary
Agreements					
Alta Apartments	Property line and border agreements	11-Apr-07		SSPR and Quadrant	Fence-line is NOT property line, but set out of drainage swale, setback is from property line - discusses landscape design, signage, wildlife fence, \$25,000 for brochure, programs, pet impacts, wildflowers; Stays with property, \$25,000 one time, carried over until expended
Army Corps of Engineers	Lease of C470 management site	7/1/2013, renews annually	7/1/2023 contract ends, needs renegotiated	Littleton and Army Corps	Continues lease above, renewing annually until 2023. UNDER NEGOTIATION BY CITY TO CLAIM PROPERTY?
Army Corps of Engineers	Recreation development of Platte Channel	(draft only found)	indefinite	SSPR and USA	SSPR will acquire lands, both prepare mgmt plan, requires insurance from concessionairs
Centennial Water and Sanitation	IGA regarding management of S Platte Reservoir	Jun 6 2006	Indefinite	Centennial, SSPR, Littleton	Centennial owns 212 acre S Platte Reservoir, SSPR manages, Littleton contributes funds - Exhibit B spells out duties of each. Amendment 2 for benches, Amendment 3 in 2024 for trail
Centennial Water and Sanitation	IGA for Surplus water to Eaglewatch Lake from S Platte Reservoir Pump House	Nov 29 2001	Indefinite	SSPR, Littleton, Centennial	Centennial will release excess groundwater into SPP lake, contribute funds, Littleton will build and maintain wetland, If SSPR/Littleton agreement ends, Annexation in Littleton ends, or 90 days notice by any party
Centennial Water and Sanitation	Ensor Wellfield Agreement	May 5 1992	Indefinite	SSPR, Littleton, Centennial	Centennial wants to run wells that will affect aesthetics in the Park - created a one-time \$50,000 payment for management expenses of the Park. Funds expended in 2005. Water rights agreement in effect to provide 100 ac ft annually from the wells for use in the irrigation system
City of Littleton	IGA for management of S Platte Park	April 19th, 1983	Indefinite and perpetual	SSPR and Littleton	South Suburban will plan and manage the Park, budget will be split, division of property and equipment should agreement end
Colorado Water Conservation Board	Cooperation to buy/develop Flood channel	13-Oct-77	Indefinite and perpetual	Littleton and CWCB	Littleton acquiring land for floodplain park, hold state free from damages; gives state and corps permission to enter to inspect and repair, maintenance requirements
Nevada Ditch Company	Maintenance of Nevada Ditch	4-May-00	Indefinite	Denver Water Commissioners, Littleton, SSPR, Centennial	Nevada ditch company maintains high water line, Park manages beaver and top/outer banks, work together if overgrown, access to siphon areas kept open.

Appendix 4: List of Agreements for South Platte Park 2024

Quick reference only, refer to full documentation on shared drive or in Park Manager's files for current dates and legal details.

Agreement with	Regarding	Start date	End date	Agreement between	Summary
Polo Reserve Homeowners Association	Lease of practice polo fields	27-Sep-94	27-Sept-14 (20 yrs)	Littleton and FTSC	Littleton will lease approx 3 acres of land to polo for practice field, supposed to be not altered, deforested, fertilized, etc, no construction, etc. 2012 found series of violations. Lease is in exchange for Grant bench easement
Regional Transportation District	Unrestricted weekend parking, drainage through SPP	19-Nov-92	Applies to future development plans	Littleton and RTD	RTD cannot discharge untreated stormwater into SPP - must retain/treat on their property; discusses annexation, landscaping, and permits unrestricted parking access on weekends for access to the South Platte River
Urban Drainage and Flood Control District	IGA for maintenance of the River channel	TBD			
Easements held by other entities					
Centennial Water and Sanitation	Water line from S P Reservoir to McClellan				
City of Denver, Water Commissioners	Easement for water line along Mineral	14-Mar-79		Littleton and Denver	20' easement, 12 acres
City of Englewood	Wastewater Easement in SPP	23-Apr-64	perpetual	Englewood and Ensors	Agreement between Ensors and Englewood, 20 ft right of way on 2 parcels, legal description only
City of Littleton	"North Sewer Easement"				
Colorado Open Lands	Newton Trust Conservation Easement	4-Dec-97			
Ken Caryl Water and Sanitation	Interceptor along C470				
Polo Ridge Farms/Sanctuary Homeowners	View easement, Living fence maintenance				Lots 10 - 16 in Sanctuary hold view easement? Not allowed to add or remove vegetation along fenceline; living fence is 10 ft wide, nothing added without Pk Supervisor permission
Roxborough Sewer	Sewer easement in SPP				30' permanent easement, 15' from sewer center, 30 days notices to access; no planting woody plants on easement
South Metro Land Conservancy	Conservation easement - Ensor property	1-Jul-05		Littleton and SMLC	restricts use and development of 7.8 acres
Southwest Metro Sanitation	Sewer easements through SPP	15-Jun-05		City of Littleton and Southwest Metro	30' permanent easement for sanitary sewer west of the river

Appendix 4: List of Agreements for South Platte Park 2024

Quick reference only, refer to full documentation on shared drive or in Park Manager's files for current dates and legal details.

Agreement with	Regarding	Start date	End date	Agreement between	Summary
Xcel Energy	Powerline easements				125' wide (45' from either pole), no construction in/on easement
Ensor Family	Waterline and well easement at Ensor buffer	1-Jul-05			
Centennial Water and Sanitation	Well access easement Ensor buffer				
TBD	Permanent Utility easement on Superchi	16-Jun-78			
TBD	C470 road easement on Corp property	9-Sep-86		Corps of engineers and State of CO	unclear if SPP has any of easement on our properties
TBD	Mineral ROW				
Easements held by SPP					
Colorado Water Conservation Board	Easement for rec access, permission to issue permits	11-Sep-02	11-Sep-27	SSPR and CWCB	300 ft wide easement including river for recreation use
Polo Sanctuary Homeowners	Easement on 6 lots of private property	28-Sep-94	20 years, or if Lease agreement for practice field is terminated	Littleton and FTSC	2.026 acres south of mineral, east of Nevada ditch
Polo Reserve (homeowners or metro?)	Grant Bench Conservation Easement	27-Sep-94	20 years, or if Lease agreement for practice field is terminated	Littleton and FTSC	6.08 acres (west bank of Nevada ditch to east bank of Meadowwood drainage ditch), Only SPP can disturb vegetation; takes responsibility for land management.
Nevada Ditch Conservation Easement	Easement on west side of ditch, owned by Littleton				
Water Rights					
Chute 10 (c470)					100cfs conditional for boat chute operation

Appendix 4: List of Agreements for South Platte Park 2024

Quick reference only, refer to full documentation on shared drive or in Park Manager's files for current dates and legal details.

Agreement with	Regarding	Start date	End date	Agreement between	Summary
Chute 4 (mineral ave)		2-Aug-91			100 cfs absolute for boat chute operation, 70 cfs absolute for habitat Apr 1 - oct 31; 30 cfs absolute nov 1 - Mar 31 for development/enhancement of fishery
Chute 9 (brown ditch)		2-Aug-91			100 cfs absolute for boat chute operation, 70 cfs absolute for habitat Apr 1 - oct 31; 30 cfs absolute nov 1 - Mar 31 for development/enhancement of fishery
Cooley Lake Evaporative Loss	35 ac ft in McClellan Reservoir, court approved	11-Jun-05	annual		District Court case 89CW062 requires Englewood release 18.79 acre-ft for evaporation and 5 acre-ft for irrigation (use averaging 1.25 acre ft)
10,000 Trees Irrigation operation	Part of 35 ac ft, no formal ongoing agreement				
Permits we hold					
Chatfield State Park	Fees for ongoing program use	annual			
Denver Water	Permit to use hydrant water with meter	annual			
US Fish and Wildlife Service	Migratory Bird Possession Permit	annual			
City of Littleton	Recreational Burn Permit	annual			
City of Littleton	Tree Removal Permit				
Division of Parks and Wildlife	Scientific Collection License - wildlife salvage permit	annual			
US Forest Service	Recreational Outfitter Permit	annual			
Permits we Allow					
Centennial Water and Sanitation	Staff access river for periodic water testing				
City of Thornton	Staff access river for periodic water testing				
Urban Drainage and Flood Control District	Access for river maintenance projects				
Dale Carter (Wolhurst Resident)	Motorized Wheelchair on Mary Carter/East trail				
Wolhurst Retirement Village	Encroachment of homes on park property				

Appendix 4: List of Agreements for South Platte Park 2024

Quick reference only, refer to full documentation on shared drive or in Park Manager's files for current dates and legal details.

Agreement with	Regarding	Start date	End date	Agreement between	Summary
Designations					
National Audubon Important Bird Area					
National Wildlife Federation backyard habitat					
Sales contracts in files					
Carson Family	Sale of nature center	Sept 8 1986	final	Littleton and Carsons	\$10 sale to Littleton
City of Denver	Cooley Wells sold to Dity of Denver	18-Feb-72		Littleton and Denver	Selling 3 parcels called Cooley Wells to Denver? \$10
City of Denver	Cooley Wells sold back to Littleton	Dec 10 1980		Littleton and Denver	Selling 3 parcels called Cooley Wells back to Littleton, \$26,300
Cooley Gravel	Transfer of rights for Cooley Mine	11-Mar-82			Selling 5.655 acres
Ensor Trust	Sale of buffer	18-May-09			7.8 acres for \$3 mill.
Arapahoe County Open Space	IGA for conservation easement in exchange for funding to purchase Ensor	4-Nov-03			
SMLC	IGA for conservation easement in exchange for funding to purchase Ensor	1-Jan-10			
Annexation Orders in files					
City of Littleton	Annex South Platte Park Annexatin no 1	16-Jan-79		Littleton	
City of Littleton	Annex South Platte Park Annexatin no2	16-Jan-79			
City of Littleton	Annex South Platte Park Annexation no 4	16-Jan-79			
City of Littleton	Cooley Parcel	16-Dec-80			
City of Littleton	Annexation Cenco/Grant Bench property	18-May-82			

Appendix 4: List of Agreements for South Platte Park 2024

Quick reference only, refer to full documentation on shared drive or in Park Manager's files for current dates and legal details.

Agreement with	Regarding	Start date	End date	Agreement between	Summary
City of Littleton	Annexation of Denver Water Board Parcel, Hobby Horse parcel, Monen/Reiner Parcel, Newton B Parcel, Olsen Parcel,	21-May-85			
City of Littleton	Annexation of Newton Trust South Platte Park 1, 2, 3	6-Jul-93			7.8266 acres
Nye Family	access to SPP across property	19-Jun-84	?	Littleton and Nyes	conditions for accessing SPP properties, if Nye property is annexed into Littleton
Polo Reserve (homeowners or metro?)	Grant Easement #2	28-Sep-94		Littleton and FTSC	5.447 acres annexed into, included in S Platte Park
Public Law that affects SPP management					
1974 Water Resources Development Act	Establishes right to implement S Platte Park	27-May-05			Establishes right to purchase floodplain, states management regulations
1970 Flood Control Act	Lease with Corps certifies City remains in compliance with section 221				
Code of Federal Regulations, Title 33, Ch II	Flood Control Regulations				Section 208 regs
Littleton City Code, 6-9-3	Conduct on Public Property				
Grants that affect management					
Land and Water Conservation Fund	Platte River Park Wolhurst	30-Sep-74	25-Jan-06		Requires 5-year project inspection; acquisition of 25.29 acres

Appendix 5

Cooley Lake Policy Justification

History

The Cooley Lake Area was previously a privately maintained gravel mine. In 1989, it was incorporated into South Platte Park, but it remained closed for a mandatory five-year reclamation period. After the reclamation process was completed, public meetings were held to decide the use of the area, which is 236 acres and 26% of the Park. The goals for South Platte Park include (1) maintaining a naturally functioning native floodplain ecosystem, (2) managing the resources as a natural ecosystem, as well as (3) providing regional educational opportunities and (4) providing limited leisure opportunities. These goals are not always compatible with each other. To achieve balance between them, the low use of the Cooley Area offsets significant recreation impacts near the Nature Center, on the regional Greenway Trail, and along the southern lakes. Additionally, the original Master Plan specifically called for “the provision of a wildlife retreat with low visitor use,” initially intended to be the southwest lakes area, which is now a high-use zone. As there was not a history of use of the Cooley area like there was in the lakes area, nor facilities to close and relocate as there were in the lakes area, an intentional swap was made to designate Cooley as the limited use area. The Town of Columbine Valley also supported the Cooley Lake Concept based on wanting to limit trespass onto their Country Club golf-course and still opposes any inquiries for trail connections on the west side of the river along their border. On November 1, 1994, Littleton City Council voted to maintain restrictions around Cooley Lake, with the exception of naturalist-guided walks and programs, and specific approved studies. The SSPRD Board of Directors followed with their vote on January 25, 1995. The Cooley Lake area management has been challenged three additional times since then, and both Board and Council have voted to maintain the wildlife reserve concept to offset the heavy impacts in other parts of the Park.

Resource Management

The Cooley Area shows greater wildlife diversity than other regions of the Park. This cohesive and undisturbed area is an important wildlife habitat which provides food, water, shelter, and space where animals can raise their young and live without continuous stress from humans. The Cooley Lake Area attracts and maintains species not found in more frequently visited areas of the Park. By preserving a portion of the park as a natural wildlife area and an area of undisturbed refuge, it increases viewing opportunities for wildlife on the rest of the Park.

The addition of South Platte Reservoir to the Park does not replicate the unique variety of wildlife habitats found in the Cooley Lake Area. The Reservoir is a water storage facility managed to maximize drinking water quality. Therefore, no fish or plants have been intentionally introduced to it for habitat and ecological purposes. The non-vegetated shoreline doesn't have hidden bays, islands, beaver structures, or shallow marsh edges that create variety and habitat like on the shore of Cooley. The Reservoir shorelines are nearly sterile riprap, while Cooley has developed a variety of wetland soils. The reservoir may serve to attract occasional waterbirds on migration but is of a substantially different quality. In periods of extended drought, South Platte Reservoir could be drained almost completely and remain empty for years, whereas Cooley is fed by groundwater and levels are unlikely to drop substantially.

Public Impacts and Access

Natural areas heavily frequented by human visitation have lower wildlife habitat qualities. Various scientific studies (Boyle and Samson 1985, Erwin 1989, Cassierer et al. 1992, Holmes et al. 1993, Miller 1994, Miller et al. 1998, Reed and Merenlender 2008) have found that wildlife (mammals and birds) species, sensitive to disturbance, decrease in population and nesting along recreational trails. Miller et al. (1998) found that nest predation was greater along recreational trails. A literature review by Miller et al. (1998) lists flight distance, which is the distance from disturbance/disturber to animal when the animal physically flees to a safer location, to range

from 15 meters to 400 meters. Taylor and Knight (2003) utilized calculations of the area around existing trails in a state park that may be impacted by recreationists on trails to demonstrate the area that could be rendered unsuitable for wildlife. Disturbance to wildlife affects their ability to forage, rest, and reproduce; increases energy expenditure; and impacts their survival. Animals on the move burn critical energy needed for migration or breeding activities.

Social trails that form for fishing along the shoreline result in trampling and loss of uncommon to rare wetland vegetation, an increase in weeds from trail sources or favoring disturbed areas, and changes in soil structure, erosion, and soil compaction. Ground nesting ducks and willow- and cattail-nesting songbirds often have their nests disturbed or damaged by anglers, shoreline species may be separated from their feeding or shelter areas, and young have been separated from their parents. Lakes open to fishing require additional patrol, license checks, and boundary enforcement. South Platte Park currently has 5 other lakes and 2.5 miles of river (or 11.8 miles of riverbanks and lakeshores) available for fishing with regular gamefish stocking to enhance the fishing experience. Animals in these areas escaping from human disturbance are distracted, thus more susceptible to predation. Animals may also be pushed off prime feeding and breeding territories by human disturbance.

Anglers leave significant amounts of litter debris and are the primary source of trash and litter complaints in South Platte Park. Lakes currently open to regular public use require cleanup at least once per month, with multiple bags collected each time. Litter has entangled and killed wildlife at these lakes.

Cooley Lake is a limited access zone where the public may visit the area on staff-guided activities, free monthly public hikes, rare fee-based programs, or volunteer projects. This provides control on the amount, type of use, and timing around the lake to help the area function as a refuge for wildlife, while still providing an opportunity for the public to explore the area.

The City Council, SSPR Board, and managers' decision to provide limited access to the Cooley Lake Area maintains a balance between the Park's goal of preserving a natural ecosystem and the goal of providing education and leisure opportunities in a heavily use natural area.

Cooley Lake Diversity Data

A monthly Winter Waterfowl Census has been conducted in the Park November through March annually since 1991. Over the 25 years that this study has been conducted, Cooley Lake has recorded 25% more species than Eaglewatch, the most comparable lake in the Park (55 species, compared to 44 species). Of those species, 14 have never been reported during the census from Eaglewatch, while only 3 species from Eaglewatch were not found at Cooley. Cooley also had very high numbers of herons, mergansers, and coots compared to Eaglewatch (ie 800 common mergansers vs 20).

Annual spring and fall bird migration counts are conducted in South Platte Park. Based on migratory count data collected since 2000, Cooley Lake Area has on average 9.6% more species of birds (44-71 species) than did all of the five lakes south of Mineral combined (37-54 species) with the exception of one count where the number of species observed was identical. The number of individual birds seen at Cooley (514-3185 individuals) was on average 23% more than that observed at all five Lakes south of Mineral (301-854 individuals).

In the last 25 years, the following birds have been reported ONLY from the Cooley Lake area of the Park:

Least Tern	McGowen's Longspur	Canada Warbler
Black Tern	Pacific Loon	Red Crossbill
Black-legged Kittiwake	Semi-palmated Sandpiper	Sage Sparrow
Great-crested Flycatcher	Great-tailed Grackle	Blackpoll Warbler
Yellow-bellied Sapsucker	Chimney Swift	Red-breasted Merganser

Additionally, many birds are seen more regularly in the Cooley area, and only rarely in other parts of the park:

Osprey	American Avocet	Clark's Grebe
Snow Goose	Black-necked Stilt	White-faced Ibis
Ross's Goose	Long-billed Dowitcher	Franklin's Gull
Canvasback	Marsh Wren	Bonaparte's Gull
White Pelican	Green Heron	Rose-Breasted Grosbeak
Greater White-fronted Goose	Western Grebe (breeding)	Common Nighthawk
Common Loon	Pied-billed Grebe (breeding)	

Raptors, such as osprey and bald eagles, currently use Cooley for roosting activities more frequently than other lakes, and since 2014, Osprey have been nesting on a nesting platform provided on the east shore of Cooley Lake.

Cooley is home to an active coyote den, and at least one and up to three beaver families. The area has hosted black bears on several occasions in the past and is the only place where "unusually large cat-like tracks" were found just days before a young mountain lion was killed by the light-rail train near Mineral in 2006. These species typically require more space and better-quality habitat than many urban wildlife species.

The broad expanse of cattails on the delta region along the east shore shelters swallows by the hundreds in autumn, before and during migration when overnight temperatures and during inclement weather can threaten survival. This was a discovery unique to that area of the Park, and the birds are easily disturbed by human presence.

Appendix 6

Recommended Re-vegetation Plant List

The following plants are suggested for seeding or planting in natural open spaces within South Platte Park. These plants survive well in the plains zone and the lowland riparian communities of South Platte Park. Plant species were selected that provide food and cover for a variety of wildlife. Plants that are especially drought tolerant are listed with “DT”. Most plants listed will typically require 2-5 years to establish depending on the site characteristics, and then should be self-sustaining and require less care and maintenance than typical ornamental plantings. Plants ordered from local nurseries should be done using the scientific name *italicized* in the text. Scientific plant names follow Kartesz (1994) and those in parentheses follow Weber (1996). Plants not on this list may be considered if they are native to the Colorado Front Range prairie or foothill community within approximately 60 miles of Littleton.

N plants native to South Platte Park
 DT very drought tolerant

Trees:

- | | | | |
|---|--------------------------------|----------|-----------|
| <i>Celtis reticulata</i> | Netleaf Hackberry | N | DT |
| Small tree, often stunted and shrubby. Bark is gray and corky. Found on dry rocky slopes of foothills and plains. Leaves usually covered with nipple galls. | | | |
| <i>Juniperus scopulorum</i> (<i>Sabina scopulorum</i>) | Colorado Juniper | | DT |
| Small symmetrical evergreen tree. Leaves gray-green or silvery, fruit light blue. Found in dry soil. Avoid near park boundaries due to wildfire mitigation practices. | | | |
| <i>Pinus ponderosa</i> (subspecies <i>scopulorum</i>) | Ponderosa Pine | | DT |
| Tall evergreen with orange-brown bark. Yellow-green needles 5-7” long in bunches of 2 or 3. Found widely spaced on dry slopes in beautiful open parklands. | | | |
| <i>Pinus edulis</i> | Piñon Pine | | DT |
| Small bushy evergreen with short needles in bundles of 2. Source of the piñon nut. Found in dry woodlands. | | | |
| <i>Populus acuminata</i> (<i>Populus x acuminata</i>) | Lance-leafed Cottonwood | N | |
| A hybrid species of cottonwood with leaves intermediate between Narrow-leaf and Plains Cottonwood. Found in poor soil along streams and in valleys. | | | |
| <i>Populus angustifolia</i> | Narrow-leaf Cottonwood | N | DT |
| Medium sized shade tree with smooth creamy bark. Leaves narrow. Found along streams in poor soil. | | | |
| <i>Populus deltoides</i> (subspecies <i>monilifera</i>) | Plains Cottonwood | N | |
| Tall shade tree with a broad crown. Gray furrowed bark with thick ridges. Glossy triangular leaves. Found along streams and in flood plains. | | | |
| <i>Salix amygdaloides</i> | Peachleaf Willow | N | |
| The only native willow that becomes a 15-30’ many stemmed tree. Leaves are slender and long, twigs yellowish. Found along streams. | | | |

- Rhus trilobata*** **Three-leaf Sumac** **N DT**
(*Rhus aromatica* subspecies *trilobata*)
 Many branched, rounded shrub with compound leaves. Tiny yellow-green flowers in clusters in May, red-orange sticky fruit. Found on dry, sunny slopes in foothills and riparian areas in plains.
- Ribes aureum*** **Golden Currant** **N**
 Medium height shrub with spicy yellow tubular flowers and small edible round black berries. Three lobed leaves. Common in foothills and plains.
- Ribes cereum*** **Wax Currant**
 Low hairy shrub with small lobed leaves. Pinkish tubular flowers in clusters and orange-red edible fruit. Abundant on dry sunny slopes and in Ponderosa pine forests.
- Rubus deliciosus*** **Boulder Raspberry**
 Medium shrubs with light brown shedding bark. Very showy single white rose-like flowers and flattened salmon colored fruits. Found on dry rocky ground in foothill canyons.
- Rubus parviflorus*** **Thimbleberry**
 Medium shrubs with shedding older bark. White cupped flowers in clusters, edible pink fruits, and a favorite of birds.
- Salix exigua*** **Sandbar Willow:** **N**
Coyote Willow
 Medium shrub 6-15 feet tall with many stems. Spreads rapidly once established. Found adjacent to water or in moist to wet areas. Good plant for erosion control.
- Salix lutea*** **Yellow Willow** **N**
 Medium shrub 6-15 feet tall growing in ball shape. Grows along streams or in wet areas of foothills and plains. Good plant for erosion control.
- Sambucus racemosa*** **Red-berried Elder**
(*Sambucus microbotrys* var. *melanocarpa*)
 Coarse tall shrub with compound leaves. Rounded white flowers in clusters, bright red to orange-red berries. Found in ravines, along roadsides, and on slopes.
- Symphoricarpos alba*** **White Snowberry**
 Low growing shrub with round gray-green leaves. Pairs of pinkish-white flowers develop into white berries. Occurs on dry rocky soils and gravelly banks.
- Symphoricarpos occidentalis*** **Western Snowberry** **N DT**
 Low shrub with gray-green round leaves. Small pink tubular flowers in leaf axis, spongy green-white berries. Dense spreading colonies foothills and plains.
- Yucca glauca*** **Soapweed** **N DT**
 Low evergreen shrub formed of a cluster of long narrow leaves. Tall stout flower stalk rises from center of cluster with large creamy-white flowers and dry green pods. Abundant on plains and in foothills.

Grasses:

<i>Agropyron smithii</i> (<i>Pascopyrum smithii</i>)	Western Wheatgrass	N	
Cool season, medium height sod forming grass. Moist to dry bottomlands.			
<i>Andropogon hallii</i>	Sand Bluestem		
Warm season sod forming grass. Sandy soils.			
<i>Bouteloua curtipendula</i>	Side Oats Grama	N	DT
Warm season, medium height, bunch grass. Prairies and rock hills.			
<i>Bouteloua gracilis</i> (<i>Chondrosum gracile</i>)	Blue Grama	N	DT
Warm season, short height, bunch grass. Sandy to heavy soils on plains and hills.			
<i>Buchloe dactyloides</i>	Buffalo Grass	N	DT
Warm season, short sod-forming grass. Dominant grass of Colorado's short grass prairie.			
<i>Nassella viridula</i>	Green Needlegrass	N	
Cool season, medium bunch grass. Dry slopes and plains.			
<i>Oryzopsis hymenoides</i> (<i>Achnatherum hymenoides</i>)	Indian Ricegrass	N	DT
Cool season, medium height, bunch grass. Dry, sandy soils.			
<i>Panicum virgatum</i>	Switchgrass	N	
Warm season, tall bunch grass. Medium to sandy soil in prairie bottomlands.			
<i>Schizachyrium scoparium</i>	Little Bluestem	N	DT
Warm season, medium height, bunch grass. Medium sandy soils in prairies and open woods.			
<i>Sorghastrum nutans</i> (<i>Sorghastrum avenaceum</i>)	Indian Grass	N	
Warm season, tall sod forming grass. Sandy to medium soils on dry slopes.			
<i>Sporobolus cryptandrus</i>	Sand Dropseed	N	DT
Cool season, medium height bunch grass. Sandy, open ground.			

Appendix 7: Construction Practices in South Platte Park

Construction practices within South Platte Park should seek to minimize natural resource impact: **Avoid, Minimize, then Mitigate**. Construction should avoid sensitive or xeric plant communities and soils because of the difficulty in restoring such areas. If these areas cannot be avoided, a plan is needed for minimizing the impact and mitigating losses. Full restoration of on-site disturbed areas is required and may vary. Implementing careful construction practices will significantly reduce cost and time to restore the area to a healthy, functioning ecosystem.

1. Work site and access routes must be designated and fenced or flagged with a minimum of 3' lath and marking ribbon (or tposts with rope and ribbon, or construction fence) with approval of a Park representative before the first piece of equipment arrives on site.
2. Work hours are restricted to between sunrise and sunset, or according to city code if different, without prior written approval.
3. Salvage desirable or unusual forbs, trees, and shrubs wherever possible for use with on-site or off-site mitigation.
4. Remove each soil horizon one at a time (A, B, C, and the subsoil), stock pile separately, so that each layer can be replaced in reverse order to restore the soil horizons. This practice allows vegetation to reestablish quickly and reduces the establishment of weeds. (*Note: Not all of these horizons may be present.*) Any soil brought from outside sources needs to be *weed-free!*
5. Use boxed trench walls to keep trench narrow thus reducing the area of impact. Some area around Cooley Lake may be susceptible to collapse because of the coarse sandy and gravelly soils. Previous construction projects have indicated that the angle of repose may be as great as 45°.
6. Reduce width of construction and permanent easements. We require staking of easements and enforce these limits. Do not allow vehicles outside these limits. Reduce the number and size of vehicles and equipment. These practices will limit soil compaction. Staging areas, access routes and easements are not to be used for the parking of private/employee vehicles for temporary projects as well as for permanent easements.
7. Work will not be permitted when the property is wet or muddy, unless the contractor is willing to commit to full restoration including adding fill, grading of ruts and for proper drainage, replanting to a successful coverage of desirable species to 80% cover, and providing weed control for a warranty period of 2 – 3 years.
8. Restoration may be required for total surface disturbance, but also for soil compaction and worn vegetation, tire ruts, or soil disturbance that invite invasive weeds to establish. Park staff will work with the contract on the level of restoration required.
9. Soil compaction in the root zones of trees, shrubs, and other vegetation often kills these plants, or stresses them so greatly that they are more susceptible to disease. Soil compaction also encourages weed invasion and makes native plant restoration more difficult. Use 12 to 14 " of mulch around trees and shrubs to ensure that the soil in the root zone is not compacted. Fence trees and shrubs where possible to prevent compaction of soils around trees and shrubs.
10. Revegetate the disturbed area with only native plant material on our approved seeding and plant lists. Use erosion-control blankets, hydromulch, or crimp weed-free hay into the topsoil to absorb free nitrogen and hold moisture. This aids in establishing native grasses and reduces weed establishment.
11. Planting in permanent easements can be limited to ground-cover restorations with anticipation of future access needs. In temporary easements, vegetation damaged or removed will be replaced one-for-one or in accordance with updated management objectives for an area, with a minimum 3-year warranty period for plant survival, watering for establishment, grass and forb establishment success, and invasive weed control.
12. Staging areas will be chiseled, then replanted with an approved native mix, with a minimum 3-yr warranty period. Staging areas rent for \$1500/month or \$375 per week.

13. Trees over 4” in diameter require a cutting permit from the City of Littleton, which usually requires a 2 for 1 replacement planting with minimum warranty. Any tree pruning must be done by a licensed arborist, preferably with an ISA certified supervisor on site.
14. For areas of uplands or wetlands that are disturbed outside of an easement, fines shall be issued to the contractor on a per-square-yard basis. Fines range from \$100 to \$500 per square yard of damage outside of the flagged easement depending on the type and location of damage.
15. Fines shall be issued on a per tree and per shrub basis for damage done outside the marked easement or staging area. Fines are issued on a per individual basis. Tree and shrub species, diameter, and size are used to determine replacement and establishment costs.
16. A cash deposit of \$250, or 10% of the project total (whichever is more) shall be required up front, or a bond from the contractor is required on a “per square foot disturbed” basis. These funds will be used to restore or fix areas disturbed outside of the easement or staging area. They also insure that proper soil placement, compaction, and preparation have occurred.
17. Park staff will monitor construction to the degree necessary for contract management. Repair and restoration fees automatically incur a 20% upcharge for administration. Additional time, advice, consulting, etc. will be charged at an hourly basis to cover costs.
18. A signed temporary access permit and a certificate of insurance must be filed before any work begins onsite.
19. Construction signage onsite where public is entering near a work zone should be posted, including:
Name of the project
 - Dates of Construction
 - Contractor Information / Owner of the project / Emergency contact
 - Simplified scope of work and description of work locations, for example “From X location along the MCGW Trail to X location.”
 - Urge people to observe and obey all warning signs, closures and detours to insure safety and the safety of others.
20. Detours must be CLEARLY marked along their entire route, any changes to a trail surface must be marked clearly for day use and with night beacons. Flaggers are required if blocking any portion of a paved road or trail.
21. Projects must meet and share documentation that all local, state, and federal permitting requirements have been met including stormwater management, endangered species act, migratory bird treaty act for grassland, tree or shrub disturbances, hazardous materials work, etc.

South Platte Park Seeding Mixes

Mixes should be drill seeded at 8-12 lbs. per acre. Use 16 to 24 lbs per acre maximum if broadcast seeding (not recommended). After seeding, hydromulch or crimp 3000-4000 lbs/acre of certified weed free native grass hay after seeding. Soil amendments are not recommended due to weed preference and response.

Wetland mixes – if working in saturated areas or those under a 1.5 year inundation cycle, use a diverse native mix of seeds or plugs. Avoid cattail species and use bulrush, sedges, American threesquare, giant burred, arrowhead, rushes, vervain, swamp milkweed, among others. Protection from geese may be required.

Wildflowers should compose 10-30% of the mix depending on restoration objectives. Mix must be vetted with park management. Pending what is available, plants to consider should include American vetch, dotted gayfeather, evening blazingstar, threadleaf, prairie coneflower, scarlet guara, purple prairieclover, slimflower scurfpea, wooly indianwheat, prickly poppy, Rocky Mountain beeplant, fringed sage, plains coreopsis, plains rock aster, hoary aster, prairie sunflower, plains bahia, coppermallow, scarlet globemallow, silky locoweed, silky sophora, native penstemons, hairy golden aster, curlycup gumweed, goldenrods, and two-groved milkvetch.

Subirrigated Mix, Clay/Clay Loam Soil 1.5 – 5 year inundation				PLS
<u>Common Name</u>	<u>Scientific Name</u>	<u>Variety</u>	<u>Type</u>	<u>% of mix by weight</u>
Switchgrass	<i>Panicum virgatum</i>	Blackwell, Nebraska 28	W,T,B	5
Yellow Indiangrass	<i>Sorghastum nutans</i>	Native, Cheyenne	W,T,S	10
Big Bluestem	<i>Adropogon geradii</i>	Native, Kaw, Pawnee	W,T,S	20
Alkali Sacaton	<i>Sporobolus airoides</i>	Native	W,M,B	2
Western Wheatgrass	<i>Agropyron smithii</i>	Native, Arriba	C,M,S	15
Green Needlegrass	<i>Nasella viridula</i>	Native, Lodorm	C,M,B	15
Canada Wildrye	<i>Elymus canadensis</i>	Native	C,T,B	10
Sideoats Grama	<i>Bouteloua curtipendula</i>	Native, El Reno, Vaughn	W,M,B	15
American Mannagrass	<i>Glyceria grandis</i>	Native	C,S,T	<u>8</u>
				100

Subirrigated Mix, Loam/Sandy Loam Soil 1.5 – 5 year inundation,				PLS
<u>Common Name</u>	<u>Scientific Name</u>	<u>Variety</u>	<u>Type</u>	<u>% of mix by weight</u>
Switchgrass	<i>Panicum virgatum</i>	Blackwell, Nebraska 28	W,T,B	5
Yellow Indiangrass	<i>Sorghastum nutans</i>	Native, Cheyenne	W,T,S	10
Big Bluestem	<i>Adropogon geradii</i>	Native, Kaw, Pawnee	W,T,S	20
Alkali Sacaton	<i>Sporobolus airoides</i>	Native	W,M,B	2
Prairie Cordgrass	<i>Spartina pectinata</i>	Native	W,T,S	5
Green Needlegrass	<i>Nasella viridula</i>	Native, Lodorm	C,M,B	15
Canada Wildrye	<i>Elymus canadensis</i>	Native	C,T,B	10
Sideoats Grama	<i>Bouteloua curtipendula</i>	Native, El Reno, Vaughn	W,M,B	15
Little Bluestem	<i>Schizacarium scoparius</i>	Native, Pastura	W,M,B	10
American Mannagrass	<i>Glyceria grandis</i>	Native	C,S,T	<u>8</u>
				100

Subirrigated Mix, Sandy Soil, 1.5 – 5 year inundation,				PLS
<u>Common Name</u>	<u>Scientific Name</u>	<u>Variety</u>	<u>Type</u>	<u>% of mix by weight</u>
Switchgrass	<i>Panicum virgatum</i>	Blackwell, Nebraska 28	W,T,B	10
Yellow Indiangrass	<i>Sorghastum nutans</i>	Native, Cheyenne	W,T,S	20
Sand Bluestem	<i>Andropogon gerardii</i>	Native, Woodward	W,T,S	30
Alkali Sacaton	<i>Sporobolus airoides</i>	Native	W,M,B	5
Sideoats Grama	<i>Bouteloua curtipendula</i>	Native, El Reno, Vaughn	W,M,B	15
Thickspike Wheatgrass	<i>Elymus macrourous</i>	Critana	C,M,S	<u>20</u>
				100

Upland Mix , Clay/Clay Loam Soil				PLS
<u>Common Name</u>	<u>Scientific Name</u>	<u>Variety</u>	<u>Type</u>	<u>% of mix by weight</u>
Buffalograss	<i>Buchloe dactyloides</i>	Native, Sharp's	W,S,S	40
Blue Gramma	<i>Bouteloua gracilis</i>	Native, Lovington, Alma	W,S,B	15
Sideoats Grama	<i>Bouteloua curtipendula</i>	Native, El Reno, Vaughn	W,M,B	15
Western Wheatgrass	<i>Agropyron smithii</i>	Native, Arriba	C,M,S	20
Green Needlegrass	<i>Nasella viridula</i>	Native, Lodorm	C,M,B	<u>10</u>
				100

Upland Mix, Sandy Loam Soil				PLS
<u>Common Name</u>	<u>Scientific Name</u>	<u>Variety</u>	<u>Type</u>	<u>% of mix by weight</u>
Buffalograss	<i>Buchloe dactyloides</i>	Native, Sharp's	W,S,S	20
Blue Gramma	<i>Bouteloua gracilis</i>	Native, Lovington, Alma	W,S,B	10
Sand Dropseed	<i>Sporobolus cryptandrus</i>	Native	W,M,B	5
Western Wheatgrass	<i>Pascopyrum smithii</i>	Native, Arriba	C,M,S	7
Thickspike Wheatgrass	<i>Elymus macrourus</i>	Native, Critana	C,M,S	7
Slender Wheatgrass	<i>Elymus trachycaulus</i>	Native, San Luis	C,M,B	6
Needle-and-thread	<i>Stipa comata</i>	Native	C,M,B	10
Green Needlegrass	<i>Nasella viridula</i>	Native, Lodorm	C,M,B	10
Prairie Junegrass	<i>Koeleria macrantha</i>	Native	C,M,B	5
Sideoats Grama	<i>Bouteloua curtipendula</i>	Native, El Reno, Vaughn	W,M,B	10
Little Bluestem	<i>Schizacarium scoparius</i>	Native, Pastura	W,M,B	5
Indian Ricegrass	<i>Oryzopsis hymenoides</i>	Native	C,M,B	<u>5</u>
				100

Upland Mix, Sandy Soil				PLS
<u>Common Name</u>	<u>Scientific Name</u>	<u>Variety</u>	<u>Type</u>	<u>% of mix by weight</u>
Blue Gramma	<i>Bouteloua curtipendula</i>	Native, Lovington, Alma	W,S,B	15
Prairie Sandreed	<i>Calamovilfa longifolia</i>	Native, Goshen	W,M,S	10
Sand Dropseed	<i>Sporobolus cryptandrus</i>	Native	W,M,B	5
Sideoats Grama	<i>Bouteloua curtipendula</i>	Native, El Reno, Vaughn	W,M,B	15
Little Bluestem	<i>Schizacarium scoparius</i>	Native, Pastura	W,M,B	15
Indian Ricegrass	<i>Oryzopsis hymenoides</i>	Native	C,M,B	20
Prairie Junegrass	<i>Koeleria macrantha</i>	Native	C,M,B	<u>20</u>
				100

Low Grow, Trailside Mix				PLS
<u>Common Name</u>	<u>Scientific Name</u>	<u>Variety</u>	<u>Type</u>	<u>% of mix by weight</u>
Buffalograss	<i>Buchloe dactyloides</i>	Native, Sharp's	W,S,S	30
Blue Gramma	<i>Bouteloua gracilis</i>	Native, Lovington, Alma	W,S,B	20
Sideoats Grama	<i>Bouteloua curtipendula</i>	Native, El Reno, Vaughn	W,M,B	10
Prairie Junegrass	<i>Koeleria macrantha</i>			5
Sand Dropseed	<i>Sporobolus cryptandrus</i>			5
Bottlebrush squirreltail	<i>Elymus elymoides</i>			10
Indian Ricegrass	<i>Achnatherum hymenoides</i>			<u>15</u>
				100

Appendix 8

South Platte Park - Fish Checklist

Scientific Name	Common Name	Status	Blackrock	Eaglewatc h	Redtail	Ladybu g	Bufflehead	Cooley Lake	Grant Nei	South Platte River	Historical Note
Ameiurus melas	Black Bullhead	Native	X	X	X	X		X			
Pomoxis nigromaculatus	Black Crappie	Introduce	X	X	X	X		X			
Lepomis macrochirus	Bluegill	Introduce	X	X		X	X	X	X		
Culaea inconstans	Brook Stickleback	Native								X	
Salmo trutta	Brown Trout	Introduced								X	
Cyprinus carpio carpio	Common Carp	Introduced			X			X		X	
Luxilus cornutus	Common Shiner	Native	X								
Ictalurus punctatus	Channel Catfish	Native	X					X			
Semotilus atromaculatus	Creek Chub	Native								X	
Pimephales promelas	Fathead Minnow	Native		X				X		X	
Lepomis cyanellus	Green Sunfish	Native	X	X	X	X		X	X	X	
Ctenopharyngodon idella spp.	Hybrid Grass Carp	Introduced					X				
Etheostoma exile	Iowa Darter	Native		X						X	
Etheostoma nigrum	Johnny Darter	Native							X	X	
Micropterus salmoides	Largemouth Bass	Introduce	X	X	X	X	X	X		X	
Rhinichthys cataractae	Longnose Dace	Native							X	X	
Catostomus catostomus	Longnose Sucker	Native		X	X					X	
Fundulus sciadicus	Plains Topminnow	Native								X	
Lepomis gibbosus	Pumpkinseed	Introduced									X
Oncorhynchus mykiss	Rainbow Trout	Introduced		X	X	X				X	
Notropis stramineus	Sand Shiner	Native		X							
Micropterus dolomieu	Smallmouth Bass	Introduce	X							X	
Sander vitreus	Walleye	Introduced		X	X			X		X	
Gambusia affinis	Western Mosquito Fish	Introduced								X	
Catostomus commersonii	White Sucker	Native		X	X			X	X	X	
Perca flavescens	Yellow Perch	Introduce	X	X	X	X		X			

	s	S	F	W	Habitat
Swallows					
* Tree Swallow	C	C	O		RLGM
Violet-green Swallow	C	O	O		RLGM
* No Rough-winged Swallow	U	U	O		RLGM
o Bank Swallow	U	R	R		RLGM
* Cliff Swallow	C	C	O		RLGM
* Barn Swallow	C	U	O		RLGM
Chickadees & Bushtit					
* Black-capped Chickadee	C	C	C	C	FS
Mountain Chickadee				r	FS
* Bushtit	U	U	U	U	FS
Nuthatches & Creepers					
* Red-breasted Nuthatch	R		R	R	F
* White-breasted Nuthatch	U	U	O	O	F
Pygmy Nuthatch		r		r	F
Brown Creeper	R		R	R	F
Wrens					
* Rock Wren	R	R	R		LGS
* House Wren	C	C	U		FS
Winter Wren	r			r	SF
o Marsh Wren	O				MS
Gnatcatchers & Dippers					
* Blue-gray Gnatcatcher	U	C	O		FS
American Dipper			r	R	R
Kinglets					
Golden-crowned Kinglet	R		R		FS
Ruby-crowned Kinglet	R		R		FS
Solitaires & Thrushes					
Western Bluebird	R		R		G
Mountain Bluebird	U		R		GR
Townsend's Solitaire	R		R		FS
Swainson's Thrush	R				FS
Hermit Thrush	O		R		FS
* American Robin	C	C	C	*	GFSM
Mockingbirds & Thrashers					
* Gray Catbird	O	U		*	SF
Brown Thrasher		r			SF
Sage Thrasher	R	R	R		G
Northern Mockingbird	R				SF
Waxwings, Pipits					
Bohemian Waxwing				r	SF
* Cedar Waxwing	O	U	O	R	FS
American Pipit	O		R	r	RL
Finches & Longspurs					
Evening Grosbeak	r		r	r	FS
* House Finch	C	C	C	C	FSG
Purple Finch				*	G
Cassin's Finch				*	FS
Common Redpoll				*	GS
Pine Siskin	r		r	r	SFG
* Lesser Goldfinch	R	O	r		SG
* American Goldfinch	U	C	U	R	SGF
Lapland Longspur				*	G
Towhees & Sparrows					
Green-tailed Towhee	R		R	r	SF
* Spotted Towhee	O	O	O	R	SF
Cassin's Sparrow			r		GS
American Tree Sparrow	U		U	C	SGFM
o Chipping Sparrow	U	O	C		GSF
Clay-colored Sparrow	R		O		GS
Brewer's Sparrow	O		O		GS
Vesper Sparrow	U				GS

	s	S	F	W	Habitat
Lark Sparrow	R	O	U		GS
Sagebrush Sparrow			*		GS
Lark Bunting	R	O	O		G
Savannah Sparrow	O		O		GM
Grasshopper Sparrow	r		r		G
LeConte's Sparrow			*		G
Fox Sparrow	*				S
* Song Sparrow	C	C	C	C	SMF
Lincoln's Sparrow	R		R		SM
Swamp Sparrow			r	R	MS
o White-throated Sparrow	r		R	r	FS
Harris's Sparrow	R		R	R	GS
White-crowned Sparrow	C		U	C	FS
Golden-crowned Sparrow			*		S
Dark-eyed Junco	C		C	C	FSG
Chats, Blackbirds & Orioles					
* Yellow-breasted Chat	U	U	O		SF
* Red-winged Blackbird	C	C	C	U	MSGF
* Western Meadowlark	C	C	C	R	GSF
* Yellow-headed Blackbird	O	R	R		MGSF
Rusty Blackbird				*	GM
* Brewer's Blackbird	R	R	R	R	GS
* Common Grackle	C	C	C		MFGSL
Great-tailed Grackle	R				M
* Brown-headed Cowbird	C	C	U		FSMG
Orchard Oriole	r				FS
* Bullock's Oriole	C	C	O		FS
Wood Warblers					
Northern Waterthrush	R				MFS
Black-and-White Warbler	R				F
Tennessee Warbler	*	*			FS
Orange-crowned Warbler	O		O		FS
Nashville Warbler	r		r		FS
Virginia's Warbler	O		R		FS
MacGillivray's Warbler	R				FS
* Common Yellowthroat	U	C	U		MS
o American Redstart	R				FS
Northern Parula			r		FS
Blackburnian Warbler				*	F
* Yellow Warbler	C	C	U		FSM
Blackpoll Warbler	r				SF
Palm Warbler	r				S
Yellow-rumped Warbler	C		C	R	FS
Townsend's Warbler				R	SF
Canada Warbler	*				SF
Wilson's Warbler	O		U		SFM
Tanagers					
Summer Tanager	*				F
Western Tanager	O		R		FS
Grosbeaks & Buntings					
Rose-breasted Grosbeak	r				FS
* Black-headed Grosbeak	R	R	R		FS
Blue Grosbeak			*		FS
* Lazuli Bunting	O	R	R		FS
Indigo Bunting	*				FS
Introduced Species					
Ring-necked Pheasant	r	r	r	r	GSM
* Rock Pigeon	U	U	U	U	G
Eurasian Collared-Dove	O	O	U	U	G
* European Starling	C	C	C	C	FSG
* House Sparrow	C	C	C	C	GFS

South Platte Park

3000 W. Carson Dr., Littleton, CO 80120
(north of Mineral, west of Santa Fe)

A Natural Area

Open daily sunrise to sunset
(Gates open by 6:30 am)

- 878 acres along South Platte River
- 5 lakes open to fishing
- Local and regional trails

Carson Nature Center

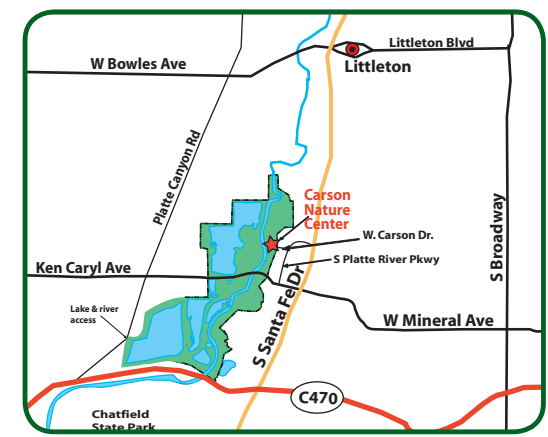
Open Tu-F from 12-4:30 pm,
Weekends from 9:30 am-4:30 pm

- Interactive displays
- Year-round public programs
- Volunteer naturalist program

Guided Programs

Field trips for schools, scouts
and other organizations.

303.730.1022
ssprd.org/nature



Updated Feb. 2019

Bird Checklist

South Platte Park

A Natural Area



South Platte Park is designated an "Important Bird Area" by the National Audubon Society for winter waterfowl and for breeding habitat for neotropical migrants. It is a haven for more than 260 species of birds, 62 of which have been confirmed breeding.

On a single day in May you could see 50-75 species of migrating songbirds and shorebirds. Summers are filled with the delights of nesting birds. An average winter day of birding will yield 40 or more species including numerous diving and dabbling ducks, and bald eagles. This checklist includes species that have been observed in the area that is now South Platte Park since 1982. Be an alert observer and you may be able to add new species to the list.

Legend

SEASONS

s	Spring	(March-May)
S	Summer	(June-August)
F	Fall	(September-November)
W	Winter	(December-February)



SPECIES ABUNDANCE CODES

C	Common -- likely to be seen in suitable habitat
U	Uncommon -- might be seen in suitable habitat
O	Occasional -- seen a few times each season
R	Rare -- not seen every year
r	Very Rare -- seen once or twice a decade
*	Accidental -- an isolated sighting

HABITAT - Shown in order of relative abundance

F	Forest
G	Grassland/Field
L	Lake or Pond
M	Marsh
R	River
S	Shrub Thicket

NESTING STATUS:

* = Confirmed o = Possible

Date _____

Time in Field _____

Weather _____

Area of Park _____

Total Species _____

Individuals _____

Distance Traveled: by Car _____ by Foot _____

Observers _____

	s	S	F	W	Habitat
Geese, Swans & Ducks					
Snow Goose			O	R	LG
Ross's Goose			r		LG
Greater White-fronted Goose			R	R	LG
Cackling Goose				O	LRGM
* Canada Goose	C	C	C	C	LRGM
Tundra Swan			R		L
Trumpeter Swan				*	L
* Wood Duck	U	U	U	O	RLMF
* Blue-winged Teal	C	R	R		LRM
* Cinnamon Teal	U	R	R		LRM
Northern Shoveler	U	R	U	U	LRM
o Gadwall	C	U	C	C	LRM
o American Wigeon	U	U	C	U	RLM
* Mallard	C	C	C	C	LRMG
Northern Pintail	U		U	U	RL
* Green-winged Teal	C	R	C	C	RLM
Canvasback	R		R		L
Redhead	U		U	U	LR
Ring-necked Duck	U		U	C	LR
Greater Scaup	R		R	R	LR
Lesser Scaup	O		O	O	LR
Surf Scoter			r	r	LR
White-winged Scoter			r	r	LR
Black Scoter				*	LR
Long-tailed Duck				R	LR
Bufflehead	U		U	C	LR
Common Goldeneye	U		U	C	LR
Barrow's Goldeneye			r	R	LR
Hooded Merganser	R		O	O	LR
* Common Merganser	C	O	C	C	LR
Red-breasted Merganser	R		R	R	LR
Ruddy Duck	R		R		L
Grouse, Turkeys & Quail					
Wild Turkey			*		F
Grebes					
* Pied-billed Grebe	U	U	U	O	LRM
Horned Grebe	O		O	r	L
Red-necked Grebe			*		L
Eared Grebe	O		O	r	LR
* Western Grebe	U	O	U	r	L
Clark's Grebe	R		R		L
Doves & Cuckoos					
* Mourning Dove	C	C	C	R	GFS
Yellow-billed Cuckoo	r		r		FS
Goatsuckers					
Common Nighthawk	O	U	U		G
Common Poorwill		*			F
Swifts & Hummingbirds					
Chimney Swift			*		L
* Black-chinned Hummingbird	U	U			FS
* Broad-tailed Hummingbird	U	U	O		FSG
Rufous Hummingbird		r			FSG
Calliope Hummingbird	r	r			FSG
Rails & Coots					
* Virginia Rail	O	O	O	R	MR
* Sora	O	O	O		M
* American Coot	U	R	U	C	LRM
Cranes					
Sandhill Crane	R		R		GL

	s	S	F	W	Habitat
Plovers, Avocets, Sandpipers & Phalaropes					
Black-necked Stilt	*				LRM
o American Avocet	U	O	O		LRM
Semipalmated Plover	R		R		LR
* Killdeer	C	C	C	U	RL
Long-billed Curlew	r				RL
Marbled Godwit	R				RL
Stilt Sandpiper	r		R		G
Sanderling	r			r	RL
Dunlin				r	LR
Baird's Sandpiper	R				LR
Least Sandpiper	R		R		LR
Pectoral Sandpiper			R		RL
Semipalmated Sandpiper	r		R		RL
Western Sandpiper	C		R		LR
Long-billed Dowitcher	O		O		MLR
Wilson's Snipe	U	R	O	O	LR
* Spotted Sandpiper	C	U	U		LR
Solitary Sandpiper	O		O		LR
Lesser Yellowlegs	U		O		RL
Greater Yellowlegs	U		O		RL
Willet	R		R		RL
Wilson's Phalarope	R		R		LR
Gulls, Terns & Loons					
Black-legged Kittiwake			*		L
Bonaparte's Gull	R		R		LG
Franklin's Gull	O		O		LG
Mew Gull				r	L
Ring-billed Gull	C	U	C	C	LRG
California Gull	O	O	O		LR
Herring Gull	O		O	O	LR
Iceland Gull				*	LR
Lesser Black-Backed Gull				*	LR
Least Tern		r			LR
Caspian Tern		*			LR
Black Tern	R		r		LR
Common Tern			r		LR
Forster's Tern	O		R		LR
Pacific Loon			r		L
Common Loon	O	R	O	R	L
Yellow-Billed Loon				*	L
Cormorants & Pelicans					
Double-crested Cormorant	C	C	C	r	LR
American White Pelican	O	O	O	R	LR
Bitterns, Herons & Ibises					
American Bittern	O	R	O		M
Great Blue Heron	C	C	C	U	LRMF
Great Egret	R				L
Snowy Egret	O	U	R		RL
Little Blue Heron		*			L
Cattle Egret			r		G
Green Heron	O	R	r		LM
Black-crowned Night-Heron	C	C	C	O	RFLM
Yellow-crowned Night-Heron		*			RLM
White-faced Ibis	O				MLRG
American Vultures					
Turkey Vulture	U	O	U		G
Eagles & Hawks					
* Osprey	O	R	O		LR
Golden Eagle	R	R	R	R	GF
Northern Harrier	O		O	O	GM

	s	S	F	W	Habitat
o Sharp-Shinned Hawk	O		O	R	FS
* Cooper's hawk	O	O	O		FS
Northern Goshawk			r	r	F
Bald Eagle	R		O	U	RLF
Broad-winged Hawk	r				FG
* Swainson's Hawk	U	U			GF
* Red-tailed Hawk	C	C	C	C	GF
Ferruginous Hawk	R				G
Rough-legged Hawk	R		R	R	G
Owls					
Eastern Screech-Owl	r	r	r	r	FS
* Great Horned Owl	C	U	U	U	F
Burrowing Owl	r	r	r	r	G
Long-eared Owl	r	r	r	r	F
Short-eared Owl	r		r	r	GM
Kingfisher					
* Belted Kingfisher	C	C	C	U	RL
Woodpeckers					
Lewis's Woodpecker	r				FG
Red-headed Woodpecker	r				F
Yellow-bellied Sapsucker			r		FS
* Downy Woodpecker	C	C	U	U	FS
Hairy Woodpecker	R		r	r	FS
* Northern Flicker	C	C	C	C	FSG
Falcons					
* American Kestrel	U	U	U	U	GF
Merlin	R		R		G
Peregrine Falcon	R		R		GLR
Prairie Falcon	R		R	O	GRL
Flycatchers					
Tropical Kingbird			*		G
Cassin's Kingbird	r				G
* Western Kingbird	U	O	U		GF
* Eastern Kingbird	O	O	O		GF
Olive-sided Flycatcher	r		r		F
* Western Wood-Pewee	O	C	O		F
o Willow Flycatcher	R	r			SFM
o Least Flycatcher	R	r			FS
Hammond's Flycatcher	R		R		FS
Dusky Flycatcher	R		R		FS
Cordilleran Flycatcher	R		R		FS
Eastern Phoebe	r		r		FS
* Say's Phoebe	U	U	U		G
Great Crested Flycatcher	*				FS
Shrikes					
Loggerhead Shrike	R	R			G
Northern Shrike			O	O	G
Vireos					
Yellow-throated Vireo	*				FS
Plumbeous Vireo	O	R	O		FS
* Warbling Vireo	O	O	O		FS
o Red-eyed Vireo	R	r			FS
Jays, Magpies & Crows					
* Blue Jay	U	O	U		FS
Woodhouse's Scrub-Jay			*		FS
* Black-billed Magpie	C	C	C	C	GFSM
American Crow	C	U	C	C	GF
Common Raven	U	O	U	U	GF
Larks					
Horned Lark	O		O		GL

Mammals

Species	Abundance	Habitat
Bats		
Little Brown Bat	A	RLMG
Silver-haired Bat	K	RLMG
Big Brown Bat	C	RLMG
Carnivores		
Black Bear	R	TF
Raccoon	C	MFTG
Long-tailed Weasel	U to R	TF
Mink	R	RTL
Striped Skunk	U to C	TFMG
Coyote	C	GTFM
Red Fox	U	FTM
Bobcat	R	T
Mountain Lion	R	T
Rabbits and Allies		
Eastern Cottontail	A	TFMG
Rodents		
Black-tailed Prairie Dog	U	G
Rock Squirrel	U	TGF
Fox Squirrel	A	FT
Beaver	C to A	LRM
Western Harvest Mouse	U	FT
Deer Mouse	A	FTGM
Mexican Woodrat	R	T
Meadow Vole	C to U	GMT
Prairie Vole	C to U	GMT
Muskrat	C to A	MRL
Norway Rat	R	TM
House Mouse	R to U	TMFG
Preble's Meadow Jumping Mouse	R	MTE
Even-toed Hoofed Mammals		
Elk	R	GFT
Mule Deer	R	GFTM
White-tailed Deer	U	FGTM
Insectivore		
Montane Shrew	R	F



Bull Snake



Prairie Six-lined Racerunner



Coyote

South Platte Park

3000 W. Carson Dr.
(north of Mineral, west of Santa Fe)
Littleton, CO 80120

Natural area and trails open daily sunrise to sunset.

- 878 acres along South Platte River
- 5 lakes open to fishing
- Local and regional trails

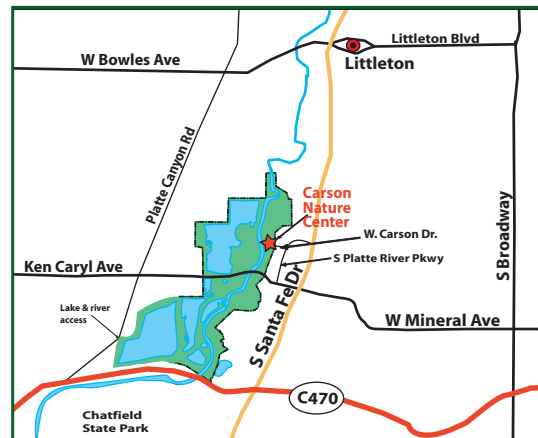
Carson Nature Center

Open Tu-F from 12-4:30 pm • Weekends 9:30 am-4:30 pm

- Interactive displays
- Year-round public programs
- Volunteer naturalist program

Guided Programs

Request field trips for schools, scouts and other organizations.



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updated April, 2019

Discover the Vertebrates of South Platte Park, Littleton, CO



White-tailed Deer



Rainbow Trout



Raccoon



Snapping Turtle

South Platte Park stretches for two and a half miles along a beautifully forested and scenic and historic South Platte River. Situated one mile downstream from Chatfield Dam and surrounded by an urban environment, the Park offers a quiet and peaceful retreat for wildlife and wildlife watchers alike. Owned by the City of Littleton and managed by South Suburban Park and Recreation District as a natural area, the Park is refuge for over 25 species of mammals, 16 species of reptiles and amphibians, and 23 species of fish. South Platte Park is known for its large snapping turtles and bull snakes, its chorusing frogs and gigantic channel catfish. The Park's abundant and easily seen cottontails, beaver, muskrats, raccoon, and coyotes make a great destination for wildlife viewing close to the city.



Vertebrates Checklist for South Platte Park

Littleton, Colorado (birds have their own checklist)

Date _____ Weather _____

Locality _____

Time in field _____ Total species _____

Observers _____

Over 35% of the Park is covered by water, creating an unusual mix of habitats in an otherwise semiarid environment. Lakes, ponds, wetlands, and the South Platte River provide open water offering many opportunities to view wildlife in a beautiful setting. Natural surface trails meander through forested woodlands, scattered shrub thickets and open grasslands. This provides the casual or experienced wildlife watcher a chance to see a variety of common and unusual Colorado animals.

A wide variety of aquatic and water-dependent species can be found in South Platte Park. Twenty-three of the 38 species of fish found along the South Platte River have been observed. Fishermen commonly catch Largemouth Bass, Green Sunfish, Bluegill, Channel Catfish, Perch, and Rainbow Trout; all except the catfish are nonnative. Unusual native fishes include the Brook Stickleback (dependent on unchannelized reaches of streams) and the Iowa Darter.

Herptile lovers will enjoy the spring chorus of Woodhouse's Toads and the "peeps" of Striped Chorus Frogs. Basking Bull Snakes, Garter Snakes, and Racerunner Lizards are also enjoyed by many of the Park users. Our only poisonous snake, the Prairie Rattler, has been confirmed only twice in the Park since the mid-1980's.

Dawn and dusk viewing by mammal lovers will yield surprisingly great viewing and photographic opportunities of beaver and muskrat. Many bats flit along the river on summer evenings, which is also a great time to glimpse a White-tailed Deer and its spotted fawn. Coyotes are most easily seen in winter and early spring. Cottontail rabbits and fox squirrels abound wherever there are woodlands and thickets.

Species Abundance Codes used in this checklist reflect the likelihood of seeing a particular species, or its sign, in suitable habitat during the appropriate season of the year and time of day. Although many small mammals are quite common, you are unlikely to see them. Thus, small mammal abundance codes reflect the number of individuals live trapped during biological surveys.

Be an alert observer and you may be able to add a new species to this list. Enjoy your adventures observing all the wonderful wildlife in South Platte Park.

Amphibians and Reptiles

Legend

Species Abundance Codes (information for small mammals only is derived from live trapping surveys)

- A Abundant – frequently seen (live trapped in large numbers)
- C Common – likely to be seen (live trapped in moderate numbers)
- U Uncommon – might be seen (live trapped small numbers)
- R Rare – not seen every year (live trapped in very small numbers)
- K Unknown

Habitat Codes

- | | | | |
|---|--------------------------|---|-----------------|
| R | River | C | Cool Water Lake |
| S | Secondary Channel, River | P | Pond |
| B | Backwater, River | M | Marsh |
| E | Stream | T | Thicket, Shrub |
| L | Lake | G | Grassland/Field |
| W | Warm Water lake | F | Forest |

Species	Abundance	Habitat
----------------	------------------	----------------

Amphibians

Mole Salamanders
 _____ Tiger Salamander _____ R _____ MPR

True Toads
 _____ Woodhouse's Toad _____ C _____ MPLRGT

Tree Frogs
 _____ Striped Chorus Frog _____ C _____ MPR

True Frogs
 _____ Bull Frog _____ C _____ MPLR

Reptiles (turtles)

Snapping Turtles
 _____ Snapping Turtle _____ U _____ LPMRTG

Pond and Box Turtles
 _____ Painted Turtle _____ R _____ LPM
 _____ Red-eared Slider (introduced) _____ R _____ LPM
 _____ Western Box Turtle _____ R _____ FGT

Reptiles (lizards)

Whiptails
 _____ Prairie Six-lined Racerunner _____ C _____ GTF

Reptiles (snakes)

Colubrids
 _____ Yellow-Bellied Racer _____ U _____ GFTM
 _____ Milk Snake _____ R _____ FTG
 _____ Northern Water Snake _____ U _____ RLPMT
 _____ Bull Snake _____ C _____ GFTM
 _____ Western Terrestrial Garter Snake _____ A _____ TFMGRP
 _____ Plains Garter Snake _____ U to R _____ TFMGRP
 _____ Common Garter Snake _____ R _____ MTFPR

Vipers
 _____ Prairie Rattlesnake _____ R _____ TG

Fish

Species	Abundance	Habitat
Trout		
_____ Brown Trout _____	R	RC
_____ Rainbow Trout _____	C	RCW
Minnow		
_____ Carp _____	C	RSBWCM
_____ Long-nosed Dace _____	C	R
_____ Creek Chub _____	A	RBSEWCPM
_____ Gambusia _____	C	SWC
_____ Common Shiner _____	R	R
_____ Sand Shiner _____	R	RB
_____ Fathead Minnow _____	A to C	SWC
_____ Mosquitofish _____	C	SBLW
Sucker		
_____ White Sucker _____	A	RBSEWCPM
_____ Long-nosed Sucker _____	R	RB
Catfish		
_____ Channel Catfish _____	U	RWC
_____ Black Bullhead _____	C	W
Sunfish		
_____ Black Crappie _____	R	WS
_____ Largemouth Bass _____	C	WS
_____ Smallmouth Bass _____	R	SW
_____ Green Sunfish _____	C	WSB
_____ Bluegill _____	U to R	W
_____ Pumpkin Seed _____	R to U	W
Perch		
_____ Walleye _____	R	R
_____ Yellow Perch _____	U	W
_____ Johnny Darter _____	R	B
_____ Iowa Darter _____	R	R
Stickleback		
_____ Brook Stickleback _____	C	SBPM



Appendix 10

INTERPRETIVE MANAGEMENT PLAN SUMMARY South Platte Park and Carson Nature Center

PURPOSE

Every activity and product created should help support the goals of South Platte Park, approved by South Suburban's Board of Directors and the Littleton City Council. Each product proposed should be measured against those goals. In addition to defining existing products and ensuring they support these goals, this plan suggests opportunities, sets a series of measurable objectives, and provides guidelines for evaluating future ideas and products to ensure they support a common purpose. This document should remain dynamic, and should be updated as products, markets and needs change.

INTERPRETATION DEFINED

The purpose of the interpretive program, in accordance with the definition of interpretation, facility meaningful, relevant, and inclusive experiences that deepen understanding, broaden perspectives, and inspire engagement with the world. As a management tool, this understanding is intended to reduce negative impacts and improve appreciation of the resources to ensure their continued existence and improvement. Interpretation should also aim to alter visitor behavior to protect the resources. One aspect for evaluating the products is to determine if they utilize appropriate and accepted interpretive techniques currently supported by social research. For interpretation to be successful, it must also be:

- **Purposeful:** focused on an outcome of measurable goals and objectives tied to the mission and resource.
- **Thematic:** the audience should be able to discern a message—a complete thought—regarding the resource. This message MAY be perceived differently by individual participants, however the lack of a specific message in planning has been shown to create products that are significantly less effective.
- **Organized:** People need to know where different bits of information fit, and to be able to put them into context with other bits of information and with their own experience.
- **Engaging:** Since most interpretive audiences are voluntary, with internal motivation for participating, they must receive personal value or engagement from interpretation, or they will tune it out.
- **Relevant:** If interpretation can tie into universal concepts that govern the lives of participants and the things they care about, it is more likely to be adopted and remain something of value in the future—and increase their commitment to the resource.

Interpretation should strive to utilize the following principles:

- Interpretation must relate to something within the experience of the visitor.
- Interpretation is not simply information, but revelation based upon information.
- Interpretation should seek to provoke the visitors to learn more for themselves.
- Interpretation itself is an art—a synergy of various sciences and talents (which are all teachable); and communicates an impression that may differ for those viewing it.
- Interpretation should present a complete concept, rather than a portion of the story; it should speak to the whole person, not just one aspect of their self-perception.

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- Interpretation should be adapted to the learning and interest needs of the audience.
- Interpretation must be capable of attracting financial, volunteer, political, and administrative support.

SOUTH PLATTE PARK GOALS

The specific, board-approved goals for South Platte Park are listed in the full interpretation plan and in the South Platte Park Management Plan. The interpretation plan also lists a summary reference for each subgoal that the interpretation program can address. These are listed below to help focus in on the purposes of the various interpretive products:

- 1d Promote Support for Floodplain Mgmt
- 2d Protect Wildlife and Habitat
- 2g Document Wildlife Populations
- 2i Promote Support for Native Ecosystem Mgmt
- 3a Provide Teacher Training
- 3b Develop Environmental Education Curricula
- 3c Limit Educational Group Sizes
- 3d Monitor and Minimize Educational Impacts
- 3e Provide Field Trips
- 3f Provide Public Programming
- 4a Encourage Discovery of Passive Recreation
- 4d Provide Information on Regulations/Opportunities
- 4e Provide an Information Center
- 4g Monitor and Minimize Recreation Impacts

INTERPRETIVE VISION

The vision of the Interpretive program at South Platte Park is to become a regional example of excellence that helps our community find meaning and value in natural open space through direct positive experiences, and gives them the motivation and knowledge to be good stewards of it.

PRIMARY INTERPRETIVE THEME

All products and programs will strive to support an over-arching theme. Without a theme, the communication of a message can be garbled and confusing. The theme decided upon by interpretive staff, for which all products should be able to support is: ***The South Platte River shapes life in our community.*** This can be interpreted with multiple meanings including such things as how the river and its flood history shaped the layout of Littleton, how it attracts wildlife and native communities, and how it impacts the human community and the individual lives of residents.

DESIGN GUIDELINES

To ensure the messages all appear to come from the same source, all exhibit labels, brochures, and interpretive signs are to be designed within the existing “family” of products. A complete design guideline is included as an appendix for the complete version of this plan. These guidelines and ‘families’ evolve with the overall South Suburban branding guidelines. Brochures should follow current branding in terms of coloration, cover and back-panel design, and standard information to include. Internal fonts and layouts may vary for creativity provided

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it fits with existing products and looks professional. Nature Center exhibit labels and interpretive signage should use the design elements also detailed in the plans and should strive to complement existing signage.

INTERPRETIVE STAFF EXPECTATIONS

Interpretive staff collaboratively developed a series of Values for what we wanted our work experience to be at South Platte Park. As part of the process, we developed very specific examples of what those values look like in our day-to-day business to ensure the values are clear to everyone (detailed in interpretation plan appendices). These values are reviewed and updated on an annual basis.

Value 1: “One Team!” We commit to working hard as “one team,” collaborating to EXCEED the expectations of every customer, internal and external. Individually and collectively, we are accountable for making South Platte Park and South Suburban a source of pride for everyone.

Value 2: Harmony. We trust, respect, encourage, and support each other. We communicate constructively and realize it is the harmony of our efforts that gets things done and makes our work fun and fulfilling.

Value 3: Excellence. The public sees the center as a regional example of excellence, professionalism, attention, and care.

PRODUCT DEVELOPMENT

As new products are introduced, a product description should be created, including

- purpose
- intended audience
- how it fits the theme
- how it supports goals for the Park

Measurable objectives for each product and a description of how to improve products to meet those objectives should be developed over time. Without this type of documentation, it may be difficult to defend products should their need come into question at a future time.

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CURRENT PRODUCTS

A complete listing of current products with their purpose, audience, and goals is included in the complete interpretive plan. Descriptions and goals for products are detailed in the complete interpretation plan.

Programming

Requested programs for groups
Onsite adult programs
Onsite youth programs
Onsite family programs
Summer camps
Free Cooley Walks
Outreach Programs
Ecotravel Tours
Rent-A-Naturalist custom presentations
Volunteer Program
Parent/Child Volunteering
NatureTeen
Trailhands Roving Interp
River Table Demonstrations
South Platte Express Van

Publications

Newsletter
Electronic News
Park Brochure
Timeline Brochure
Species Checklists
Recreation Catalog
Web site
Volunteer recruitment brochure
Public Programs marketing
Quick Guides
Staff Challenge Sheets
Trailside Guides
Volunteer Update
Neighbor's Guide
Flyers for rentals, parties, etc.

Exhibits

Park Orientation Room
Critical Habitats
Regional History Timeline
Live Animals
River Model
Seasonal Displays
Traveling Booth Exhibit
Natives Plant Garden
Interpretive Signage
Offsite exhibits (libraries, etc)