Roseville Parks and Recreation Commission

Agenda Item

Date: March 7, 2023 **Item No: 4**

Item Description: Natural Resources Renewal Program Review And Next Steps

Background:
One of the key roles that Parks and Recreation plays in any community, and perhaps even more so in an urban setting, is conservation and ecological stewardship. Over the years, Roseville has been blessed with a forward-thinking community that has placed a high value on parkland, conservation and stewardship. The Parks and Recreation System Master Plan establishes that "preservation of significant natural resources, lakes, ponds, wetlands, open spaces, wooded areas, and wildlife habitats as integral aspects of the parks system."

In 2013, as part of the Park Renewal Program, the city hired Stantec Consulting Services to update the city's Natural Resources Management Plan and embarked upon an aggressive and progressive Natural Resources Renewal Program. The program intended to ecologically restore and strengthen Roseville's parks through removal of invasive plants, restoration with native vegetation and developing a pathway for long term-maintenance and management. The program was planned to impact 22 parks and encompass a number of restoration elements including woodland/forest restoration, prairie reconstruction, wetland restoration and reestablishment of pond buffers. The plan was to include $1.5 million in city funds and $368,000 of grant funds. In the time since, an additional $300,000 of grant funds have been secured to expand the scope and duration of Stantec's involvement.

Work began on the Natural Resources Renewal Program in 2014 and has continued through today. The project has served as a springboard for what is now the Natural Resources Stewardship program; a volunteer program in which hundreds of community volunteers provide their time and expertise to renewing and maintaining our natural spaces. In 2020, signage was installed in many of the locations where restoration was completed to educate the community on the renewal process and the benefits that these resources provide. Ultimately, the program has transformed the face of many of our parks and greatly impacted how the city views natural resources.

After nearly a decade of work, we are nearing the conclusion of the Natural Resources Renewal Program and Stantec's initial commitment. Paul Bockenstedt, the lead consultant on the project will attend the meeting to summarize the work that has been completed, and offer recommendation on how the city can move from its aggressive restoration phase into more of an ongoing-maintenance approach in the coming years.

Requested Commission Action:
Receive presentation, ask questions and discuss.

Attachments:

Attachment A: Natural Resources Renewal Program Type, Size, Location Plan
Attachment B: Natural Resources Renewal Program Signs
Attachment C: Presentation

ROSEVILLE PARKS RENEWAL PROGRAM - NATURAL RESOURCE PROJECT TYPE, SIZE & LOCATION

Park	Location within park	Activity Type	Estimated Size	Type		Funding			Sample Tasks/Notes
	Abbreviations indicate projects identified in the 2002 Natural Resource Management Plan		AC, SF or LF	*Habitat*	*Water quality*	*PRRP*	*Grant*	*Other*	
SELECT PARKS	various	Interpretive Signage	NA			X			New interpretive signs for Natural Resource Projects City Wide.
CENTRAL PARK DALE EAST	CP-U4	Woodland/Forest Restoration	7.5 AC	X		X	X		Cut/treat invasives, native seeding, Rx burn, follow-up treat invasive brush
CENTRAL PARK DALE EAST	CP-U5	Prairie Reconstruction	0.3 AC	X		X			Educational/interpretive prairie at HANC. Potential for supplemental seeding, plug planting, Rx burn(s), spot invasive weed treatment.
CENTRAL PARK LEXINGTON	CP-U1	Woodland/Forest Restoration	2.75 AC	X		X	X		Cut/treat invasive, nonnative shrubs (and select nonnative/invasive trees), prescribed burn of select areas, supplemental native seeding, follow-up treatment of invasives for two years. Includes restoration of areas between trails on north side of Bennett Lake.
CENTRAL PARK LEXINGTON	CP-U2	Woodland/Forest Restoration	2.5 AC	X		X	X		Cut/treat invasive, nonnative shrubs (and select nonnative/invasive trees), prescribed burn of select areas, supplemental native seeding, follow-up treatment of invasives for two years.
CENTRAL PARK LEXINGTON	Bennett Lake Shoreline	Shoreline restoration	.16 AC	X	X	X	X		Treat reed canary grass 2X in select buffer areas accessible by equipment, prescribed burn, native seeding, plug planting, goose protection fencing two years of grow-in maintenance. Estimated average 20' width X ~400 LF
CENTRAL PARK NORTH	CP-W8, W9, W10, W11	Wetland Restoration	9.5 AC	X		X	X		This is a large wetland complex between CR C and Lake Owasso. **Management of invasives would be the highest priority**, although there would likely be limited return on investment for restoration effort (unlikely to significantly reduce purple loosestrife or reed canary grass). Best opportunity is likely through additional biocontrol release for purple loosestrife.
CENTRAL PARK NORTH	Upland on east/west of large wetland	Woodland/Forest Restoration	5.6 AC	X		X	X		Potential management activities could include cut/treat of invasive woody plants, treat invasive herbaceous plants, supplement enrichment of native grasses and forbs.
CENTRAL PARK NORTH	SW side of Lake Owasso	Woodland/Forest Restoration	2 AC	X		X	X		Area includes semi-open woodland/grassland dominated by nonnatives. This site is a relatively low priority, from an ecological perspective.
CENTRAL PARK VICTORIA EAST	CP-U3	Woodland/Forest Restoration	13.8 AC	X		X	X		Includes some smaller, narrow areas outside of the original area mapped as CP-U3 in the Parks NRMP. Cut/treat invasives, native seeding, follow-up treat invasives
LANGTON LAKE	Previously managed woodland areas. LL-U1, LL-U3	Woodland/Forest Restoration	20 AC	X		X	X		Initial management occurred 2012-14. Restoration efforts for this project should inlcude activities that will continue to improve native composition, structure and function.
LANGTON LAKE	LL-U2, LL-U3	Woodland/Forest Restoration	10 AC	X		X	X		Management of new woodland areas. Estimated 10 acres. Cut/treat invasives, native enrichment seeding, follow-up invasives management/spot treatment

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LANGTON LAKE	LL-W1	Wetland Restoration	0.1 AC	X	X	X	X		Site analysis, restoration design for hydrologic and vegetative restoration of drained wetland. Spray reed canary grass, restore original outlet elevation.
LANGTON LAKE	Shoreline restoration	Shoreline restoration	150LF	X	X	X	X		nitial shoreline restoration work conducted 2012-14. Effort should include maintenance of previous shoreline restoration effort, with potential restoration of additional areas.
RESERVOIR WOODS	RW-U1, RW-U5, RW-U7	Woodland/Forest Restoration	34AC	X		X	X		NATIVE FOREST: Invasive brush management, invasive herbaceous vegetation management, supplemental native seeding of 10 acres, two years of ongoing invasive/nonnative treatment. With exception of RW-U5, these areas have not been previously managed. Includes area west of Victoria.
RESERVOIR WOODS	RW-U3, RW-U4, RW-U6	Woodland/Forest Restoration	41 AC	X		X	??		ADVENTIVE/PLANTED FORESTS: Invasive brush management, invasive herbaceous vegetation management, supplemental native seeding, grow-in period invasive/nonnative treatment. Includes some previously managed areas.
RESERVOIR WOODS	RW-U2	Prairie/Savanna Restoration	10.5 AC	X		X	X		This area is the last, best remaining prairie/ savanna remnant in Roseville. It has become significantly overgrown in the last 50 years. Anticipated activities inlcude: invasive brush/tree cut/treat, prescribed burning, supplemental native seeding and 2 years of grow-in maintenance.
RESERVOIR WOODS	RW-W2	Wetland Restoration	8.1 AC	X	X	X	X		This wetland is among the top quality wetlands in Roseville's park system. Management work is anticipated inlcude cut/treat of invasive brush during winter time, spot treatment of reed canary grass, as well as biocontrol release for purple loosestrife. May be a candidate for grant funding.
RESERVOIR WOODS	RW-W1	Shoreline restoration	0.25 AC	X	X	X	X		Manage reed canary grass/invasive on shoreline buffer, seed/plant native buffer and emergent plants, install/maintain goose protection fencing, two years grow-in maintenance. Estimated 1,950 feet of total buffer length X an estimated average 50 foot width of shore buffer.
VILLA	VL-U1, VL-U2, VL-U3, and adventive woodland areas elswhere in the park	Woodland/Forest Restoration	22 AC	X		X	X		Woodland has historically supported breeding pair of red-shouldered hawks, a state-listed species. Woodland restoration would benefit natural areas quality and wildlife. Cut/treat invasive trees and shrubs, treat invasive/ nonnative herbaceous species, potentially native seed, two years of maintenance activities.
VILLA	VL-W1	Wetland Restoration	3 AC	X	X	X	X		This project is being included in the event that the hydrologic/vegetative restoration of this wetland basin is not included in the work being conducted with the Capital Region Watershed District. Work may include tile location/disablement of drain tile and management of invasive, nonnative herbaceous vegetation (i.e. purple loosestrife and reed canary grass)

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LADYSLIPPER	Edges of wetland	Woodland/Forest Restoration	4.09 AC	X		X			Cut/treat invasive, nonnative shrubs. This is relative low priority due to proximity to residential lots, poor accessibility.
OASIS	Multiple locations around park	Woodland/Forest Restoration	3.42 AC	X		X			Invasive cut/treat, reintroduce native woodland grasses and flowers where possible, two years of follow-up treatments.
OASIS	NE side of park, CR C2 cul de sac	Shoreline restoration	225 LF	X	X	X	X		Between proposed boardwalk/trail and lake shore. Potential CWP and/or watershed project. Approximately 225 LF of shoreline
ACORN	Woodland/Forest AC-U1, AC-U2, AC-U3	Woodland/Forest Restoration	25 AC	X		X	X		Cut/treat invasives, native seeding, Rx burn, follow-up treat invasive brush. Approximately 24.7 acres.
ACORN	AC-W2	Wetland Restoration	0.25 AC	X	X	X	X		Topographic survey needed, along with hydrologic analysis. If determined feasible, ditch block and native vegetation restoration are primary activities. Could qualify as a water quality project (increase storage/treatment). Construction cost estimate requires to be combined with Langton Wetland Restoration Project.
ACORN	AC-W5	Wetland Restoration	5 AC	X					Manage purple loosestrife with biocontrol, invasive vegetation management (RCG & glossy buckthorn) in areas mapped as wet meadow and willow swamp (MLCCS): total estimated 5 acres
ACORN	AC-W1	Wetland Restoration	4 AC	X		X			Purple loosestrife biocontrol release
ACORN	Between disc golf fairways	Prairie Reconstruction	2 AC	X		X	X		Treat nonnatives, burn, interseed natives
APPLEWOOD OVERLOOK	Slope of pond	Prairie/Savanna Restoration	0.68 AC	X	X	X	X		Cut/treat invasive nonnatives and select trees, potential chip/remove from site, site prep herbicide x2, native seeding, 2 years of grow-in maintenance.
APPLEWOOD PARK	East border	Woodland/Forest Restoration	0.23 AC	X		X			Cut/treat invasive woody brush/trees, chip/remove, selective thin to favor native hardwood trees, spray ground layer x2, native seeding & 2 years grow-in maintenance.
KELLER MAYFLOWER	Pond Buffer	Pond Buffer Restoration	.72 AC						Cut/treat invasive brush and invasive weeds, remove limited amount of coarse woody debris, seed/plant natives in woodland edge and in seasonal wetland itself. This is a small area with limited benefit, ecologically.
HOWARD JOHNSON	Pond Buffer	Pond Buffer Restoration	1.7 AC	X	X	X			Manage pond buffer (cut/treat invasives, restore native vegetation) and management/plant wetland edge/emergent wetland vegetation. Two years of ongoing management. Estimated cost $6,000/ac.
WILLOW POND	All woodland areas	Woodland/Forest Restoration	6.13 AC	X		X			Cut/treat invasives, native woodland seeding, potential planting of native bare root tree stock, 2 years grow-in maintenance.
WILLOW POND	Northeast shoreline area	Shoreline restoration	0.16 AC/640 LF	X	X	X			Shoreline restoration in this area would provide a high profile restoration with reasonably high opportunity for success.Project should include design, manufacture and install of interpretive sign. Native vegetative restoration along shoreline (seeding and/or live plants), grow-in maintenance.

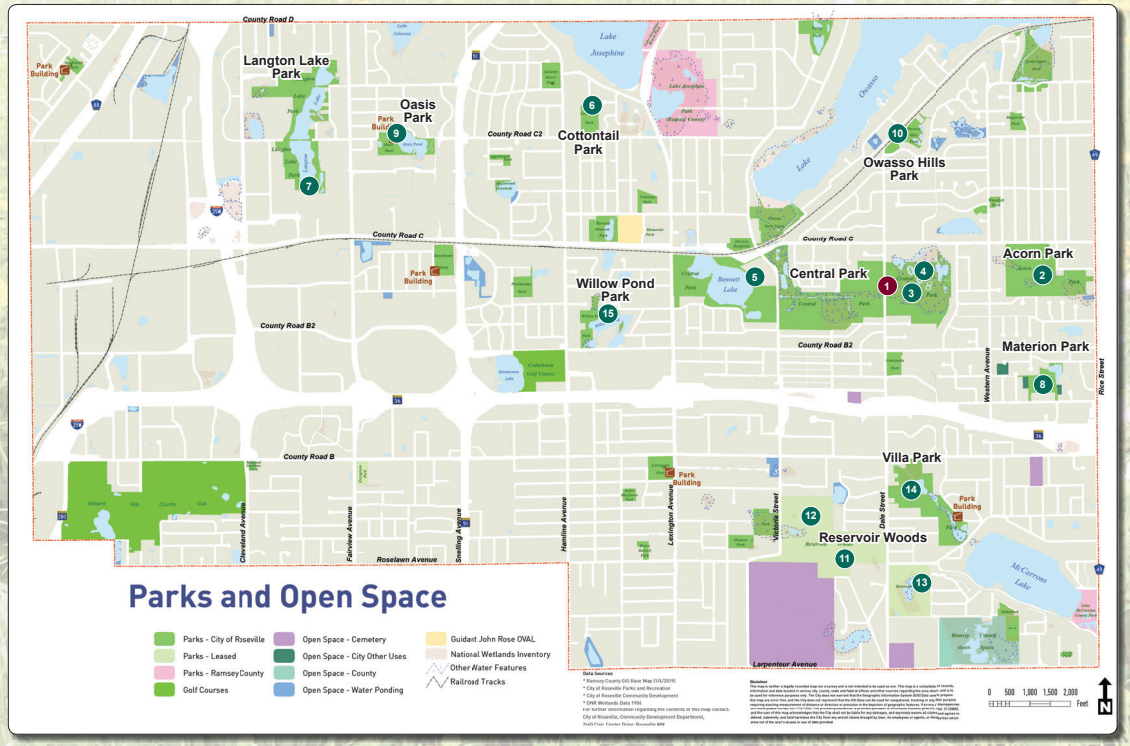
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MATERION	All woodland areas	Woodland/Forest Restoration	6.6 AC	X		X			Work anticipated to include cut/treat of invasive, nonnative shrubs and select nonnative trees (release cuts for desirable native trees), native seeding. Due to the prevalence of invasive, nonnative species at all structural layers, natural areas restoration of this park will require a significant effort.
COTTONTAIL PARK	Entire park	Woodland/Forest Restoration	7.56 AC	X		X			This nonnative, invasive-dominated woodland is in severely degraded condtion and will require extensive management to improve in native species composition, habitat value and overall structure/function. Cut/treat invsive shrubs and select nonnative trees to release desirable native trees, native seeding, plant native hardwood bare root seedlings, 2 years follow-up management/maintenance.
OWASSO HILLS	Throughout upland areas	Woodland/Forest Restoration/Praire/Savanna	3.82 AC	X		X			Includes some areas of remnant prairie/savanna, as well as disturbed woodland restoration. Cut/treat invasive trees/shrubs, treat invasive nonnative herbaceous vegetation, Rx burn of area between trail and RR tracks, native seeding, two years of maintenance
OWASSO HILLS	Wetland area to NW of play structures	Wetland Restoration	0.32 AC	X		X			This project primarily involves management of invasive, nonnative reed canary grass with supplemental native seeding/plantings of native sedges, grasses, flowers.
OWASSO HILLS	Storm pond buffers	Wetland Restoration	0.71 AC	X	X	X			Relatively low priority project to manage invasive, nonnative reed canary grass and seed/plant native grasses, sedges and flowers.
PIONEER	Woodland areas	Woodland/Forest Restoration	2.48 AC	X		X			Invasive cut/treat, reintroduce native woodland grasses and flowers where possible, two years of follow-up treatments. This site was significantly disturbed in the past, but is an important extension of the natural areas in Reservoir Woods.
POCAHONTAS	unmaintained areas on east side of park	Woodland/Forest Restoration	1.26	X		X			The area is relatively open with a herbaceous layer dominated by nonnative grasses and invasive weeds. Anticipated restoration to forest may include cut/treat select invasive trees and shrubs, planting of native hardwood bare root tree seedlings. Includes 2 years of grow-in spot treatment of invasives. May include planting of bare root stock and/or potted stock with mulch and watering . Converting herbaceous layer to all natives may include site preparation, seeding, grow-in maintenance.
VALLEY	All woodland areas	Woodland/Forest Restoration	3.5 AC	X		X			For the most part, this forest is significantly disturbed and included recently developed forest as well as remnant oak forest that has been disturbed by past filling and/or encroachment. Activities may include cut/treat of invasive species, native seeding, reforestation of west side of south storm pond.
TAMARACK	All woodland areas	Woodland/Forest Restoration	3.15 AC	X		X			Plant communities at this site are adventive and relatively degraded, but provide valuable continuity with the Ramsey County wetland mitigation site and other city-owned sites further west/northwest. Work would include invasive brush/tree management, herbaceous invasive/nonnative management. Not likely a good candidate for a grant

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WOODHILL	East side of road	Woodland/Forest Restoration	1.6 AC	X		X			East side of road is 1.6 acres, west side of road is 1.3 acres. Woodland restoration needed on east side of road. Cost assumes work to occur only on east side of Western Ave.

Roseville Natural Resources Restoration Program



Restoration Program

Welcome to Central Park, the centerpiece of Roseville's award-winning Parks and Recreation System! The residents, elected officials and public servants in Roseville understand how important parks and open space natural areas are for community success, residents' health, and much more.

Residents identified having a natural area of some type in each park as important - which may include an area as small as a native flower rain garden or as large as several hundred acres.

In 2014, the City began an ambitious Park Renewal Program that included restoration of Natural Resources throughout the park system.

The map at left shows key parks in Roseville where Natural Resources Restoration activities are being conducted. At each of the numbered locations, there are interpretive signs to help further explain the restoration of key habitats and natural areas within that particular park.

We invite you to explore Roseville Parks and to learn more about the efforts to create and sustain community. Stay curious, explore, and learn.

Habitat Restorations & Where to Find Them

A broad range of habitat types are being restored and managed in Roseville Parks. Here are a few of those habitat types and where they are highlighted on interpretive signs (numbers on map to left).

Prairie/Oak Savanna - includes restoring historic remnant areas in northwestern Reservoir Woods (12).

Shoreline - of ponds and lakes, including controlling invasive plants, restoring shoreline erosion and installing native plants at Central Park Bennett Lake (5), Langton Lake (7), Oasis (9), and Willow Pond (15).

Forest/Oak Woodland - the most abundant habitat restoration type in Roseville Parks, including at Acorn (2), Langton Lake (7), Central Park (3), Cottontail (6), Materion (8), Oasis (9), Owasso Hills (10), Reservoir Woods (13), Villa (14), and Willow Pond (15).

Wetland - including restoring historic/ natural water levels, controlling invasive plants and planting natives at Acorn (2), Central HANC (4), Langton Lake (7), Owasso Hills (10), and Reservoir Woods (13).

Restoration Areas:

1. Roseville Natural Resources Restoration Program Map
2. Acorn Park
3. Central Park - HANC Woodland
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5. Central Park - Bennett Lake
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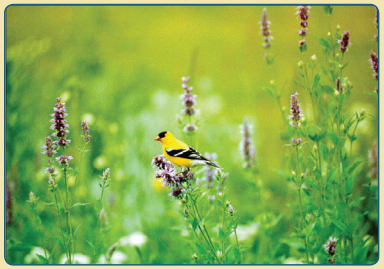
Restoration Types:



Prairie/Oak Restoration at Reservoir Woods



Shoreline Restoration at Willow Pond Park



Restoration of Wildlife Habitat



Oak Woodland and Forest Restoration at Acorn Park



Wetland Restoration at Langton Lake Park

Sign Created Summer 2019 *Roseville Parks & Recreation*

Acorn Park

Nature & Wildlife at Acorn Park

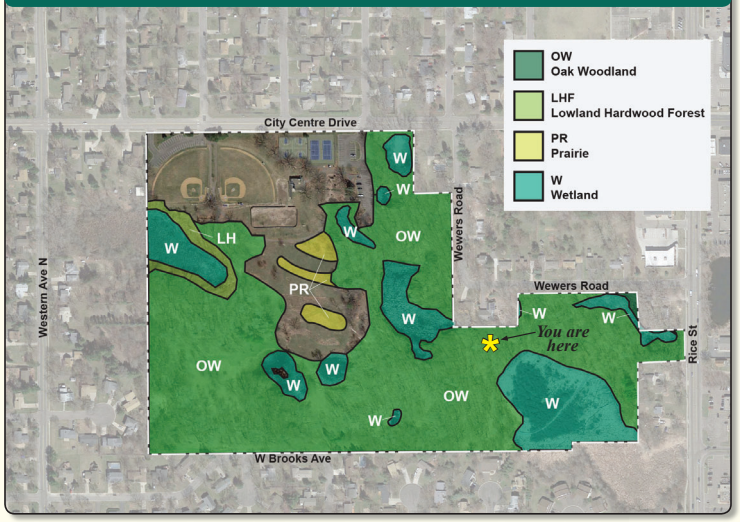
Acorn Park is being actively managed to improve natural areas, wildlife habitat and water quality. Historically, Acorn Park was oak savanna — a natural area type that was common in the region but is now quite rare due to factors such as invasion by nonnative plants like buckthorn.

Efforts to restore quality oak woodland and wetlands began in 2015, including control of invasive, nonnative brush, native seeding, and wetland restoration.

Even though Acorn Park is in an urban setting, it provides important habitat for a wide variety of wildlife, including species that need special conservation like wood thrush. Watch for chickadees all year long, including in mixed-species flocks of birds that forage in the woodland during winter months.



Natural Areas at Acorn Park





Look for these woodland plants.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Bennett Lake - Central Park

Restoring Shoreline

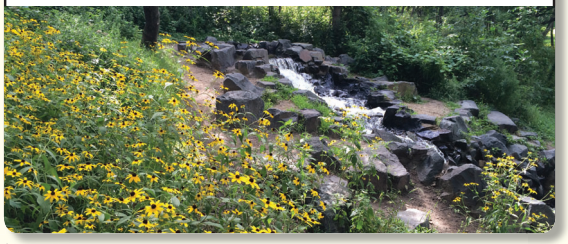
Bennett Lake is a 25-acre shallow lake that provides important aquatic habitat. Keeping the lake healthy for fish and wildlife means maintaining a natural buffer of shoreline vegetation. Native shoreline plants help filter pollutants — like phosphorus, sediment, and bacteria — that flow from the surrounding landscape during rain and snowmelt. Shoreline plants also anchor soil and help reduce erosion. The City of Roseville began restoring native plants along Bennett Lake's east and north shorelines in 2015. You might see some of the wetland plants listed below growing and blooming there.

Connecting Healthy Water and Healthy Land

Bennett Lake is part of a 721-acre watershed. Water flows over ground surfaces or through stormwater sewers within the watershed, eventually reaching the lake. Maintaining and improving natural vegetation in the watershed reduces polluted water flow into the lake. In addition to the shoreline restoration work in Central Park, woodland restoration activities have included removing nonnative, invasive shrubs - like common buckthorn, and seeding of native plants. Improved woodland habitat increases absorption and filtration and provides better habitat for wildlife.

Improving Water Quality

This man-made waterfall is a lake aeration system in disguise. Hidden within the waterfall is a pump that can move up to 60,000 gallons of water from Bennett Lake every hour. Water is pumped to the top of the waterfall, and from there it flows down about 60 feet over artificial rocks before dropping 10 feet to the lake. As the water flows, it absorbs oxygen from the air. The additional oxygen is critical to aquatic life in Bennett Lake, especially during winter months when snow and ice cover the shallow lake, limiting sunlight to aquatic vegetation and algae that produce oxygen through photosynthesis.





Common Buckthorn
Invasive Plant



Big Bluestem | *Black-eyed Susan* | *Blue Vervain* | *Culver's Root* | *Indiangrass* | *Ironweed* | *Lanceleaf Aster* | *New England Aster* | *Prairie Cordgrass* | *Sneezeweed* | *Swamp Milkweed* | *Virginia Mountain Mint*

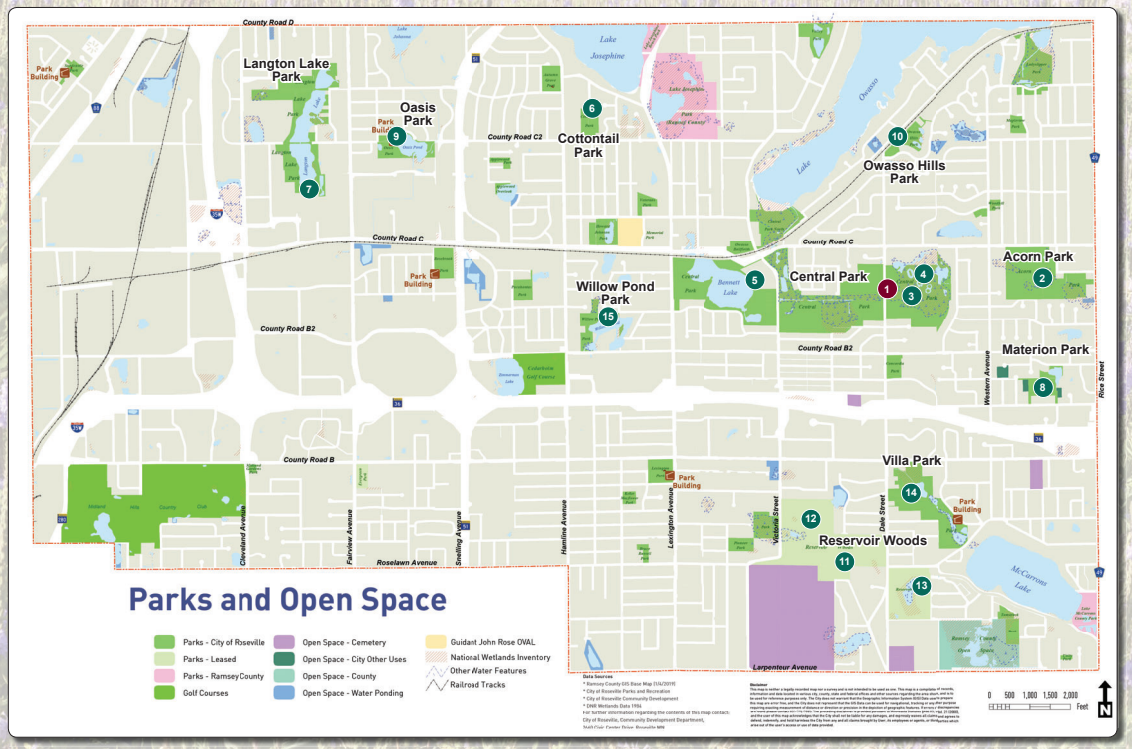
Look for these native plants along the lake shoreline.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Roseville Natural Resources Restoration Program



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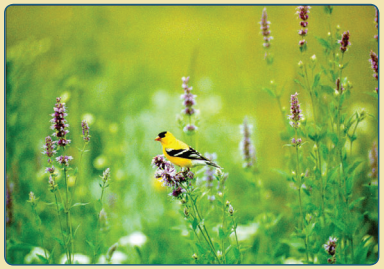
Restoration Types:



Prairie/Oak Restoration at Reservoir Woods



Shoreline Restoration at Willow Pond Park



Restoration of Wildlife Habitat



Oak Woodland and Forest Restoration at Acorn Park



Wetland Restoration at Langton Lake Park

Sign Created Summer 2019 *Roseville Parks & Recreation*

Central Park - HANC Woodland

A Gift of Wildflowers

Planted in honor of Margaret Kehr, this woodland wildflower garden provides blooms for pollinators from spring through fall. Take a walk along the garden paths and enjoy the wildflower blooms and the pollinators in action.

Busy as a Bee or a Beetle

Butterflies, bees, and wasps may be some of the first insects that come to mind when we think about pollinators. But did you know that flies and beetles are also pollinators? These insects pollinate some of the earliest blooming woodland flowers like false rue anemone and wild ginger. Wild ginger flowers are located low to the ground where beetles can walk from flower to flower.

Woodland Butterflies

Many butterfly caterpillars eat the leaves of woodland trees, and a few prefer to live in woodlands as adults too. Mourning cloaks, question marks, tiger swallowtails, and red admirals are a few butterflies you may see flying in the woods here in search of flowers or potential mates. Mourning cloaks find nooks and crannies to overwinter in woodlands as adult butterflies, so they are often the first butterflies you see in the spring.



Bergamot *Brown-eyed Susan* *Common Blue Violet* *Culver's Root* *Figwort*

Credit: Anne Clippinger

Look for these woodland butterflies.



Comma *Giant Swallowtail* *Mourning Cloak* *Red Admiral* *Question Mark* *Tiger Swallowtail*



Golden Alexander *Jack-in-the-Pulpit* *Jacob's Ladder* *Lady Fern* *Littleleaf Buttercup* *Meadow Rue* *Ostrich Fern* *Purple Giant Hyssop* *Solomon's Seal* *Virginia Waterleaf* *White Snakeroot* *Wild Columbine* *Wild Geranium* *Wild Ginger*

Look for these oak woodland plants in the area.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Central Park - HANC Wetland

The HANC Wetland

The area around this boardwalk is a special type of wetland known as a wet meadow. It is characterized by peat — a spongy soil made up of decomposing plant stems and leaves. Wet meadows have dense vegetation that provides excellent habitat for songbirds, but acts as a barrier to Canada geese.

As Roseville continued to grow and develop in the later part of the 1900s, increasing quantities of stormwater runoff were directed to the wetland, impacting nutrient levels and water levels. The dramatic influxes of water and nutrients have enabled invasive plants like purple loosestrife and reed canary grass to become established.



Catbird



Common Grackle

Watch for this wildlife in this wetland.



Song Sparrow



Common Yellowthroat



Chorus Frog

What is Biocontrol?

The invasive, nonnative plant purple loosestrife is common in the HANC wetland. Treating this plant with herbicides or mechanically removing it would cause damage to desirable plants. Instead, biological agents, or "biocontrols," have been released as the primary means of managing purple loosestrife. Biological control involves using living organisms to suppress invasive weeds and reduce their impact on the environment.



Purple Loosestrife

Root-boring Weevil

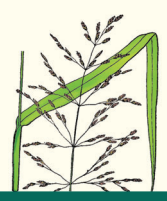


Learn more about purple loosestrife biocontrol:
http://www.dnr.state.mn.us/invasives/aquaticplants/purpleloosestrife/biocontrol.html



Reed Canary Grass

Invasive Plant



American Mannagrass



Arrowhead



Bluejoint Grass



Burreed



Cyperus-like Sedge



Lakebank Sedge



Northern Marsh Fern



Marsh Milkweed



Red-stemmed Aster



Sensitive Fern



Tussock Sedge

Look for these wetland plants.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Cottontail Park

Woodland Restoration

Just a hop, skip and a jump south of Lake Josephine, Cottontail Park is a woodland oasis that features the towering cottonwood trees you see here along with boxelder, black walnut, and silver maple. Elderberry shrubs and black raspberry patches are scattered throughout the woodland understory. Healthy woodlands usually have a canopy of tall trees with scattered shrubs below and a variety of shade-tolerant wildflowers, grasses, and sedges growing at ground level. You can typically see through the understory.

Over the last decade or so, common buckthorn, an invasive, nonnative shrub, invaded this woodland and created a thicket beneath the cottonwoods. The City of Roseville began woodland restoration here in 2016 to remove the nonnative, invasive shrubs and to seed native wildflowers and grasses.

Love the Shade but Happy in the Sun

Natural disturbances such as wind and ice storms create gaps in woodland tree canopies. The gaps allow sunlight to reach the ground below. A large canopy gap was formed south of this sign when a tree fell down near the trail. Although woodland plants grow well in shade, most will thrive in sunnier conditions as well and will even produce more flowers and seeds.

Woodland Wildlife

Woodlands support a variety of wildlife. More than 30 bird species have been observed at Cottontail Park and recorded by birders at eBird.org, a global database of bird observations. Black-capped chickadees, white-breasted nuthatches, woodpeckers, blue jays, American robins, and northern cardinals are a few species you may see here year-round. Magnolia warbler, chestnut-sided warbler, and Nashville warbler are a few songbirds that forage for food here as they migrate through in the spring and fall.



Cottonwood Leaf
Credit: Paul Nelson - MDC



American Robin



Black-capped Chickadee
Credit: Julie Zickefoose

Look for this woodland wildlife!



White Breasted Nuthatch



Downy Woodpecker

















Common Buckthorn
Invasive Plant

Black Raspberry ***Bottlebrush Grass*** ***Brown-eyed Susan*** ***Common Blue Violet*** ***Thimbleweed*** ***Virginia Wildrye*** ***Zigzag Goldenrod***

Look for these native plants.

Plant Illustrations: Mark Mueller

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Roseville Parks & Recreation

Langton Lake Park

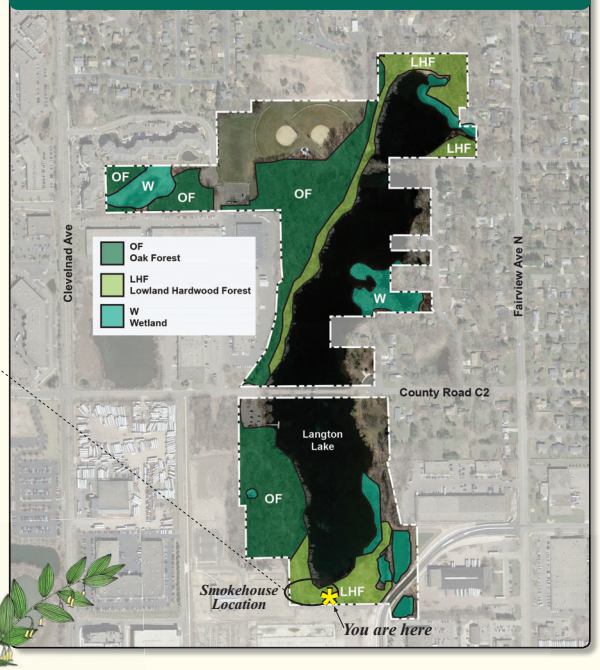
Langton Lake Smokehouse

Along a path at the south end of Langton Lake are the remains of a smokehouse built by William Schacht. Percy Johnstone, whose family later lived on this property, shared her recollections of this smokehouse. Smokehouses were necessary for preserving meat until about the early 20th century because of the lack of refrigeration. This smokehouse measured 9 feet x 8 feet and was tall enough for a person to stand inside. The walls were built of stones fitted together with mortar. The floor consisted of a bed of stones on which you could build a fire to cure meat. The smokehouse had a gabled wood roof with a smoke stack.

Langton Lake

At just 6 feet deep, Langton Lake provides habitat for bluegills, black crappies, and bullheads. Bluegills are stocked periodically by the Minnesota Department of Natural Resources. The fishing pier provides a good location to fish from, or you can fish along the paved path that splits the lake.

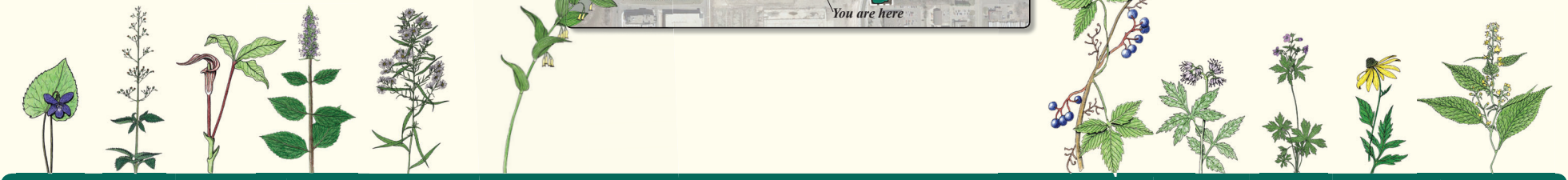
Natural Areas at Langton Lake Park



Habitat Restoration

Habitat restoration activities began in 2015 and are on-going at Langton Lake. Activities include controlling invasive shrubs, seeding native species, planting oak trees, and wetland restoration. These activities improve habitat for many plants and animals, including those shown here.





Common Blue Violet | *Figwort* | *Jack-in-the-pulpit* | *Purple Giant Hyssop* | *Smooth White Aster* | *Solomon's Seal* | *Virginia Creeper* | *Virginia Waterleaf* | *Wild Geranium* | *Wild Goldenglow* | *Zigzag Goldenrod*

Look for these native plants & animals in the park.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Materion Park

Woodland Restoration

Although most of the rolling terrain of Materion Park was used for agriculture in the past, oaks, green ash, black cherry, and American elm have re-established here alongside planted pines. Healthy woodlands typically have a canopy of tall trees with scattered shrubs below, and a variety of shade-tolerant wildflowers, grasses, and sedges growing at ground level. You can usually see through the understory. However, over the last decade or so, common buckthorn — an invasive, nonnative shrub — invaded this woodland and created a thicket beneath the trees. The City of Roseville began woodland restoration here in 2016 to remove nonnative, invasive shrubs and to seed native wildflowers and grasses.



Wildlife at Materion Park

Healthy woodlands support a variety of wildlife, from soil dwellers to treetop foragers. Birds and squirrels are some of the most active foragers that we see in woodland parks during the day. Some birds, like dark-eyed juncos, are only around in central Minnesota during the winter when you'll see them foraging on the ground for seeds in the leaf litter or on the snow. Downy woodpeckers may be observed hammering on trees to find insects living beneath the bark. Watch for blue jays and squirrels collecting acorns and stashing them in tree crevices or burying them in the ground to save for times when food is scarce.



Common Buckthorn

Invasive Plant



Black Raspberry · *Bottlebrush Grass* · *Brown-eyed Susan* · *Cleavers Bedstraw* · *Common Blue Violet* · *Golden Alexander* · *Gooseberry* · *Oak Sedge* · *Virginia Wildrye* · *White Snakeroot*

Credit: Anne Clippinger

Look for these oak woodland plants along the trail near the pond.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Oasis Park

Shoreline Restoration

Oasis Pond is a shallow water body that serves as important aquatic habitat for wildlife, including habitat provided by shoreline vegetation. Shorelines are often converted from natural buffers of native deep-rooted plants to shallow-rooted lawn grass or rock. However, our lakes and wetlands need healthy shorelines of native plants to maintain good water quality and aquatic habitat. Native shoreline plants help filter some of the pollutants that flow from the surrounding landscape during rain and snowmelt and help reduce shoreline erosion.

The City of Roseville began improving the quality of Oasis Pond in 2014 by restoring native plants along part of the north shoreline that is directly across the pond from this location. You might see some of the wildflowers and grasses listed below there.

Pond Life

Mallards and Canada geese are two of the most common large wildlife species we see using ponds and lakes in urban areas. But beneath the pond surface are millions of tiny aquatic animals that support a food web that includes dragonflies, damselflies, whirligig beetles, frogs, toads, and turtles.

Can you spot some of these species around the pond?



Dragonfly



Whirligig Beetle



Damselfly

Illustrations: MN DNR; G Mikel

Connecting Healthy Water & Healthy Land

In addition to aquatic and wetland habitat, Oasis Park protects oak woodland. The City of Roseville has begun restoring the woodland by seeding native woodland species and removing nonnative, invasive shrubs like common buckthorn.



Common Buckthorn

Amphibians like gray tree frogs and American toads depend on the pond and wetland habitats in the park to reproduce. After finding mates there in the spring, they lay their eggs in the water, where their tadpoles live and grow until they metamorphose into adults. As adults, they spend most of their lives eating insects in habitats like the woodland in Oasis Park.

Gray Tree Frog



Illustrations: Mark Mueller



Big Bluestem ***Black-eyed Susan*** ***Blue Vervain*** ***Culver's Root*** ***Indiangrass*** ***Prairie Cordgrass*** ***Swamp Milkweed*** ***Sneezeweed*** ***Virginia Mountain Mint***

Look for these native plants.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Owasso Hills Park

What is Oak Savanna

Before European settlement, half of the Midwest landscape was oak savanna. Savanna is a type of grassland characterized by having both trees and grasses. The trees are widely spaced allowing an abundant layer of grasses and flowers to grow underneath. Today, savanna is one of the rarest habitats in Minnesota and is imperiled globally. Much of the original savanna in the Midwest was converted to farmland or became forest due to fire suppression.

Oak savanna historically occurred in this area at Owasso Hills Park and around Lake Owasso. Although historically cleared of trees for agriculture, oak trees have re-established here. The City of Roseville is using tree thinning, invasive species removal, and prescribed fire to restore and maintain this natural area gem. You may see some of the native plants below growing with the oaks.

Invasive Plants

Some of the plant species brought to Minnesota for landscaping or gardening have spread into natural areas, displacing native plants and the animals that depend on them. Removing invasive plants from this park will help improve wildlife habitat. Common buckthorn, nonnative honeysuckle, amur maple, and black locust are a few woody invasive plants being removed from this park.



Amur Maple *Black Locust* *Common Buckthorn* *Honeysuckle*

Invasive Plants

Wildlife of Oak Savanna

Acorns produced by bur oak and pin oak trees in this park support an amazing diversity of wildlife. Gray squirrels, red squirrels, chipmunks, blue jays, turkeys, and deer are some of the more common wildlife in urban areas that dine on acorns. The leaves of the oak trees provide food for hundreds of insect species, including moth caterpillars that provide nutritious meals for songbirds that need lots of insects to raise their chicks. In which, songbirds need lots of insects to raise their chicks. Chickadees, for example, need over 6,000 caterpillars to raise a nest of five chicks!



Black-capped Chickadee
Credit: Julie Zickefoose



Pin Oak

Listen for the songs of chickadees as you walk through the park: "Chick a dee dee dee."



American Bellflower *Bergamot* *Bottlebrush Grass* *Brown-eyed Susan* *Common Blue Violet* *Red Baneberry* *Solomon's Seal* *Virginia Creeper* *Virginia Wildrye* *White Snakeroot*

Credit: Anne Clippinger

Look for these native plants beneath the oaks.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

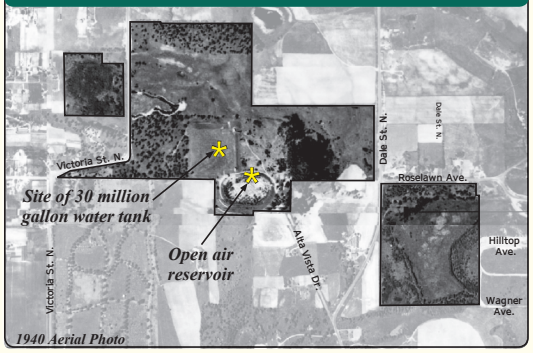
Roseville Parks & Recreation

Reservoir Woods - A History of Water Supply

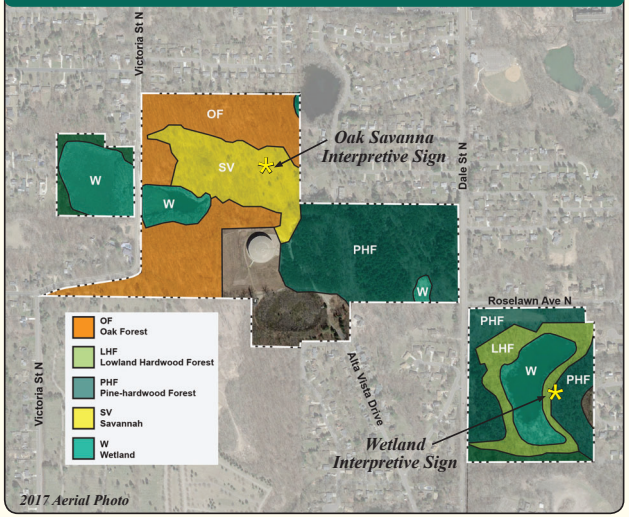
Welcome to Reservoir Woods

Reservoir Woods Park includes an interesting mix of human and natural history. The park hosts historic and current structures that supply drinking water to the Roseville area. It also supports prairie, oak savanna, planted pine woods and several wetlands. Look for additional interpretive signs highlighting natural features of the oak savanna on the northwest side of the park and the large wetland on the east side of the park.

Historic Features



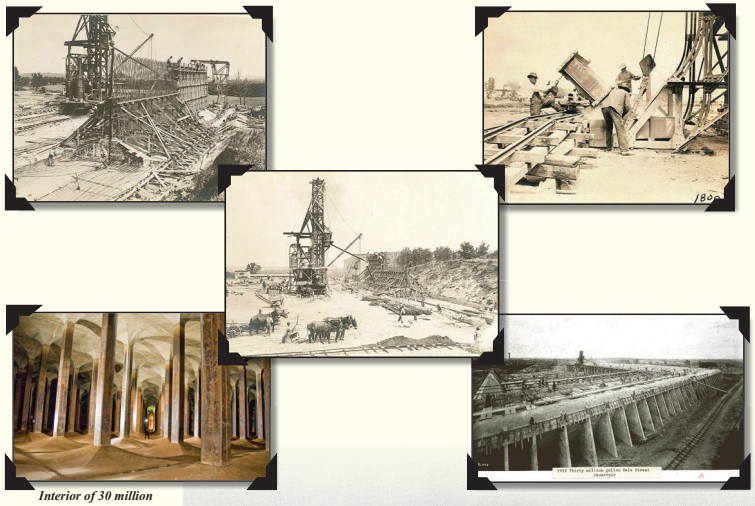
Natural Areas at Reservoir Woods



Water, Water Everywhere... and Quite a Lot to Drink

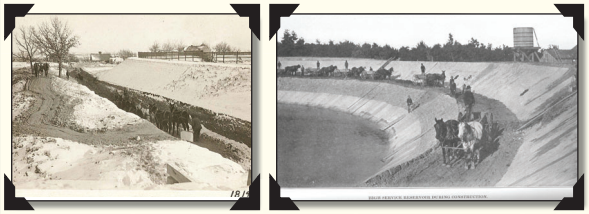
Reservoir Woods is named for the multiple water reservoirs that have been built at this site, starting in the late 1800s. The first reservoir built at this site was a 16-million-gallon, open-air reservoir located to your left (west). That reservoir was lined with stone blocks and had a small brick structure on the east end. The reservoir is now overgrown with brush, but the brick structure is still evident from the entrance trail. The second reservoir was an enclosed structure completed in 1919. That reservoir held 30 million gallons and was located just north of the open reservoir. It was demolished in 2010 and replaced by the 20-million-gallon concrete tank present today.

30 Million Gallon Water Tank



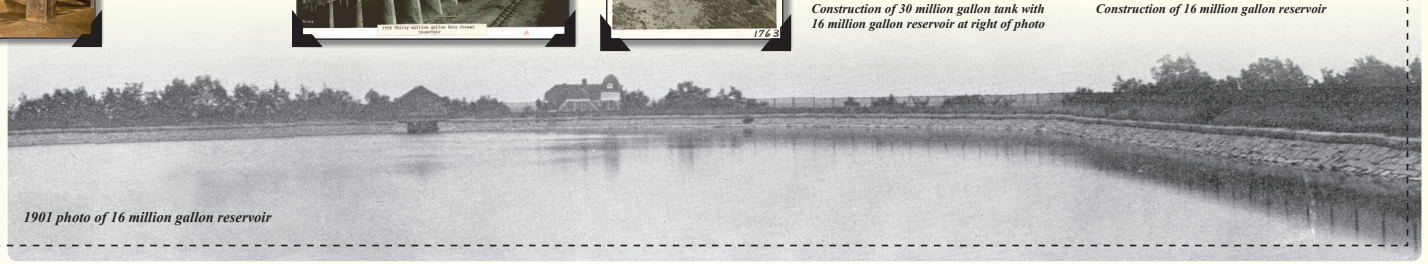
Interior of 30 million gallon tank

Dale Street Open Air Reservoir



Construction of 30 million gallon tank with 16 million gallon reservoir at right of photo

Construction of 16 million gallon reservoir



1901 photo of 16 million gallon reservoir

Sign Created Summer 2019

Roseville Parks & Recreation

Reservoir Woods - Wetland

What is a Wetland?

Minnesota has more than 10 million acres of wetlands. Covering almost 20% of the state, wetlands provide wildlife habitat, filter water, and decrease flooding by storing water when it rains and when snow melts. This natural wetland provides all these benefits, but has declined in habitat quality due to invasion by nonnative plants such as reed canary grass and common buckthorn.

In 2015, the City of Roseville began removing nonnative, invasive shrubs and controlling reed canary grass with the goal of replacing them with a diverse mix of native grasses, sedges, and wildflowers. You may see some of the plants below in bloom around the wetland.

Natural Areas at Reservoir Woods



2017 Aerial Photo

Wetland Wildlife

Listen for the calls of frogs and toads here each spring. Volunteers and researchers often visit wetlands like this one each year to estimate populations of these species. A strong chorus of frog calls, year after year, is a good sign they are thriving in a healthy wetland.

Take a closer look at the tree branches in the wetland. See if you can catch a glimpse of a painted turtle basking in the sun before it detects your presence and slips back into the water.

Look for these birds & insects



Common Yellowthroat



Wood Duck



Damselfly



Dragonfly





Reed Canary Grass *Common Buckthorn*

Invasive Plants

Look for these amphibians & reptiles



Chorus Frog



Leopard Frog



Wood Frog



Painted Turtle



Blue Flag Iris



Blue Joint Grass



Brown Fox Sedge



Cardinal Flower



Green Bulrush



Hardstem Bulrush



Meadow Sweet



Monkey Flower



New England Aster



Obedient Plant



Prairie Cordgrass



Softstem Bulrush



Swamp Milkweed



Tussock Sedge

Look for these native plants.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Reservoir Woods - Savanna

What is Oak Savanna

Before European settlement, half the Midwest landscape was oak savanna. Savanna is a type of grassland characterized by having both trees and grasses. The trees are widely spaced, allowing an abundant layer of grasses and flowers to grow underneath. Today, savanna is one of the rarest habitats in Minnesota and is imperiled globally. Much of the original savanna in the Midwest was converted to farmland or became forest due to fire suppression.

Oak savanna historically occurred in this area at Reservoir Woods, but has degraded due to tree and shrub encroachment in recent decades. The City of Roseville is using tree thinning and prescribed fire to restore this natural area gem.

Who's that singing?

Many species of wildlife communicate through singing to find a mate, identify their territory, and more. With a variety of habitats in the park, frog and toad calls can easily be confused for bird song.

Check out the calls of frogs and toads in Minnesota.

https://www.pca.state.mn.us/living-green/frogs-minnesota



American Goldfinch



Gray Tree Frog



Indigo Bunting



Bur Oak



Great Crested Flycatcher

Wildlife of Oak Savanna

Watch for wildlife here in the summer, such as indigo bunting, American goldfinch, and great crested flycatcher. While you are here, be sure to listen for gray tree frogs.

During the spring and fall, this oak savanna is critical habitat for migrating birds that stop to rest and refuel on their journeys. Restoring this savanna improves habitat quality for a variety of wildlife.



1940 Aerial Photo



Bergamont *Black-eyed Susan* *Butterfly Milkweed* *Canada Wildrye* *Golden Alexander* *Indiangrass* *Purple Prairie Clover* *Sideoats Grama Grass* *Rough Blazingstar* *Big Bluestem* *Sky Blue Aster* *Showy Goldenrod* *Stiff Goldenrod* *Tall Anemone* *Wild Rose* *Yellow Coneflower*

Look for these savanna plants.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Villa Park

Restoration

There is a lot of history found throughout the park. Local residents recount areas on the west side of what is now Villa Park as having a hog farm, and soap factory, as well as a part of one slope on the west side of the park being used as a ski slope

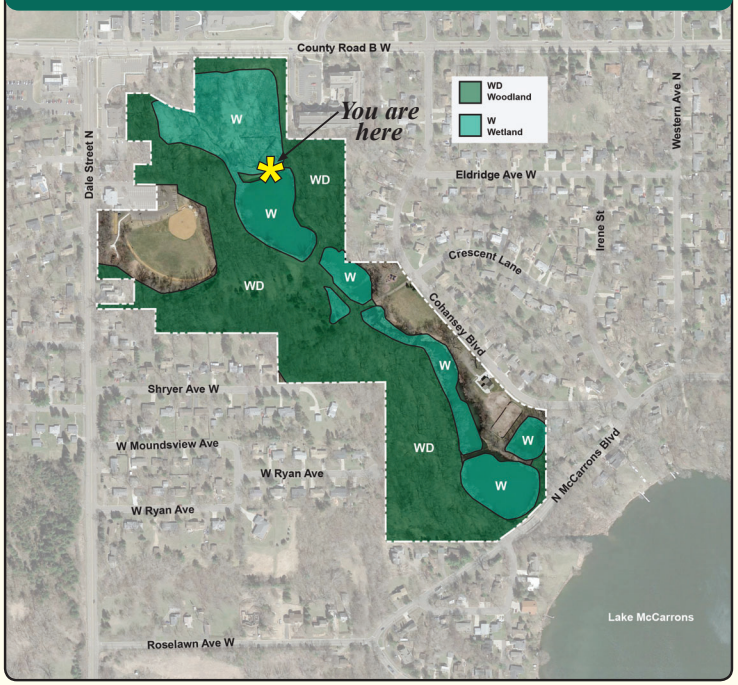
Since 2014, natural resources projects conducted in the park include pond development, woodland restoration, wetland restoration, and creating a rainwater collection and reuse system near the ball fields on the west side of the park.

Invasive Species

Historically, the area before you had several springs and seeps that kept the entire hillside wet, supporting wetland plants. Sometime after the mid-1800s, the wetlands were drained for farming using a network of clay tiles. In 2015, work began to restore water to the wetlands by breaking the drainage tiles and plugging ditches.

In addition to wetland restoration, the City of Roseville is working on protecting and restoring the natural resources in the park by controlling invasive species (like buckthorn and garlic mustard) and replacing them with native plants. These activities also help improve habitat and water quality for McCarrons Lake located southeast of the park.

Natural Areas at Villa Park





Common Buckthorn *Garlic Mustard*

Invasive Plants



Canada Anemone *Cleavers Bedstraw* *Great Blue Lobelia* *Marsh Milkweed* *Smooth White Aster* *Spotted Joe-pye* *Sneezeweed* *Virginia Wildrye*

Look for these wetland plants.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Willow Pond Park

Nature & Wildlife at Willow Pond Park

With its ponds, shoreline and woodland, Willow Pond Park provides valuable habitat for a variety of wildlife. Active improvement of shoreline and woodland habitats began here in 2015. Along the pond shoreline, invasive vegetation was removed and a diversity of native plants was seeded and planted. The shoreline restoration provides important habitat for birds, amphibians, and pollinators. In addition, the presence of taller vegetation makes the shoreline less attractive to Canada geese, which can cause water quality problems and conflicts with park users.

The woodland restoration work here began by treating invasive, nonnative shrubs and trees – mostly common buckthorn. Native grasses and flowers were seeded in woodland areas, and removal of invasive brush will occur periodically as part of maintenance.

Natural Areas at Willow Pond Park



2018 Aerial Photo



Common Buckthorn *Garlic Mustard*

Invasive Plants

Bergamot *Canada Anemone* *Golden Alexander* *Great Blue Lobelia* *Marsh Milkweed* *New England Aster* *Oxeye Sunflower* *Purple Giant Hyssop* *Smooth White Aster* *Spotted Joe-Pye Weed* *Sneezeweed* *Virginia Wildrye* *Yellow Coneflower*

Look for these native plants.

Plant Illustrations: Mark Mueller

Sign Created Summer 2019

Roseville Parks & Recreation

Natural Resources Renewal Program Review and Closeout

March 7, 2023

ROSEVILLE

Goals of the Natural Resources Renewal project

- Comprehensive Parks Plan
  - Vision
    - ***Environmental Stewardship***. We envision our parks as an opportunity to care for our wild places and creatures, where we have been entrusted to manage a resource so future generations benefit from the spirit of nature, and where nature is extended to the experience of every park visitor.
  - Goals & Policies
    - ***Natural resources management.*** Preserve significant natural resources, lakes, ponds, wetlands, open spaces, wooded areas, wildlife habitats, and trees as integral aspects of the parks system.
  - Outcomes
    - Preserve natural assets and significant environmental features...
    - Foster environmental awareness and promote and manage the presence of wildlife and wild places.
  - Long-term View
    - ***Environmental Stewardship.*** We envision parks as opportunities to care for our wild places and creatures, where we have been entrusted with a resource that must be managed and cared for so that future generations will benefit from the spirit of nature, its function, and its regenerative qualiti es, and where nature is extended to the experience of every park visitor.

Goals of the Natural Resources Renewal project

- Create native habitat/plant restoration in all parks
  - Restore and manage natural areas (e.g., forest, prairie, wetland)
  - Native plantings in developed parks
- 2013 System-wide natural resources evaluation
  - Identified potential projects
  - Assigned priority rankings
  - Identified potential outside funding sources
  - Served as the basis for implementation of the Park Renewal Program Natural Resources Restoration effort

Project Example – Reservoir Woods Prairie/Savanna

May 8, 1947 Air Photo
Approximate park boundary in red





Project Example – Reservoir Woods Prairie/Savanna





Project Example – Reservoir Woods Prairie/Savanna





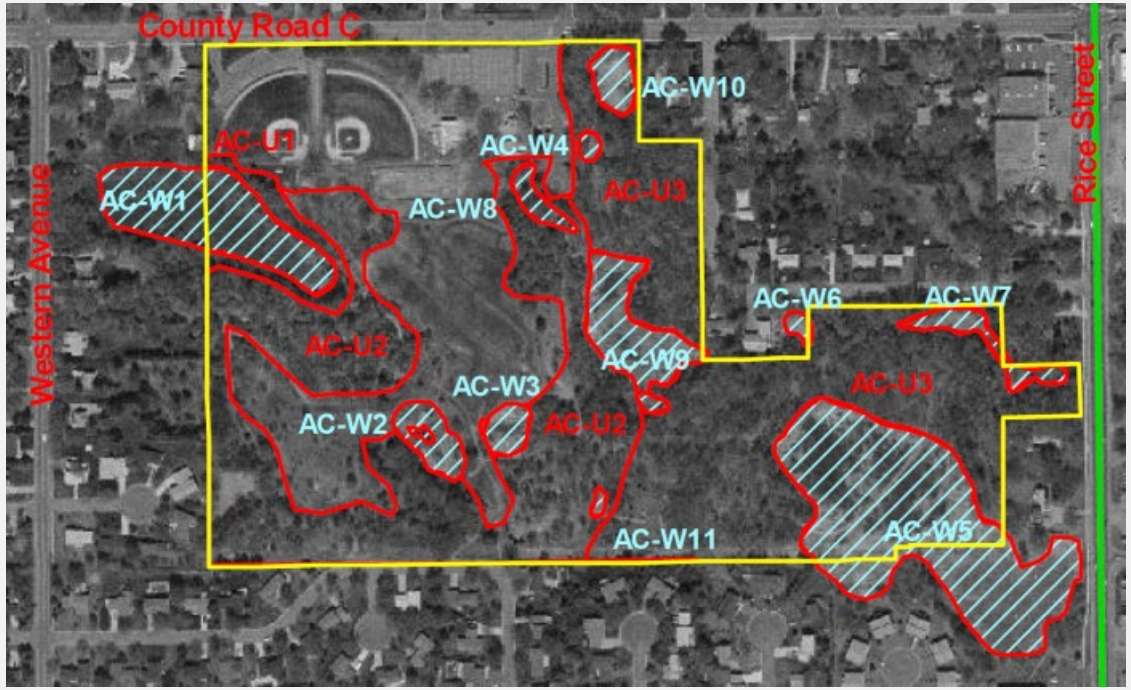
Project Example – Reservoir Woods Prairie/Savanna



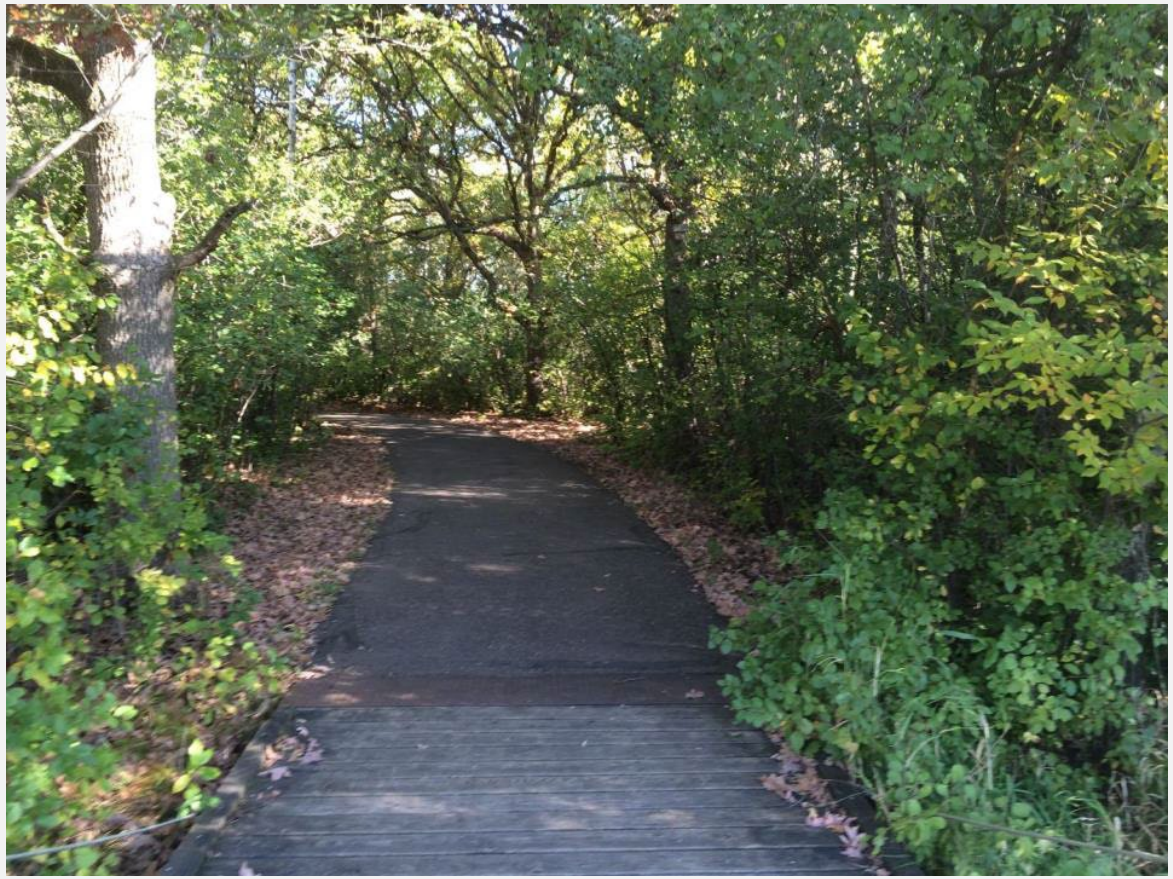



Project example – Acorn Park Oak Woodland





Project example – Acorn Park Oak Woodland





Project example – Willow Pond Park Shoreline Restoration







Project example – Bennett Lake Shoreline Restoration











Discussion