Long-Range Management Plan
for the City of Rosemount, Minnesota
Parks and Recreation Department

Mary Beth Factor, Charlie Goudreault,
Amy Hughes, Stephen Nelson and Eleva Potter
EnEd 4315 - Operations and Management
University of Minnesota Duluth

December 8, 2014
# TABLE OF CONTENTS

Title Page ........................................................................................................................................... i
Index .................................................................................................................................................... ii-iii
List of Tables ......................................................................................................................................... iv
List of Figures ......................................................................................................................................... v

## Introduction
Management Team .............................................................................................................................. 1
Resilient Communities Project ............................................................................................................... 1
City of Rosemount ................................................................................................................................ 2
Rosemount Parks and Recreation ........................................................................................................... 4
Mission Statement ................................................................................................................................. 5
Vision .................................................................................................................................................... 6
Significance ............................................................................................................................................ 7
Objectives .............................................................................................................................................. 7
Conclusion .............................................................................................................................................. 8

## Natural Features
Introduction ............................................................................................................................................ 9
Landforms and Geology ......................................................................................................................... 12
Soils ..................................................................................................................................................... 14
Hydrology ............................................................................................................................................. 15
Biological Features ............................................................................................................................... 17
Biomes of Minnesota ............................................................................................................................ 17
Flora of the Eastern Broadleaf Biome ................................................................................................. 18
Fauna of the Eastern Broadleaf Biome ............................................................................................... 21
Flora and Fauna of Schwarz Pond Park and Carroll’s Woods .......................................................... 25
Conclusion ............................................................................................................................................ 27

## Social Features
Introduction ............................................................................................................................................ 28
Historical Social Features ..................................................................................................................... 29
Contemporary Social Features ............................................................................................................ 32
City of Rosemount: Population and Demographics ......................................................................... 32
Zones of Use ....................................................................................................................................... 36
Public Institutional ............................................................................................................................... 38
Open Space ......................................................................................................................................... 39
Types of Uses ...................................................................................................................................... 41
Recreational Use ................................................................................................................................. 41
Recreational Programming .................................................................................................................. 41
Educational Use .................................................................................................................................. 42
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreational Resources</td>
<td>44</td>
</tr>
<tr>
<td>Amenities</td>
<td>44</td>
</tr>
<tr>
<td>Facilities</td>
<td>44</td>
</tr>
<tr>
<td>Trails</td>
<td>45</td>
</tr>
<tr>
<td>Staff</td>
<td>49</td>
</tr>
<tr>
<td>Limits of Acceptable Change &amp; Recreational Opportunity Spectrum</td>
<td>50</td>
</tr>
<tr>
<td>Concluding Remarks on Social Features</td>
<td>51</td>
</tr>
<tr>
<td>Recommendations</td>
<td>53</td>
</tr>
<tr>
<td>Introduction</td>
<td>53</td>
</tr>
<tr>
<td>Children’s Interaction with Nature</td>
<td>54</td>
</tr>
<tr>
<td>Short-term</td>
<td>55</td>
</tr>
<tr>
<td>Long-term</td>
<td>64</td>
</tr>
<tr>
<td>Opportunities for Underserved Populations</td>
<td>69</td>
</tr>
<tr>
<td>Short-term</td>
<td>70</td>
</tr>
<tr>
<td>Long-term</td>
<td>75</td>
</tr>
<tr>
<td>Concluding Remarks</td>
<td>80</td>
</tr>
<tr>
<td>References</td>
<td>81</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table

1. Flora of the “Natural Communities” in Rosemount, Minnesota ..................20
2. Rosemount Demographics of Race ..........................................................35
3. Rosemount Park Classification System ....................................................40
LIST OF FIGURES

Figure

1. Metro Area of Minneapolis-Saint Paul Minnesota Map ........................................... 3
2. Carroll’s Woods Park and Schwarz Pond Park Map ............................................. 5
3. Ecological Land Classification of Minnesota ....................................................... 10
4. Ecological Subsections of Dakota County, Minnesota ........................................ 11
5. Extent of the Superior Lobe .............................................................................. 12
6. Breakdown of Different Soil Types .................................................................... 15
7. Water bodies within the Rosemount Area .......................................................... 16
8. Growth Estimate of Rosemount Minnesota ....................................................... 32
9. Age Demographics of Rosemount Minnesota ..................................................... 34
10. Rosemount Land Use Comprehensive Map ...................................................... 37
11. Public and Open Space Land Use Comprehensive Map .................................... 38
12. Schwarz Pond and Carroll’s Woods Trail Map ............................................... 41
13. Carroll’s Woods Interpretive Sign ..................................................................... 43
14. Fishing Pier & Fishing Derby ................................................................---------- 45
15. Carroll’s Woods and Schwarz Pond Bituminous Trail Map ............................... 46
16. Schwarz Pond Bituminous Pathway ................................................................... 46
17. Carroll’s Woods Cobbler Avenue Entrance ..................................................... 48
18. Schwarz Pond Park Playground ....................................................................... 56
19. Hartley Nature Center Playscape ....................................................................... 57
20. Log Stumps from Natural Playgrounds Company ............................................. 57
21. Log Stumps from Hartley Nature Center ........................................................... 57
22. Wood Lake Nature Center ............................................................................... 67
INTRODUCTION

Management Team

As members of the Operations and Management course through the University of Minnesota Duluth Environmental and Outdoor Education Program, we are working with the Resilient Communities Project in partnership with the City of Rosemount Parks and Recreation Department to create a long-range plan to implement nature-based programming for community members and recreational opportunities for underserved populations. Through the construction of this management plan, we will address the mission, vision, significance, objectives, natural features, social features, and resources, of the Parks and Recreation department, with a goal of creating sustainable nature based programming that benefits the community. However, we will first acknowledge the different organizations involved in this collaboration, along with their respective roles.

Resilient Communities Project

The Resilient Communities Project (RCP) is a state initiative in Minnesota, created by the University of Minnesota’s Sustainability Faculty Network. Inspired by a similar program created by the University of Oregon's Sustainable City Year Program, RCP directly responds to the “growing need to find sustainability solutions to pressing issues” that various communities face (Schively-Slotterback & Greco, 2013). As a cross-disciplinary program, RCP provides matchmaking opportunities for local sustainability issues and a corresponding graduate or professional university course (Schively-Slotterback & Greco, 2013). Their mission is to “connect communities in Minnesota with wide-ranging expertise of students to address pressing
local issues in ways that advance sustainability and resilience” (RCP, 2014). After a competitive request process from communities (whether a city, county, common transportation, or watershed) across the state, RCP chooses one Minnesota community to work with for one year. Students and faculty of graduate courses are then expected to complete the project as part of regular coursework, where the final presentations are to produce sustainable solutions that will be delivered and implemented to benefit the community (Greco, 2013).

**City of Rosemount**

The 2014-2015 RCP partner is Rosemount, Minnesota, which is located 15 miles south of the Minneapolis-Saint Paul metropolitan area (See Figure 1). It is a suburb of approximately 36 square miles and an estimated population of 23,000 people. Citizens of Rosemount remark positively on the advantages of living in a small town with a big city atmosphere, making it an “excellent environment to live and work” (City of Rosemount, 2014). The presence of industry, agriculture, undeveloped land, easy access to urban life, quality education and friendly residents makes Rosemount a unique and fast-growing residential community (City of Rosemount, 2014).

As a partner of this year's Resilient Communities Project, Rosemount has addressed 38 sustainability issues in projects such as:

- Housing
- Communications and Public Engagement
- Parks, Open Space and Recreation
  - **Recreational Programming for Children’s Interaction with Nature**
  - **Recreational Opportunities for Underserved Populations**
• Energy and Green Technology

• Water Management

• Transportation and Land Use

• Economic Development (RCP, 2014)

Figure 1. Metro area of Minneapolis-Saint Paul Minnesota. Rosemount is marked in red. Image adapted from Google Maps™.
Out of these 38 sustainability issues, our management team has identified two specific tasks as our scope. They both fall under the category of Parks, Open Space, and Recreation. Therefore, we will be working directly with the Rosemount Parks and Recreation Department.

**Rosemount Parks and Recreation Department**

The Parks and Recreation Department is responsible for providing recreational programming to the citizens of Rosemount. The Department oversees twenty-seven different parks and facilities. Although the parks and facilities within the city of Rosemount have a predominant focus on athletics, such as baseball and soccer fields, there are a few parks that have nature areas implemented into their design. Two of these areas that have nature areas are Schwarz Pond and Carroll’s Woods. Along with providing and maintaining the different parks, the parks and recreation department also provides a variety of programming and events. There are a variety of program offerings for the citizens of Rosemount. Some examples include holiday themed programs, such as breakfast with Santa, Science Explorers’ youth activities, movies in the park, and learning how to ice skate. These are great programs that are offered by the parks and recreation department, but there has been an issue identified with regards to a lack of nature-based recreation for youth. Providing nature play opportunities will address an issue described as “nature-deficit” by Richard Louv, in his book Last Child in the Woods. The benefits of recreating and playing in nature have strong benefits on the health of an individual. The lack of nature interaction has a direct relationship with negative trends such as “childhood obesity, attention disorders, and depression” (Louv 2013). Therefore, it has been addressed by the Parks and Recreation Department as a goal to assess, plan for, and implement nature based play into
their programming. Within the facilities and parks, Schwarz Pond and Carroll’s Woods have been identified as the two primary parks where nature based recreation will first be implemented.

![Figure 2. Carroll’s Woods Park and Schwarz Pond Park. Park boundaries are filled with green. Image adapted from Google Maps™.](image)

**Mission Statement**

An organization’s mission statement is essential and is the strong foundation that any successful institution builds its structure on. The mission statement is concise but it speaks volumes about the values of an organization, what they strive to do and who they strive to do it for. Therefore, the first step in the process of developing any future plans of an organization is to make sure that the mission statement is both clearly established and known by everyone in the
organization, as well as anyone involved in the planning process. We will use the mission statement as our guideline for a long-range management plan. It will be the determining factor of what is included in the plan. The mission statement is constantly under analysis. As an organization grows and changes, the mission may change as well. We will be utilizing and following the current mission of the Parks and Recreation Department which states,

The purpose of the Rosemount Park System is to provide in as cost effective a manner as possible, a comprehensive, balanced, well-maintained system of parks, natural/open spaces, trails and leisure-oriented activities/programs for the City residents to use and enjoy ("City of Rosemount", 2008).

Vision

The City of Rosemount Parks and Recreation Department will create and implement recreational, educational and adventure programming to serve the members of the Rosemount community. The experiences will serve to build character, create community cohesion and make Rosemount a healthier and happier place to live (Adapted from City of Rosemount, Recreational Programming, 2014). As population demographics change in the City of Rosemount, these programs will serve to make a more inclusive and cohesive community and improve the quality of life for residents. Rosemount citizens will be able to learn more about the natural world in which they live and will become stewards of their city and natural surroundings.
Significance

The City of Rosemount Parks and Recreation department provides an “essential service, one that can positively affect health, environment, economy and quality of life throughout the City” (City of Rosemount, 2014). This significance statement is essential and functional because it addresses the three different domains of sustainability; social, environmental, and economical. The Rosemount Parks and Recreation department is necessary because its mission is to provide all demographics of Rosemount an opportunity to participate in life-fulfilling programs. To include, recreating in nature-based programs that promote healthy living and stewardship of the community. With a predicted significant increase in the population of the city of Rosemount, the Parks and Recreation department will be a vital asset to make sure that all populations are given an opportunity to participate in these life-fulfilling activities, which will create an inclusive and engaged community. We will address the following objectives to fulfill the mission, vision, and significance that were previously described.

Objectives

- Assess the current park system as compared to the nature-based approach
- Determine what components are lacking and can be enhanced.
- Recommend future park improvements in existing parks and planning for future parks.
- Design of recreational systems that will also address health and activity to reduce childhood obesity is encouraged.
- Connect people from all walks of life to nature (Adapted from City of Rosemount, Recreational Programming, 2014).
Conclusion

As we move forward with our environmental education plan we will focus on providing programming for children and underserved communities. We will make recommendations regarding parks and natural areas near the Community Center, local schools and the library through implementation of the mission, vision and objectives that have been described. The next topic that will be addressed is the natural and social features that surround the Schwarz Pond and Carroll's Woods parks.
Introduction

Rosemount Minnesota supports unique biological and physical features that influence the characteristic of the area. Features are presented both regionally, to give context, and locally to give a greater depth of assessment of the area. The physical features of the area include: geology, soils, hydrology, and climate. The biological features of the area include: forest and flora resources, and faunal resources.

Rosemount Minnesota, located in Dakota County, lies within the Eastern Broadleaf Forest Province, which spans nearly 12 million acres of the central and southeastern parts of the state. The southeastern parts of the state, where Dakota County is located, serves as a transition between semi-arid portions of the state that were historically prairie. Precipitation in the southeastern portion of the province ranges approximately 35 inches (90cm), with temperatures averaging 46°F (8°C) (Minnesota DNR, “Eastern Broadleaf Province”, 2014).

As determined by the Minnesota Department of Natural Resources Ecological Land Classification Program. Each ecological categorical sections are defined by origin of glacial deposits, regional elevation, distribution of plants, and regional climate. Dakota County resides primarily within the Minnesota and NE Iowa Morainal, with the southern portion expanding slightly into the Paleozoic Plateau (See Figure 3). Refer to Figure 4 for further break down the ecological section into subsections, Dakota County is situated at a crossroads of 4 subsections: Rochester Plateau, Big Woods, St. Paul Baldwin Plains and Moraines, and Oak Savanna (Minnesota DNR, “Eastern Broadleaf Province”, 2014). Within Dakota County, Rosemount is primarily oak savanna, oak woodlands, various wetlands, and small lakes throughout the city.

**Figure 3.** Map outlining the ecological sections within Minnesota as defined by the Minnesota Department of Natural Resources. Dakota County is shaded in brown within these subsections. Adapted from “Ecological Sections,” by Division of Forestry: Ecological Land Classification Program, 1999, *Minnesota Department of Natural Resources*. 
The purpose of this section of the long-range management plan is to explore these two category of features to better understand the interrelationships each plays on the other. Natural features play a significant role to the types of use, both past and present, within the area; and can greatly affect the type of educational programming offered by the Rosemount Parks and Recreation Department, specifically concerning Schwarz Pond and Carroll’s Woods. As a management team keeping these key considerations in mind, we will analyze how these features affect the current users of the area as we make informed management recommendations within the final component of this plan.
Landforms and Geology

Rosemount has a very interesting geological past, which was determined by the active glaciers in the area. Rosemount was at the St. Croix terminal moraine of The Superior lobe, which means it was at the end point of a glacier. The Superior Lobe stretched from the northeast of Minnesota down through Iowa. As shown in the Figure 5, there are large deposits of gravel and sand at the terminal moraine, which makes up most of the geology in the Rosemount area.

Figure 5. Extent of the Superior Lobe Glacier over Minnesota. Image adapted from Minnesota DNR, Natural History, 2014.
“The Rainy and Superior Lobes came out of the northeast and advanced, sometimes with and sometimes independently of the Wadena lobe. Their last advance left a coarse-textured till containing abundant fragments of basalts, gabbro, granite, iron formation, red sandstone, slate, and greenstone strewn across the northeastern half of Minnesota and as far south as the Twin Cities” (Minnesota DNR, Natural History, 2014).

Let’s take a step back and define a glacier and geological feature that results from it. Glaciers began about 2 million year ago in the Quaternary Period (2 million years ago to present), which determined the current climate and season change that we see today. Minnesota had many sheets retreat and advance during this period and the deposits and landforms that we see today are a result of this glacial activity.

The Laurentian Ice Sheet was what advanced down to Minnesota and southward. During some colder parts of the Ice Age, the glacier move down through the current states of Kansas, Illinois and Wisconsin. This large, slow moving body of ice that moves due to the melting water that is beneath the glacier. This large sheet of ice and snow is due to the large mounts of accumulation that does not melt before the cold season comes again. Glaciers would retreat during warmer season and advance during the colder ones.

Glacial erosion is what makes the current landforms that we see around the Rosemount and Twin Cities area. Glaciers when moving back and forth would cut and grind at softer materials while scarring hard materials such as granite. Rosemount and the surrounding area is on the softer side of the spectrum and is mostly made up of sandy plains due to the are of deposition that it resides in this area. This movement was what caused zones of deposition which area areas near terminal and lateral moraines. This is what we see in Rosemount since it was at
the end of a terminal moraine. In the northern part of Rosemount, there are many small ponds, which are a result of large ice chunks that were left by the glacier. The southern part is the prairie and wooded region that was used eventually for farming by the pioneers of that area.

Soils

“The Rosemount series consists of dark colored to moderately dark colored, somewhat excessively drained prairie soils that developed from loose sandy, gravelly, reddish-brown drift of Cary age. The parent material was like that of Scandia soils, which developed under forest and is consequently lighter colored than the Rosemount soils. Rosemount soils are scattered throughout that part of the county where the Cary till is exposed. Normally, the individual areas are not large. The soils are not highly productive, because they are sandy and gravelly” (Soil Survey, Dakota County Minnesota, 2014)

Refer to Figure 6 below for a closer examination of soil types and percentages. Sandy loam retains components of clay and silt, but contains a higher percentage of sand. This soil type is recognized as positive for plant growth and farming as it drains very well. A good example of this is the southern part or Rosemount where there is a lot of farm and agricultural land.
Figure 6. Breakdown of different soil types. Sandy loam contains mostly sand at 50 to 80 percent. Image adapted from soilsensor.com.

Hydrology

Mississippi River

The Mississippi River serves two separate and distinct water surface uses: transportation and recreation. Commercial navigation co-exists with fishing, boating and hunting. A 9-foot navigation channel is maintained for the river's barge traffic. Improvement in water quality has also resulted in an increase in the recreational use of the river (“City of Rosemount”, 2014). The Mississippi River was a main drainage for the glaciers in the area and that was what carved the Mississippi corridor. This affects the creation of Schwarz Pond, as many pothole lakes, ponds,
and drainage areas within the city of Rosemount are the results of the carving this corridor and the eventual drainage from glacial activity.

**Wetlands**

The National Wetlands Inventory (NWI) identifies all wetlands in the Critical Area. With the exception of a few pocket wetlands, all of the wetlands in the Critical Area are located within the Mississippi River floodplain (“City of Rosemount”, 2014). The small pothole lakes and ponds in the northern part of the Rosemount area are from chunks of ice being left from the glacial activity, thus creating a significant number of small water sources.

![Figure 7](image.png)

*Figure 7.* Water bodies within the Rosemount area. The area circled depicts an example of the pothole lakes resulting from glacial activity and drainage. Image adapted from Google Maps™.
Biological Features

Minnesota’s biology is largely influenced by the area’s natural history and geology. At the center of four ecological provinces, or biomes—the Laurentian Mixed Forest, Tallgrass Aspen Parkland, the Eastern Broadleaf Forest, and the Prairie Parkland—Minnesota is home to a convergence of different habitats. ("Ecological classifications," 2014)

Biomes of Minnesota

The Laurentian Mixed Forest of the northeastern region dominated by pine (Genus *Pinus*), black spruce (*Picea mariana*), northern white cedar (*Thuja occidentalis*), balsam fir (*Abies balsamea*), birch (Genus *Betula*), maple (Genus *Acer*), and basswood (Genus *Tilia*). Glaciers sculpted this biome, leaving only a thin deposit of glacial sediment over the bedrock. The dense forests in this biome offer habitat for animals such as the gray wolf (*Canis lupus*), moose (*Alces alces*), American black bear (*Ursus americanus*), boreal chickadee (*Poecile hudsonicus*), and wood frog (*Lithobates sylvaticus*). ("Ecological classifications," 2014)

The Tallgrass Aspen Parkland biome in the northwestern region is characterized by the open aspen savanna (Genus *Populus*) and tallgrass prairie vegetation, such as wiregrass sedge (*Cyperaceae oligosperma*), small white lady’s slipper (*Cypripedium candidum*), and little bluestem (*Schizachyrium scoparium*). The receding of Glacial Lake Agassiz some ten thousand years ago left behind large, flat plains for strong dry winds to blow through, providing habitat for the sandhill crane (*Grus canadensis*), American elk (*Cervus canadensis*), and American black bear (*Ursus americanus*). ("Ecological classifications," 2014)
The Prairie Parkland, along the western and southwestern region of Minnesota, is home to fertile prairies of flora such as the big bluestem (*Andropogon gerardi*), blazing star (*Chamaelirium luteum*), purple prairie clover (*Dalea purpurea*), prairie dropseed (*Sporobolus heterolepis*), and leadplant (*Amorpha canescens*). Uninterrupted by trees, this parkland is home to fauna such as the upland sandpiper (*Bartramia longicauda*), pocket gopher (Family Geomyidae), and badger (*Taxidea taxus*) ("Ecological classifications," 2014).

The Eastern Broadleaf Forest biome runs in a narrow band through the center of the state and continues to the southeastern corner. This biome’s glacial history left behind glacial ridges, sand plains, kames, and kettle lakes, which today is suitable habitat for many hardwoods and prairie vegetation, as well as a variety of fauna. This biome will be our main area of focus, as the Dakota County, Minnesota lies within this ecological province.

**Flora of the Eastern Broadleaf Biome**

Within the Eastern Broadleaf biome, there are seven subsections identified by the Minnesota DNR’s Ecological Land Classification Program that are unique in not only natural history and climate, but also in ecological features. Dakota County, Minnesota contains four of these subsections: Rochester Plateau, Big Woods, St. Paul-Baldwin Plains and Moraines, and Oak Savanna (Minnesota DNR, “Eastern Broadleaf Province,” 2014). Of these four subsections, there are three “natural communities:” floodplain forest, dry prairie, and oak forest. These natural communities are “areas containing groups of plants...that have not been significantly altered by humans. They are examples of what the area looked like in the mid-1800’s” (*Mississippi River Critical*, 2007, p. 7). These natural communities are important to note of this area, as today much of the natural area has been disturbed due to urban development and agriculture. Similarly,
natural rotations of wildfires were common throughout these ranges of habitat, but due to urban
development these areas have gone uninterrupted by this natural process. Small areas today are
still present that reflect these natural communities, and are important sources of knowledge and
See Table 1 for the flora of natural communities of Dakota County.
Table 1. Flora of “natural communities” in Rosemount, Minnesota. (Adapted from the City of Rosemount, Minnesota’s Mississippi River Critical Corridor Area Plan, 2009)

<table>
<thead>
<tr>
<th>Natural Communities Type</th>
<th>Floodplain Forest</th>
<th>Dry Prairie</th>
<th>Oak Forest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flora</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canopy Layer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Green ash (<em>Fraxinus pennsylvanica</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cottonwood (<em>Populus deltoides</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Peach-leaved willow (<em>Salix amygdaloides</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Silver maple (<em>Acer saccharinum</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- American basswood (<em>Tilia americana</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Northern red oak (<em>Quercus rubra</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Bur oak (<em>Quercus macrocarpa</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Northern pin oak (<em>Quercus ellipsoidalis</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- White oak (<em>Quercus alba</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subcanopy &amp; shrub Layer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Canada moonseed (<em>Menispermum canadense</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Wild grape (<em>Vitis riparia</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- American hazelnut (<em>Carylus americana</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Gray dogwood (<em>Cornus racemosa</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Ironwood (<em>Ostrya virginiana</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Paper birch (<em>Betula papyrifera</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sugar maple (<em>Acer saccharum</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground Layer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Honewort (<em>Trinia glauca</em>) (MI Corridor)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Tall coneflower (<em>Rudbeckia laciniata</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Wood nettle (<em>Laportea canadensis</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Big bluestem (<em>Andropogon gerardi</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Bird-foot violet (<em>Viola pedata</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Green milkweed (<em>Asclepias viridis</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hairy grama (<em>Bouteloua hirsuta</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Little bluestem (<em>Schizachyrium scoparium</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Pasque-flower (<em>Pulsatilla vulgaris</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Schweinitz’s nut-sedge (<em>Genus Cyperaceae</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Side-oats grama (<em>Bouteloua curtipendula</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Stiff sunflower (<em>Helianthus pauciflorus</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Western spiderwort (<em>Tradescantia occidentalis</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Pointed-leaved tick-trefoil (<em>Desmodium glutinosum</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Shining bedstraw (<em>Galium concinnum</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sweet cicely (<em>Osmorhiza claytonii</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- White snakeroot (<em>Ageratina altissima</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Wild geranium (<em>Geranium maculatum</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fauna of the Eastern Broadleaf biome

The Eastern Broadleaf biome within Dakota County is home to a variety of resident and migratory urban wildlife. Despite its proximity to the metropolitan area, many species of animals can be found here, though many are threatened due to habitat loss from urban development and agriculture. Animals with an asterix (*) are those animals listed in the Rare Species Guide that are endangered, threatened, or of special concern (MN DNR). The categories of animal species are listed below and are either residents or passing migrants within Rosemount. The fauna within Schwarz Pond Park and Carroll’s Woods will vary as many of these species will inhabit areas that are conducive to their survival. Therefore within the two parks, the frequency of sightings will range between the species listed.

Birds

• Miscellaneous Birds
  
  Acadian Flycatcher (*Empidonax virescens*)
  American coot (*Fulica americana*)
  Bald eagle (*Haliaeetus leucocephalus*)
  Canada goose (*Branta canadensis*)
  Cerulean warbler (*Setophaga cerulea*)
  Common loon (*Gavia immer*)
  Common snipe (*Gallinago gallinago*)
  Eastern bluebird (*Sialia sialis*)
  Great egret (*Ardea alba*)
  Loggerhead shrike (*Lanius ludovicianus*)
  Mourning dove (*Zenaida macroura*)
  Northern cardinal (*Carinalis cardinalis*)
Ring-necked pheasant (*Phasianus colchicus*)
Sandhill crane (*Grus canadensis*)
Trumpeter swan (*Bygnus buccinator*)*
Wild turkey (*Meleagris gallopavo*)

• **Ducks**
  Blue-winged teal (*Anas discors*)
  Mallard (*Anas playrhynchos*)
  Ring-necked duck (*Aythya collaris*)
  Wood duck (*Aix sponsa*)

• **Grouse**
  Ruffed grouse (*Bonasa umbellus*)

• **Hawks**
  Broad-winged hawk (*Buteo platypterus*)
  Red-shouldered hawk (*Buteo lineatus*)
  Red-tailed hawk (*Buteo jamaicensis*)

• **Owls**
  Barn owl (*Tyto alba*)
  Barred owl (*Strix varia*)
  Eastern screech owl (*Otus asio*)
  Great horned owl (*Bubo virginianus*)
  Long-eared owl (*Asio otus*)

*Mammals*

  Badger (*Taxidea taxus*)
  Chipmunk (*Tamias minimus*)
  Coyote (*Canis latrans*) - sited in Rosemount
  Eastern cottontail (*Sylvilagus floridanus*)
  Eastern pipistrelle bat (*Perimyotis subflavus*)
  Fox squirrel (*Sciurus niger*)
  Gray fox (*Urocyon cinereoargenteus*)
Gray squirrel (*Sciurus carolinensis*)
Mink (*Neovison vison*)
Muskrat (*Ondatra zibethicus*)
Porcupine (*Erethizon dorsatum*)
Raccoon (*Procyon lotor*)
Red fox (*Vulpes vulpes*)
Red squirrel (*Tamiasciurus hudsonicus*)
River otter (*Lontra canadensis*)
Shrew (Order Soricomorpha) *RSG
Striped skunk (*Mephitis mephitis*)
Thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*)
Virginia opossum (*Didelphis virginiana*)
White-tailed deer (*Odocoileus virginianus*)
White-tailed jackrabbit (*Lepus townsendii*)

*Reptiles and Amphibians*

- **Toads**
  - American toad (*Bufo americanus*)

- **Treefrogs**
  - Cope’s gray treefrog (*Hyla chrysoscelis*)
  - Gray treefrog (*Hyla versicolor*)
  - Spring peeper (*Pseudacris crucifer*)
  - Western chorus frog (*Pseudacris triseriata*)

- **True frogs**
  - Green frog (*Rana clamitans*)
  - Northern leopard frog (*Rana pipiens*)
  - Pickerel frog (*Rana palustris*)
  - Wood frog (*Rana sylvatica*)

- **Turtles**
  - Blanding’s turtle (*Emys blandingii*)*
Painted turtle (*Chrysemys picta*)

Wood turtle (*Glyptemys insculpta*)

- Lizards
  - Prairie skink (*Plestiodon septentrionalis*)
  - Six-lined racerunner (*Aspidoscelis sexlineata*)*

- Snakes
  - Brown snake (*Storeria dekayi*)
  - Gophersnake (*Pituophis melanoleucus*)*
  - Common garter snake (*Thamnophis sirtalis*)
  - Eastern hognose snake (*Heterodon platirhinos*)
  - Milk snake (*Lampropeltis triangulum*)
  - Northern American racer snake (*Coluber constrictor*)*
  - Northern water snake (*Nerodia sipedon*)
  - Plains garter snake (*Thamnophis radix*)
  - Redbelly snake (*Storeria occipitomaculata*)
  - Smooth green snake (*Opheodrys vernalis*)
  - Western fox snake (*Elaphe vulpina*)
  - Timber rattlesnake (*Crotalus horridus*) (“Animals,” 2014)
Flora & Fauna of Schwarz Pond Park and Carroll’s Woods

The City of Rosemount lies within the Eastern Broadleaf Forest biome. Here, the City contains a number of water bodies, forests, and grassland that provide “unique wildlife habitats and rare species with the City” (“Stormwater management,” 2007, p. 12). As stated in the introduction, Rosemount habitat is primarily composed with oak savanna, oak woodlands, various wetlands, and small lakes. Schwarz Pond Park and Carroll's Woods reflect these natural areas. Schwarz Pond Park is about 63 acres of natural and social features. The natural features of the park include low-maintenance grass, such as grassy turf, and native plant and prairie restoration from a project in 2008. Within the prairie grasses, unwanted flora such as silver maple (Acer saccharinum), spotted knapweed (Centaurea stoebe), thistle (Family Asteraceae), and parsnip (Pastinaca sativa) are managed by Parks and Recreation staff and volunteers. Schwarz Pond is 8.4 acres and reaches a depth of 4 feet (“Facilities,” 2014). As such a small body of water that threatens to fully freeze most winters, the pond is annually stocked with bluegill (Lepomis macrochirus), black crappie (Pomoxis nigromaculatus), and bullhead (Genus Ameiurus). The pond was once surrounded by a “tangle of elm” (“Schuster,” 2014), but has since been restored to its back to its native origin.

Aside from fish, the pond provides many resources for a significant amount of wildlife including waterfowl, mammals, and amphibians. During our first visit to this site, we spotted a great egret (Ardea alba), mallard (Anas platyrhynchos), muskrat (Ondatra zibethicus), and painted turtle (Chrysemys picta). Whether food source, shelter, or water, Schwarz Pond is an invaluable resource to the survival of many fauna.
Carroll's Woods is directly adjacent to Schwarz Pond Park. Once property of a dairy farm, this 44-acre park now contains an extensive trail system within an overgrown oak savanna. Fauna to note in this area include wild turkey (*Meleagris gallopavo*), white-tailed deer (*Odocoileus virginianus*), and a variety of songbirds. Typically, oak savanna have a vegetation structure of continuous canopy of bur oak (*Quercus macrocarpa*), northern pin oak (*Quercus ellipsoidalis*), and white oak (*Quercus alba*); sub-canopy of black cherry (*Prunus serotina*) and red maple (*Acer rubrum*); shrub layer of chokecherry (*Prunus virginiana*), American hazelnut (*Corylus americana*), prickly ash (*Zanthoxylum americanum*), and Virginia creeper (Genus *Parthenocissus*); and ground-layer of Pointed-leaved tick trefoil (*Desmodium glutinosum*), Clayton’s sweet cicely (*Osmorhiza claytonii*), hog peanut (*Amphicarpaea bracteata*), Canada mayflower (*Maianthemum canadense*), and wild geranium (Geranium *maculatum*) ("Fd37: Southern dry-mesic," 2014).

Here at Carroll’s Woods, the sub-canopy and shrub layer has been taken over by buckthorn (Genus *Rhamnus*), a terrestrial invasive species. In the 19th century, this plant was brought to Minnesota from Europe as a popular hedging material, but soon began to outcompete native plants for nutrients, light, and moisture. Carroll’s Woods today is evidence of this takeover, has little undergrowth of native lower canopy species. Young elderberry (Genus *Sambucus*), high bush cranberry (Genus *Viburnum*), and maple (Genus *Acer*) are present within the forest, though buckthorns’ high abundance is indicative of an ecologically disrupted forest. Similarly, being surrounded by urban development, Schwarz Pond Park and Carroll’s Woods do not undergo natural wildfire rotations. As of
2008, the restored prairie grasses in Schwarz Pond Park have management for controlled fires in small areas to reestablish native species and their natural processes.

These ecological features are of significant reference as we consider recommendations for Environmental Educational programming. By understanding the flora and fauna (both native and alien) of greater Minnesota and our specific sites of Schwarz Pond Park and Carroll’s Woods, we can better assimilate our social recommendations to the current and future ecological status of these habitats.

Conclusion

In summary, the interrelatedness of the past and present natural features is significant to consider for our upcoming, long-term recommendations. Because the environment is one of the three key pillars of sustainability (alongside economic and social), this research has given us a better foundation as to how these physical and natural features determine how the space is currently used, and how it can be enhanced with implemented Environmental Educational programming.

Looking forward, we will investigate past and present social features and resources. By gaining insight as to how Schwarz Pond Park and Carroll’s Woods are used by humans, we can better assess areas of interest, land use patterns, and common resources in which Environmental Educational programming can strengthen.
SOCIAL FEATURES

Introduction

Because of the interrelatedness of the environment, social use, and economy as the three pillars of sustainability, consideration of natural resources within the environment directly relates to the considerations of social use the Rosemount community may experience, and more specifically within Carroll’s Woods and Schwarz Pond Park. This section of the long-range management plan explores the historical and contemporary social features of the site. Social context begins with the development of Rosemount from village to city, and transitions to the current use of Carroll’s Woods and Schwarz Pond Park. Contemporary social features will discuss present users, types of use and how social aspects influence the character of the site as it pertains to both Carroll’s Woods/Schwarz Pond Park and the city of Rosemount. In addition, available recreational resources are explored and include descriptions of facilities, trails, staff, and equipment. A detailed outline of the recreational opportunity spectrum and the limits of acceptable change concludes the social features section as it relates to the consideration of both social opportunities and maintenance of the natural qualities.

It must be noted that although this plan focuses on Carroll’s Woods/Schwarz Pond Park, much of the following information has been taken from city-wide community plans. Thus, social features are not only based upon what opportunities exist within the two parks of interest, but also the surrounding areas that constitute the local residents and users of the site. Special attention is paid to the Rosemount Parks and Recreation...
Department as they are the managers of Schwarz Pond Park, Carroll’s Woods, and the overall maintenance of the available recreational resources within those two sites.

**Historical Social Features**

The historical social features are important to review, in a similar context of the natural features, as they have contributed to the current variety of social uses of the environment within the city of Rosemount. As discussed in the natural features section, the area of Rosemount has a geographical environment that was shaped by the glaciers, specifically the Superior Lobe. The area of Rosemount is located at the end of the Superior Lobe, called a Terminal Moraine, which deposited glacial till into the area of Rosemount. The till leftover from the retreat of the Superior Lobe provided the area with a beneficial soil type for agriculture. Some of the social uses of this area were decided by the geology from approximately 10,000 years ago.

The healthy, rich, soil and environment of the area of Rosemount has proved to be valued by different societies in similar ways, to utilize the resources of the environment to survive. To summarize the historic uses of the area it could be generalized as settlement, agriculture, and war. The area was once home to the Mdewakanton band of the Dakota Indians. Circa the 1800’s, the area was surveyed and settled by Europeans. The area was first settled by “…William and Walter Strathern and C. H. Carr, came from Scotland…” (Rosemount 2014). As the area was settled there was great conflicts between the Native Americans and the settlers. However, through all the events, an important leader and representative, Little Crow, of a local Native American Tribe signed
a treaty that turned over the land to the federal government, in 1851. In Rosemount the established community comprised primarily of Irish immigrants. At first discovery, the settlers lived in the wooded areas that offered them protection. Once they discovered the quality of the soil in the southern area of Rosemount, they began to settle, clear, and farm the area. The farms included dairy, grain, and vegetables throughout the region. These products were utilized to provide for the urban neighbors, Minneapolis and St. Paul, which are only approximately 20 miles north.

In the beginning of the 20th century war was again an aspect of the social features in the area. In the 1940’s, during World War II, there was approximately 21,000 acres area that was surveyed, adjacent to Rosemount, and proposed as a munitions factory to support the war efforts. This establishment was called the Gopher Ordinance Works (GOW). The land for the proposed plan was surveyed by a realtor from Chicago, named J. C. Ellington. Dooley (1985), writes that Ellington reported the benefits as

The state’s population (one-third lived within a 30-mile radius of Rosemount) and the available water supply (less than seven miles from the Mississippi River). He noted that the area had no improved highways that would have to be removed; that its land was mainly level or rolling and suitable for building construction; that two major railroads, the Milwaukee Road and the Great Western, had lines close to the site; that a Northern Natural Gas pipeline crossed the land; and that Northern States Power Company had high tension electrical lines nearby.

The proposed plan was supported and carried out and brought many workers to the area, but due to other plants meeting the desired production levels and the end of the war, the
plant was no longer needed. The land was then turned over to the University of Minnesota to conduct a variety of research and studies for the university, ranging from cancer research to agricultural research. This area was designated as University of Minnesota – Research, Outreach, Education, or UMORE Park.

In the north side of Rosemount, and specifically the area of Carroll’s Woods and Schwarz pond, the land had greater variation in elevation, in comparison to the “level” land described by Ellington, and a larger amount of pothole lakes and ponds, which can be speculated to be more conducive to dairy farming. In this area there was a dairy farm owned by Don and Mary Carroll. Later, this land was purchased by the city in 1974 with a DNR grant of $100,000 which was matched equally by the city. This land was classified as designated open space, and because of the grant must remain open space, with land classified as public/institutional surrounding it (“Carroll’s Woods”, 2012).

Similar to the DNR grant for Carroll’s Woods, Schwarz Pond received funding for a wetland restoration project, although it was not from the DNR. This project was funded by SKB Environmental, an organization that is branched throughout southern Minnesota, with some offices in Rosemount. SKB Environmental was required to fund a wetland restoration project, as their personal business expansion was on a wetland. However, the only requirement was wetland mitigation, but they chose to construct hard surface trails as well as fund a fishing pier (Johnson 2011). These two different examples of funding within the parks reflect on the interest and desire of natural and open spaces, for the people of Rosemount to enjoy. It can also be reflected through the various land management plans and parks, trails, and open spaces plans that have been developed over
the years. The city of Rosemount has put many resources to work to identify the demand for open spaces, by the population, as well as how to manage these areas as the population continues to increase. This is the ideal transition into contemporary social features, as we will first discuss the current population demographics.

Contemporary Social Features

City of Rosemount: Population and Demographics

With a land area of nearly 36 square miles, Rosemount residents enjoy the advantages of living in a community with both a small town and large metropolitan city atmospheres (“About Rosemount”, 2014). According to the 2010 census, Rosemount’s current population is near 26,000 residents, with its population expected to double by 2030 (see Figure 8). Because of this population growth, Rosemount faces both challenges and opportunities in the coming decades as it strives to become a more sustainable and resilient community (“Resilient Communities Project”, 2014). This population growth and its opportunities and challenges it provides are considered in social features section of this report. Furthermore, we will consider the demographics of Rosemount as we take a closer look at the social use of Carroll’s Woods and Schwarz Pond Park and its surrounding residents.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>25,908</td>
</tr>
<tr>
<td>2020</td>
<td>38,398</td>
</tr>
<tr>
<td>2030</td>
<td>45,498</td>
</tr>
</tbody>
</table>

Figure 8. Growth estimate of Rosemount, Minnesota. Adapted from 2008 System Plan, 2007.
Our discussion of social features seeks to provide supporting data for our two goals highlighted within our two Resilient Community Projects: “Underserved Populations” and, “Children’s Interactions with Nature”. This data will aid our decisions when considering recommendations in the final section of this long range-management plan. The following information was recorded from the *2030 Rosemount Comprehensive Land Use Plan* which was adopted by the City Council in 2009:

The population of Rosemount is predominately young families with more than one third of the population is between 25 and 44. The population of retirement age is a small proportion of the City at approximately 5%, but their percentage of the total population is expected to increase over time as the existing population ages. One age group that is consistently lower than the others is the number of college age adults within the community. One factor that causes this characteristic, is the lack of four-year colleges in the area. High school students who graduate from Rosemount often leave the area to attend college. This is a concern to Rosemount if these young adults do not return to Rosemount after attending college (see Figure 9).
In 2000, Rosemount’s households averaged 3.08 persons per household, while in comparison Dakota County averaged 2.70 and Minnesota averaged 2.52 persons per household. As Rosemount’s population ages, the average person per household is expected to decline, but the number is expected to remain higher than average as long as Rosemount remains a growing community.

Over 52% of households have children. Households with children are expected to remain a significant portion of the population, even as these children age and move from Rosemount.

As the pie graph indicates below, minorities constitute 10% of Rosemount and will only continue to grow as the population is estimated to double in the coming years. Because of the minorities present, Rosemount as a city has a goal of serving these otherwise underserved populations in regards to future Parks and Recreation programming. As apart of this goal, the management team is considering the Rosemount demographics when recommending future programming and other needs to give opportunities to underserved populations.

Figure 9. Age demographic of Rosemount. The largest population is young workers with school age individuals as a second. Adapted from 2030 Comprehensive Land Use Plan, 2009.
Table 2. Rosemount demographics of race. Information adapted from 2010 US Census Bureau.

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>88%</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>6%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>3%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>3%</td>
</tr>
<tr>
<td>Asian</td>
<td>3%</td>
</tr>
</tbody>
</table>

One of the main findings from this research of the current population and age demographic trends reveal a predominant population of young families in the area. Activities offered through the Rosemount Parks and Recreation Department do cater to the varying demographics, but young families currently are a primary audience. One of the main objectives of this long-term management plan is to shed light onto potential educational opportunities within the environment for underserved populations. This requires a broad spectrum of recreational facilities and activities suitable for individuals as well as groups of youth, teens, adults, and retirees (Open Space System Plan, 2008).
Zones of Use

Overall, Rosemount can be divided into three categories of land use: urban/residential area, industrial area, and agricultural area. Figure 10 illustrates the placements of land use within Rosemount - the urban area is primarily west, the industrial area lies to the east, and the agricultural area is south. Carroll’s Woods and Schwarz Pond Park are outlined in black and nest within the urban area, depicting access within the residential neighborhoods nearby. Refer to Figure 11 for a close-up map of Carroll’s Woods and Schwarz Pond Park. Public Institutional and Open Space are two zones that are applicable to our plan, and will therefore be discussed in greater detail below.
Figure 10. Rosemount Minnesota Land Use Comprehensive Map. Urban is primarily yellow, industrial reflects light green, and agriculture is depicted in dark green. Our two areas of interest - Carroll’s Woods and Schwarz Pond Park - are outlined in black. Both of these areas fall under "Existing Parks/Open Space" zone.
Public Institutional

Public institutions do play a role when managing the social uses of the two sites. Referring to Figure 11, the Rosemount Community Center which houses the Rosemount Parks and Recreation Department lies within this zone. The community center plays a key role in the management and development of this site, as it serves as a primary facility for both the parks and the Park and Recreation department. This will be further discussed in the recreation resources section. The Rosemount High School is starred on the map because of the close approximation to both sites. Teachers will use these two sites for educational and recreational opportunities. This further elicits the idea that users of public institutional zones and open spaces play a role in the environmental educational development of this long-range management plan.

Figure 11. Public and Open Space Land Use Comprehensive Map showing Carroll’s Woods and Schwarz Pond Park, both areas are labeled as PO Existing Parks/Open Space. The southern area depicted in purple shows Public/Institutional zone shows the close approximation to Rosemount High School and Rosemount Community Center within that area. Map adapted from Land Use Comprehensive Plan, 2014. Fix resolution.
Open Space

Currently Rosemount has 27 parks totaling 675 acres. Residents often cite open space as one of Rosemount’s most important and desirable characteristics. As Rosemount becomes more urbanized, it is particularly important to ensure that residents have an opportunity to recreate outdoors and in open spaces to connect with nature (Land Use Plan, 2009). The Parks and Open Space areas are intended to provide a wide variety of recreational and open space opportunities from ball fields to nature preserves. The community’s open spaces are significant resources worthy of preservation. In fact, a survey conducted in March 2007 reported 88% of Rosemount residents supported the preservation of open space (Open Space System Plan, 2008). Carroll’s Woods and Schwarz Pond Park falls into these zones of open space.

Knowing that parks, trails, and open spaces can have a strong and lasting impact upon neighborhoods and the quality of life, the City of Rosemount created the 2008 Rosemount Parks, Trails, and Open Space System Plan to define the opportunities and management within the existing parks and open spaces for the Rosemount community.

To distinguish the open space zone into existing parks within Rosemount, the Rosemount park classification system was created to be used as a guide in park dedication and development. Primary uses of existing parks vary by the type of park classified. Table 2 depicts the specifications of Schwarz Pond Park and Carroll’s Woods under this classification. This information is vital when considering future recommendations as it establishes the community perspectives regarding type of use allowed for these two sites.

<table>
<thead>
<tr>
<th>Park Classification</th>
<th>Use</th>
<th>Service Area</th>
<th>Size</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schwarz Pond Park</td>
<td>Community Park</td>
<td>Area possessing natural quartiles conducive to passive recreational activities.</td>
<td>Community wide</td>
<td>62.62 acres Site affords variety of natural features, well drained soils, positive drainage, and varied topography; is accessible to pedestrian and vehicular traffic.</td>
</tr>
<tr>
<td>Carroll's Woods</td>
<td>Conservancy Land</td>
<td>Area possessing natural qualities preserved for environmental, open space or aesthetic purposes. Facilities should be compatible with preservation of the resources.</td>
<td>Site specific</td>
<td>44.38 acres Significant natural areas that merit preservation and would be adversely affected by development. Often flourish when access is limited or controlled. May be guided by a conservation easement or other government-directed restrictions.</td>
</tr>
</tbody>
</table>
Types of Use

Recreational Use

Presently, recreational use is the dominate type of use within Carroll's Woods and Schwarz Pond Park. When asked about what residents enjoyed most about living in Rosemount, 54% responded with the addition of Parks and Recreation programs (Open Space System Plan, 2008). Illustrated in Figure 12 is a trail map of Carroll’s Woods and Schwarz Pond park labeling the existing specific features of both sites. This map is placed at six locations throughout the combined 107 acres of park.

Recreational Programming

---

**Figure 12.** Map shows the existing trails within Schwarz Pond and Carroll’s Woods. Bituminous pathways within both parks are shown in red while hiking/nature trails are shown in brown. This map can be found at every labeled map location to guide users within the park.
Residents of Rosemount can refer to the Activities Brochure provided by the Rosemount Parks and Recreation Department for programming events. This brochure outlines date, locations, specified audience, and type of event sponsored through the Parks and Recreation Department. Sports - both indoor and outdoor - are the main types of activity programs offered. Browsing this brochure offered insights into the usage of both Carroll’s Woods and Schwarz Pond Park.

Although both sites are classified differently, they reflect similar recreational activities available to the residents of Rosemount. The Rosemount Parks and Recreation Department manages the activities and amenities available within the parks. A deeper look into recreational use and resources of the two sites will be divided into two sections: Carroll’s Woods and Schwarz Pond Park.

**Educational Use**

The educational opportunities within Carroll’s Woods and Schwarz Pond are various and numerous, as well are they accessible to a large percentage of the population along with a great variety of the demographics that make up the population of Rosemount. Some of the current educational features and uses include:

- Interpretive signs in Carroll’s Woods, see Figure 13 below, can be used by groups or individuals that are hiking through the area. This is a form of self-guided education, and provides the recreational users the opportunity to participate in the education in a level that factors in their interest, time constrains, group size, etc.
Some of the Rosemount Schools utilize close natural areas for great learning experiences, such as utilizing Schwarz pond to study subjects such as water quality. Schwarz Pond and Carroll’s Woods are natural environments that provide opportunity for great experiential education opportunities that can help connect youth to the natural environment.

Figure 13. Photo depicting one of the signs within Carroll’s Woods that presents the natural features of the area. This particular sign illustrates the Native Prairie Plan Project, which supports the promotion of natural prairie development within Carroll’s Woods. Photo credit: Factor, 2014.

- The bird boxes around Schwarz Pond offer great opportunity for both students and community members to learn about the importance of providing and preserving feeding and nesting habitat for migrating animals. Schwarz Pond Park has been identified as a top location for bird watching, within the state of Minnesota, by mybirdmaps.com.
Recreational Resources

Amenities

Facilities

The Rosemount Parks and Recreation Department resides within the Rosemount Community Center. “The mission of the Rosemount Community Center is to provide a central gathering place, a focal point for the citizens of Rosemount and the surrounding communities to experience social, cultural, educational and recreational opportunities which enhance community wellness and promote growth” (Land Use Plan, 2009). The Community Center houses a multi-purpose arena, banquet room, auditorium, gymnasium, and classrooms that can accommodate groups and gather from 25 to 1,000 people.

A few amenities exist within both sites for the community of Rosemount that are promoted and managed by the Rosemount Parks and Recreation Department.

Carroll’s Woods: Walking trails are the main activity offered. No park facilities exist within the area, and vehicle parking is diverted to Schwarz Pond Park.

Schwarz Pond Park: This 62.62 acre park with an 8 acre pond is located at 13787 Dodd Blvd. Schwarz Pond Park features a variety of activities available to the community including a playground, nature area, walking trails that are both bituminous and natural, and access to fishing. With a 64’ T-shaped fishing pier, it is the site for the annual Leprechaun Days Fishing Derby at the end of July (see Figure 14), as well as the city’s only skate park (“Schwarz Pond Park”, 2014). Parking is available near the playground. Facilities of Schwarz Pond Park include:

- Playground
• Picnic Shelter
• Skate Park
• Grills
• Fishing Pier

Figure 14. Photos illustrating the 64’ fishing pier (above), and in use during the annual Leprechaun Days Fishing Derby (right).

Fishing Pier: Factor, 2014
Fishing Derby: Facebook, “Rosemount Leprechaun Days”, 2014

Trails

Trails within parks and preservation areas are well used. “Neighborhood Parks are frequently or occasionally used by 75% of those surveyed, 65% said they used community parks, and 65% indicated that they used the trails” (Open Space System Plan, 2008). Trails within Rosemount parks will be determined as part of the specific park design. Using the Trail Classification System adopted from the 2008 Rosemount Parks, Trails, and Open Space System Plan created by the Parks and Recreation Department,
Figure 15. Map shows existing trails and parks that surround Carroll’s Woods and Schwarz Pond Park. Bituminous walkways throughout the park are paved and built for recreational and pedestrian use. The location of the Rosemount Community Center gives proximity to both parks. Image adapted from Rosemount Parks and Trails Map, 2014.

Figure 16. An example of the bituminous pathways accessible to residents within Schwarz Pond Park and Carroll’s Woods. This particular trail follows between the sports fields and Schwarz Pond. Photo credit: Factor, 2014.
two kinds of trails connect within both Carroll's Woods and Schwarz Pond Park. One of the most popular type of trail to use by Rosemount residents is the “Class II” bituminous combined bike path/pedestrian walkway. Referring to Figure 15, these 8 - 10 foot wide trails are located on the outskirts of both parks. Bituminous concrete, also known as asphalt, is a type of construction material used for paving roads, driveways, and parking lots. It is made from a blend of stone and other forms of aggregate materials joined together by a binding agent. Because it does not contain cement which contains larger aggregate materials, bituminous paths provide a smoother and quieter ride (“Bituminous Concrete”, 2014). The availability of the bituminous pathways offers accessibility according to the standards set within the American’s Disability Act (ADA). An example of the bituminous pathways that connect these two parks to the local neighborhoods is provided above (see Figure 16).
Another common trail to find spanning between the two parks is the nature trail. Typical width is 4-12 feet, with an aggregate, or natural, compacted surface. Trail access does vary because of the location of the two sites and is described below.

_Carroll’s Woods:_ Carroll’s Woods is classified as a nature area and walking trails through an oak savanna woodland are the primary activity. During winter time, these trails turn to groomed cross-country ski trails that Rosemount High School uses for training. Access to Carroll’s Woods can be found off of Cobbler Avenue, Clover Lane, from Schwarz Pond Park, and from Rosemount High School. Some of the trails that are connected to residential areas via streets or between houses are not well marked, such as the furthest trail south on Cobbler Avenue. (See Figure 17). Parking access for trail entries within.

*Figure 17.* Photo of Cobbler Avenue access to Carroll’s Woods trail system. No signage depicting access to Carroll’s Woods could be found at the entrance to the path. Photo credit: Factor, 2014.
residential neighborhoods is not advertised. According to a resident of Rosemount, “The trails are primarily used by residents or students walking to and from school” (personal interview, 2014). Walking on the Cobbler Avenue trail access point illustrates just one access point within the Carroll’s Woods trail system. The trail lies between two houses, and both owners were in the process of yard work. Although the trail is maintained by Parks and Recreation Department, the property lining the trail is maintained by the local residents. No signage depicting the entrance to Carroll’s Woods was apparent maintaining the assumption that these trails are used primarily by residents of Rosemount.

**Staff**

Both sites are managed by the staff of Rosemount Parks and Recreation Department. Currently, there is a Parks and Recreation Director who oversees and works with city officials along as with the Supervisors in the parks and recreation department. The supervisors include two Recreation supervisors and a Parks supervisor. The supervisors oversee the management and recreational staff, equipment and programming at their respective sites. The last two positions are the rental coordinator and the Operations coordinator. These two coordinators work with both consumers and the Parks and Recreation Department staff to ensure that operations and rentals run effectively.
Limits of Acceptable Change and Recreational Opportunity Spectrum

In order to make the best recommendations for Schwarz Pond Park and Carroll’s Woods that not only correspond to the mission of Rosemount’s Parks and Recreation Department, but also sustainable for years to come, we much consider the Limits of Acceptable Change. The Limits of Acceptable Change (LAC) is a “framework for establishing acceptable and appropriate resource and social conditions in recreational settings” (Stankey, Cole, Lucas, Petersen & Frissell, 1985, p. iv). This system is significant for land management, because in incorporates each pillar of sustainability: economic, environmental, and social.

For Schwarz Pond Park and Carroll’s Woods, social impact is a high priority to consider, as the population is expected to double in the coming decade. The increase of foot traffic within these parks has potential to produce more disturbances, introduce new invasive plant species, and generate concern for safety. The LAC system is an important perspective to take, especially from all angles. From a community perspective, these natural areas will continue offer attractive leisure and recreational settings for all ages. From an environmental perspective, disturbances will be a growing concern to take into consideration. And from an economic perspective, the feasibility of the LAC will be considered by the City’s increase in tax revenue in the upcoming years. Together, these three perspectives can offer feasible, thoughtful management strategies to not only accept, but also control for the imminent changes to accommodate the growing population.
Another important element we must consider when making recommendations is the Recreation Opportunity Spectrum (ROS). This is a resource-based land management classification system describes how various recreation opportunities are a “function of user preference and a product of management actions designed to provide desired setting and to make people aware of their existence” (Clark & Stankey, 1979, p. 2). Human use is defined by the natural resources available, so the ROS provides another framework that is user-centric based on setting, activity, and experience. The six major categories are Urban, Rural, Roaded Natural, Semi-primitive motorized, Semi-primitive Non-motorized, and Primitive (Clark & Stankey, 1979, P. 14).

Schwarz Pond Park and Carroll’s Woods are located on the border of city limits, and can be categorized into several ROS zones. Urban describes the developed zones of recreational soccer and baseball fields, as well as the playground area. The paved trails surrounding Schwarz Pond are considered Roaded Natural. Those unpaved trails within Schwarz Pond Park and all of Carroll’s Woods are considered rural, as they are not accessible to all participants, but are not geographically remote. This variety of zones within two parks is significant in that it currently attracts a diversity of users. The ROS zones will be important when proposing recommendations that encompass the future wellbeing of the community and natural environment.

**Concluding Remarks on Social Features**

According to 400 households within Rosemount surveyed, “Many people are interested in passive and natural resource based recreation such as hiking, nature study,
bird watching, fishing, etc. Conservation and natural resource sites are needed to accommodate these activities. The baby boomer generation’s recreation interests are often focused around healthy lifestyles and staying active. Their recreational interests include walking/running, bicycling, golfing, bird watching, nature study, community volunteering, arts and cultural activities, etc.” Therefore, maintaining and preserving natural spaces is essential in order to maintain a sustainable lifestyle in the City of Rosemount.
RECOMMENDATIONS

Introduction

The following recommendations have been thoughtfully and purposefully produced for the Parks and Recreation Department of Rosemount, Minnesota to consider. Based on the information collected regarding the Parks and Recreation Department’s mission and vision, as well as the unique natural and social features of the area.

The foundational context of our recommendations is rooted in the implications of Rosemount’s anticipated population growth. As the City’s population is expected to rapidly increase in the coming years, so can the City’s tax revenue. Though many of our recommendations may have perceived financial constraints, we can expect these to be more economically manageable and feasible for future, increased budget of the Parks and Recreation Department. In a similar vein, we also gather that with the increasing population is tied directly to a diversifying community. Among these recommendations, it is important include access and equity to be a common goal of the Rosemount Parks and Recreation Department. And finally, as nature-deficit disorder becomes a more common affliction of our society, these recommendations are all ultimately working to connect families from all walks of life to the multitude of benefits gained in the outdoors.

The following recommendations are organized between two frameworks Resilient Communities Projects: Children's Interaction with Nature Play and Recreational Opportunities for Underserved Communities. These projects' recommendations are also categorized by short-term and long-term achievability, and numerically ordered. At times, we mention multiple
options within recommendations. Our suggestions, though many, are not to overwhelm, but to inform and foster considerations of the many opportunities of improvement ahead.

**Children’s Interactions with Nature**

With the release of Richard Louv’s book, *Last Child in the Woods*, much consideration has been paid to the topic of children’s connectedness with nature via direct experience. Even in the early 20th century with Wilbur Jackman’s Nature Study Movement, a child’s direct experience with nature has shown to improve social skills, advance cognitive skills in problem-solving, and make direct correlations with ecological relationships (Kohlstedt, 2005). In more recent years, with the resurgence of nature play, more emphasis has been placed on a child’s physical well-being in addition to the other positive outcomes noted, especially regarding the growing epidemic of child-hood obesity. Nature-based play, among its many other positive outcomes of social, emotional and cognitive development, has also been shown to help in combating childhood obesity (McCurdy & Winterbottom, 2010; Kimbell et. al., 2009; Baur & Tynon, 2010).

The following recommendations align with the objectives of sustainability within this long-range plan and the objectives set by the Resilient Communities Project: Children’s Interaction’s with Nature. Within both sets objectives, emphasis is placed creating awareness of environmental impacts through direct experience and encouraging community social interactions within nature. The short-term and long-term recommendations focus on two unifying themes: nature-based play inclusion and environmental education programming inclusion. Both of these themes are divided into two categories: short-term and long-term.
Short-term Recommendations

Nature-based Play Inclusion Recommendations

Research indicates that outdoor play spaces not only aid in physical development, but in social, cognitive, and emotional development of a child as well (Herrington and Studtman, 1998; Fjortoft and Sagie, 2000; Azlina and Zulkiflee, 2012). A study in 2005 (Burke) labeled *Play in Focus* delves into this perspective, but from a child’s standpoint. Thirty-two primary aged children in Yorkshire, England were given the opportunity to document their preferred spaces and places for play. Results indicated that natural materials and the environment stood out as one of the most preferred areas to play (Burke, 2005). Elements such as public streams, trees, grass, gardens, natural play areas surrounding the school constantly made an appearance among the photographs taken (2005). Because of this importance and emphasis on natural elements within play areas, the following recommendation would aid the Rosemount Parks and Recreation and Rosemount community in addressing these needs.

The current Schwarz Pond Park playground offers children opportunities to play on the physical elements (See Figure 18). Children can swing, climb, slide, run, and socialize with other children. The addition of nature-based play elements can offer other domains of cognitive, emotional, and social development as well.
1. Add nature-based play elements to the existing Schwarz Pond Park playground.

Nature-based play areas exist in many parts of Minnesota and the United States and can look very different due to space available, initial planning, and materials used. The cost can range from expensive to inexpensive based on these factors. For example, the nature-based playscape recently built at Hartley Nature Center in Duluth offers all natural elements for play (See Figure 19). A sandpit, tree stumps, rock piles, boulders, and the soil ground offers creative play for all ages. When asked about the cost of the playscape, Hartley Preschool Director Kaitlin Erpestad indicated roughly $5,000 to build the entire area. Materials such as log stumps, rocks, and boulders, taken from the removal were used to build the playscape area.

Nature-based playground catalogues and companies exist to offer more structure and an easier planning process. Prices of elements will vary. The two photos below give a price comparison of a set of four log stumps. The first photo on the previous page (see Figure 20) indicates a set of four log stumps priced at $196.95 from The Natural Playgrounds Company, while the second photo (see Figure 21) depicts the log stumps taken from the initial site clearing at Hartley Nature Center.

Different approaches can be taken when planning a nature-based play area. Therefore, we recommend two options when incorporating nature-based elements into the existing Schwarz Pond Playground.

Option 1: Use the existing forest materials surrounding Schwarz Pond Park to add nature-based elements to the playground.
The addition of natural elements are within Schwarz Pond Park playground are endless. Tree stumps are just one example that can be added within the boundaries of the playground. A few downed logs laid one end to another circling around the playground can offer the skill of balance and coordination. Stumps posed as stepping stones taken from the forest set up between the downed logs can offer an additional challenge of balance. Large boulders taken from natural areas around Rosemount offer a chance for climbing. Rock piles of smaller rocks taken from local streams give the opportunity for creativity. All of these elements can also bridge the gap between children and their opportunities to understand the natural history of Rosemount Minnesota. In addition, the surrounding community can be utilized within the search for new elements, incorporating objects from gardens, yards, and local green spaces, giving a sense of ownership to the new elements.

*Figure 18. Existing Playground at Schwarz Pond Park. Adding nature-play elements within the existing sand area or around the playground boundaries will meet needs of current play-based research and community. Photo credit: Factor, 2014.*
Figure 19. Hartley Nature Center Playscape. Consists of different elements, including sandpit, log stumps, boulders, rock piles, an amphitheater, and other natural elements. All elements were found from the area surrounding Hartley Nature Center. Photo credit: Factor, 2014.

Figure 20. Log stumps as a set of four total $196.95 from the Natural Playgrounds Company. Photo credit: naturalplaygroundstore.com, 2014.

Figure 21. Log stumps found in the Hartley Nature Area were cut and placed by park employees and local residents. Photo credit: Factor, 2014.
The inclusion of natural elements from the forest or surrounding areas of Rosemount will require individuals to search for appropriate elements, and devote time to initial planning and development, especially if any large changes are to be made. Due to the unstructured nature of this approach, the planning process to include these elements will be vague as it is entirely dependent on what is available within the area. The materials themselves can also break down and decompose after a period of time, and will need to be replaced. A positive outcome is these elements will frequently change and offer new interactions with the children that visit the playground.

Option 2: Contract with playground consultants to establish structured natural elements within the existing playground.

Catalogues and human resources are available to establish a more structured approach to the inclusion of nature-based play elements, such as The Natural Playground Company. Consultants will help with overall planning of the park and provide a wealth of options when considering what elements to incorporate. These consultants may offer additional ideas to also expand the current structure to incorporate more nature-based elements.

The use of playground consultants can be expensive as the cost includes the materials, labor, and initial consultation time. Initial planning may be easier as all materials will be present and made accordingly by the company. The elements will vary by cost, but they will not decompose as quickly as using elements directly from the forest. Because these elements will not decompose as quickly, the elements will remain static, offering little opportunity for new interactions with changing elements.
The long-range planning team recommends *option 1*: use the existing forest materials surrounding Schwarz Pond Park to add nature-based elements to the playground. This approach is inexpensive and offers the opportunity to bring in natural elements that already exist within the community of Rosemount. Even as the elements decompose, the community within Rosemount can contribute new elements from gardens, backyards, favorite green spaces, etc. The opportunities for community inclusion exists within this option.

*Environmental Education Programming Inclusion Recommendations*

2. *Connect with local partners to implement environmental education programming*

   Researching the goals set within the *2030 Comprehensive Land Use Plan* adopted in 2009 by the city of Rosemount revealed enormous insights into preparations and future needs of the Rosemount community. One particular goal concerned more emphasis on education outreach within the community and is stated as follows:

   Education outreach is an essential yet often underutilized component of environment and natural resource planning. While environmental issues have become more mainstream, many people do not realize how their daily personal habits impact the environment. To this end, the City should develop educational materials and resources for residents in the areas of composting, recycling, landscaping, energy use, personal consumption and other conservation issues. In addition, the City should develop partnerships with organizations whose mission is to educate the public about environmental protection and natural resource management. Potential partners and resources for these two strategies include the Department of Natural Resources, Friends of the Mississippi River, the Metropolitan Council, the Minnesota Sustainable Communities Network, the University of Minnesota...
(U More Park), Dakota County Technical College, Home Owners' Associations and District 196 schools as well as the Environmental (Zoo) School (p. 45)

A particular quote stands out among this goal, “…the City should develop partnerships with organizations whose mission is to education the public about environmental protection and natural resource management” as it pertains to the environmental education program recommendations suggested by this long-range management planning team. Further research into EE programming available not just within Rosemount, but within Dakota County, reveals a few programs already in existence, and accessible for surrounding counties. Therefore, it is our recommendation that Rosemount Parks and Recreation partner with the organizations of the following programs and implement into Schwarz Pond Park and Carroll’s Woods if applicable. Further description of the programs are as follows.

Option 1: Share conservation education resources with Dakota County.

Dakota County offers conservation education resources to community members and organizations to help with education and outreach on a variety of topics (Dakota County, 2012). Resources include props, interactive displays, background, instructions for set-up, specific conservation education plans for various topics and activities. These could be implemented either within the Rosemount Community Center or as an outdoor activity, as dependent upon the topic. Various activities range from recycling, toxicity reduction, and groundwater flow principles. These kits are available for pick-up from the Western Service Center located at 14955 Galaxie Avenue in Apple Valley, MN just 10 minutes west of the Rosemount Community Center.

As the kits and lesson plans are already provided, the biggest concerns would include staffing and advertisement of the event. Planning ahead and creating an event within the existing
Activities Brochure could lend a helping hand to spreading the word within the community. As to staffing, these kits have been in place for some time within the Dakota County Parks and created by the University of Minnesota Extension. Contacting the representative charged with maintaining the kits may reveal the human resources of help when implementing these programs for the first time. Teachers and organizations that have checked the kits out previously could aid in providing valuable insights and tips to the use the kits. Also, as these resources were created by University of Minnesota, connecting with the students or professors could help in facilitating a pool of volunteers or interns to assist in developing these programs.

Option 2: Implement “Fishing in the Neighborhood (FiN)” into Rosemount Parks and Recreation Programming

Schwarz Pond, at 8.4 acres of surface area and a depth of 4 feet, offers advantages for youth within the community of Rosemount to learn the art of angling. Annually stocked with bluegill, black crappie, and bullhead, Schwarz Pond is listed as a metro area fishing lake by the Minnesota DNR. A children’s “Fishing Derby” sponsored by the City of Rosemount occurs at the end of July during “Leprechaun Days”.

With the location behind the Rosemount Community Center along paved pathways, access to Schwarz Pond is not difficult. A T-junction 64’ fishing pier offers 10 feet of platform from the pond shores. The grassy shores 15 feet on either side of the pier provides easy access to the pond waters, making it an ideal spot to fish.

We recommend Rosemount Parks and Recreation Department use this convenient location to introduce youth to the sport of fishing, specifically beginner anglers. The Rosemount Parks and Recreation department could create their own beginner fishing program or they can
utilize the DNR’s program, Fishing in the Neighborhood (FiN), which sponsors metro area parks to promote the sport of fishing within 7 counties. Dakota County, where Rosemount is located, is one of counties partnered with FiN.

FiN builds on existing urban fisheries management activities such as stocking, aeration and enhancement of shore-fishing and pier-fishing opportunities. By reaching out to a wider variety of interests, such as local parks departments, lake associations and schools, FiN promotes a greater awareness of aquatic habitat needs and the importance of good stewardship. (“About FiN,” 2014)

With this partnership, FiN provides borrowed poles and educational kits which promote angling and water ecology to 3 of the 7 Minnesota counties, with Dakota County as one. The poles and kits are housed at Inner Grove Heights Community Center, just 15 minutes north of Rosemount Parks and Recreation Center. Therefore, it is our recommendation that Rosemount staff contact FiN and Inner Grove Heights staff to make use of this available - and free - equipment and educational resources.

By combining Schwarz Pond with Fishing in the Neighborhood, the Rosemount Parks and Recreation department has a unique opportunity to create a simple, easy and efficient fishing program for area youth. The Parks and Recreation department can use employees, volunteers or teachers to help students learn about ichthyology, lake ecosystems and their own back yard. The Parks and Recreation department can chose to purchase their own fishing equipment or borrow it from the Inver Grove Heights Community Center. Advertisement can take place within the Activities Brochure sent out to the Rosemount Community three times a year. A youth centered
fishing program can be a first step towards integrating environmental education into opportunities offered by the Parks and Recreation department.

The long-range planning team recommends both options to connect with these local partnerships in building environmental education programming within Rosemount Minnesota. As stated within both the 2030 Comprehensive Land Use Plan and 2008 Rosemount Parks Trails and Open Space System Plan, Rosemount City Council and Parks and Recreation Department have expressed a need to reach out to surrounding communities to build support for educational opportunities regarding natural resources and conservation. Dakota County Parks and Recreation Department and Minnesota DNR has existing resources available for surrounding organizations, making access and integration of programming much easier. Potential barriers include available staffing, but through the use of partnerships with students and administrators at the University of Minnesota and UMORE Park, offering environmental education programming to the community can become a reality. Eventually hiring a full-time staff member to take the role of administering and maintaining these programs will alleviate potential challenges associated with volunteers and interns.

Through continued access and implementation of these existing resources and programs into the Rosemount Parks and Recreation Program, it is our hope that more programs will be developed and environmental education resources become a permanent mainstay within the department.

**Long-term Recommendations**

*Nature-based Play Inclusion Recommendations*

1. Add a Nature Playscape at Schwarz Pond and Parks Throughout City
Create another natural playscape in the Schwarz Pond area that will be fully functional and similar to the (other one in Rosemount) and also the one that was recently built in Duluth, MN at Hartley Nature Area. What is great about the natural play area that Hartley Nature Area has is the fact that most of the materials for the playscape were found in the surrounding woods. This helps with budgetary needs and in the end saves a lot of money. Some examples of features that can be used are big logs, rocks to play on and the resources to build and create things that the children want to create. Another option would be to slowly incorporate different natural features throughout the rest of the parks in the city of Rosemount. This can be as simple as adding one feature at a time as opposed to just focusing on one park or area. As long as there are some natural features in every park, children have a better chance of encountering the nature world and begin find their place there.

There have been many studies done on the topic of nature play and the results are great when children are introduced to nature at a young age. David Sobel is an author that has studied the different stages in which you should expose children to the outdoors and what topics to cover at certain stages of life. In Sobel’s novel *Ecophobia*, he breaks each stage down into age groups, which are 4-7, 7-11, and 12+. The 4-7 stage is where the children gain empathy for the outdoors. They learn to love and care for the natural world by seeing what it has to offer. The 7-11 age group focuses on exploration. So they know what the natural world has to offer and they take it a step farther. They learn how and why things happen the way they do and how they can work with nature as opposed to against it. The 12+ stage is action. Action is a very important stage but without enough background information, it can lead to advocacy. Advocacy is when there is a
deliberate side taken on a certain matter (Sobel, 1996). By engaging children in the outdoors at a young age, you can very much so benefit their mental and physical health.

**Environmental Education Programming Inclusion Recommendation**

2. **City Run Nature Center**

Having a city run nature center would open up a lot of opportunities for educational programing and events in the city. This would be similar to the City of Richfield, where they run Wood Lake Nature Center (see Figure 22). This nature center has a lot of the same amenities as Carroll’s Woods and Schwarz Pond such as cross country ski trails and hiking trails near a beautiful water source. The benefits of the Rosemount area is that there is already a building where this nature center could be located, the community center. The benefits of having this resource so close to the schools and centrally located is the fact that there is great access to use this natural space and this would be wonderful to have a strong base of the community taking advantage of something along these lines.

With a city run nature center you could get away with not hiring a full time staff person, yet this would not be advised. There should be a professional outdoor educator that would run this part of the parks and recreation division of Rosemount. Later we will recommend what type of staff and what qualifications would be necessary.
Figure 22. Photo of Wood Lake Nature Center depicting similarities in recreational resources available to the Richfield community. Photo from Google Images.

3. City Rental Center

A city rental center would coincide with the recommendation of a city run nature center due to the fact that most people don’t have the equipment or gear to get outdoors all year round. By starting to build up the gear and resources to have a fully running rental center where you can rent gear to get outside and use these natural spaces would be ideal. Having skis for the groomed trails, snowshoes for off trail, canoes and kayaks, binoculars and much more. By having the gear to get outside, it gives people an opportunity to try something they don’t necessarily want to spend a lot of money on right away. This would greatly help the opportunity for community programing and different events that the parks and recreation division of Rosemount could put on. The University of MN Duluth (UMD) has a great example of a fully functioning rental center and could help give recommendations and a model to work off of. For example, the UMD Rental
Center offer gear rentals anywhere from fat bikes and telemark skis, to ice fishing shelters and stand up paddle boards.

Once again the benefits of having this type of rental center would open up opportunity for people to try new activates and get people outdoors and enjoying the beautiful natural spaces that Rosemount has to offer. The biggest issue that a lot of people face while trying to get outdoors is the correct gear. This would solve that problem and would be a great resource and revenue boost for the parks and recreation department.

4. Environmental Education Staff

The first option would be to hire one full-time staff to oversee the environmental and outdoor education programming by first just having one or two programs a month, yet slowly working towards having a vast amount of programs throughout the community. This would be a great way to get high school kids involved in community programming by having them volunteer for certain camps or programs. Working with a strong volunteer base is helpful with a tight budget and would help programs to continually run without a large paid staff. For example, a great volunteer base solely runs the UMD outdoor program. Now there are professional paid staff and 3 student paid staff, but volunteer staff runs all of the programs.

One note that should be clear with this recommendation is that it is highly recommended that you hire a professional in the outdoor education field in order for the program to be successful. By having one person devoted to all of the programming and curriculum, you will be more successful in the programming that would be offered. There are alternative options such as pairing with AmeriCorps or the Conservation Corps to get a full time staff member to help build the environmental programming without having to pay that staff member. Both these
organizations offer stipends to the people who are picked for the program. This would be a great option for getting a program started and would open doors for hiring a full time paid staff. This option is a great idea for starting the programming, yet after a base is built and people know that the program exists, hiring a professional from the outdoor education field is highly recommended.

**Recreational Opportunities for Underserved Populations**

Since the 2010 census, the City of Rosemount contains a population of nearly 23,000, a 55% increase from the previous decade (University News Service, 2014). As a growing city with young families, Rosemount’s sports and activities have long been focused on providing opportunities for active youth and young adults. As these families of young children and young workers age, it is important to consider their economic and environmental impacts within the city (Droste, 2013).

Another significant age group to consider is those mature workers (ages 45-65) and retired and semi-retired (65 and older), who account for over 20% of the 2010 census (Figure 11). With the “suburbanization of immigrants,” Rosemount is home to around 10% foreign-born, having increased from 3% twenty years ago. As these Baby Boomers continue to age and foreign-born residents make their way to the suburbs, we expect major implications on the economy, the environment, and future generations (Droste, 2013). As the last census of the Rosemount population occurred in 2010 by the United States Bureau, and the next census will not occur for another 5 years, the City Council within Rosemount will need to perform another county census to assess current city demographics. Before the following recommendations for underserved populations can be considered, the overall population of Rosemount needs to be
assessed in order to better serve the existing communities, especially as many could have
changed since the 2010 US Bureau Census.

When it comes to the focus of recreational opportunities for underserved communities,
we will center our recommendations that foster access and equity for existing and future
populations such as senior citizens, individuals who have a mental or physical disability, and
foreign-born residents. Recommendations with these themes of access and equity will ensure that
people from all walks of life are included and engaged within the Parks and Recreation
Department’s mission. These recommendations reflect the changing needs and strengths of the
City.

Although Schwarz Pond Park and Carroll’s Woods are our areas of focus, we will also
consider other nearby recreation areas such as the neighboring community center and fields
within this sector of recommendations.

The following recommendations regarding recreational opportunities for underserved
communities are divided into short-term and long-term categories. We believe short-term
recommendations are achievable within two years, though long-term recommendations may be
obtained anywhere between three and ten years. Recommendations are numerically listed by
order of importance

**Short-term Recommendations: Access, Equity, Cultural Competence**

1. *Perform a recreational needs assessment among underserved communities*

In order gage the kind and level of recreational opportunities that are desired by various
underserved communities, we recommend that the Parks and Recreation Department implement
a needs assessment for various. So to not become overwhelmed within a public forum, we
suggest that the Parks Supervisor and Recreation Supervisors each make individual appointment with an individual community representative who can effectively speak for the recreational need of each community (see recommendation #2 regarding community representative selection).

Impact:

If possible, the appointment will receive more meaning if both individuals can meet in the green space or facility of interest. This recommendation, if thoughtfully performed, will foster rapport and ultimately serve as a very strong foundation to future decisions regarding recreational.

2. Identify community representatives of underserved populations

When considering options for various communities who lack majority representation and are disadvantaged in a variety of levels, it is crucial for the Parks and Recreation Department to make a genuine, authentic gesture to learn the recreational needs of underserved populations. By identifying community representatives, the Parks and Recreation Department Supervisors will lay a basis for future consideration.

Though there are countless places and people to visit, we suggest that the Parks and Recreation Department Supervisors should initially navigate these areas: For the aging community, we recommend that the Parks and Recreation Supervisors meet with various directors from retirement, assisted living, and nursing homes. For populations who have a mental or physical disability, we recommend visiting with a variety of school psychologists and occupational therapists, who can also provide parent or relative resources. For the increasing foreign-born communities, we recommend Parks and Recreation staff first meet with immigrant service organizations, such as Lutheran Family Services or Catholic Charities. These
organizations are significant to contact because not only will they be able to provide cultural information, but their religious affiliations will also connect the Parks and Recreation staff to churches to which immigrant populations belong.

Ultimately, this recommendation is a respectful, meaningful gesture to begin ongoing conversation and action as to how Rosemount’s underserved populations can be purposefully included.

3. Implement recreational equipment and activities that are accessible to a variety of ages, abilities, and cultures

For the following recommendations, we suggest that the Parks and Recreation Department gain access to a variety of recreational equipment for activities that are adaptable to various ages, abilities, and cultures. In order to be effectively and positively experienced, the Parks and Recreation Department needs to offer a variety of recreation opportunities for participants from all walks of life. As a short-term recommendation, this is a feasible proposal, as the economic cost is minimal because no additional facilities are needed.

As of 2010, the City has begun to implement pickleball courts to existing tennis courts so to diversify the type of activities available in a single facility. As this addition has continued to receive positive feedback, we recommend that the Parks and Recreation Department consider implementing more adaptive recreational opportunities that are appealing to and adjustable for a variety of people of different ages and abilities.

Adaptive recreational opportunities to consider include

- Indoor curling
- Shuffleboard
- Bowling (lawn and indoor)
- Bocce and boccia
- Badminton
- Croquet
- Handball

Since the City expects to receive more immigrant communities, we also recommend that the Parks and Recreation Department also possess an element of cultural familiarity within recreational opportunities. Universal sports such as cricket and soccer are more familiar to these new families, as baseball and American football are commonly unfamiliar sports. These suggestions also lay a groundwork for future, cross-cultural sporting events for participants to learn the rules of a variety of sports.

Corresponding to the current foreign-born communities and existing facilities, we recommend that the Parks and Recreation Department make an effort to include a more diverse

For aging populations, birding is one of the most popular retirement activities. It offers a wide spectrum of active to passive involvement, with an important tie to education and leisure. As Schwarz Pond Park and Carroll’s Woods are prime areas for bird watching, interested retired populations have access to a naturally scenic viewing site. We recommend that the Parks and Recreation Department first, and foremost, harness this common hobby by acquire equipment such as binoculars and guidebooks for visitors to rent. This access piece will then lay a foundation for future environmental education programming to develop for this specific population.
4. Develop partnerships

As mentioned in recommendations #1 and 2, it is crucial to connect with each specific underserved community in order to gage what recreational opportunities can be implemented. On a larger scale, it is even more important to engage in greater community development to recruit stakeholders to take part in the mission of the Parks and Recreation Department. In expanding recreational opportunities for underserved populations, we recommend that the Parks and Recreation Department get in touch with a variety of service providers, including (but not limited to):

- People Incorporated
- Veterans of Foreign Wars Department of Minnesota
- Special Olympics
- Rosemount Area Arts Council
- Catholic Charities
- Ethiopian Kids Community
- YouthCARE
- Lutheran Social Services
- Various religious institutions and ministries

Working with underserved populations takes a variety of skills, expertise, and knowledge. As these communities vary across age, ability, and ethnicity, we recommend that the Parks and Recreation Department develop internship or stipend positions that directly work to develop programs that bridge barriers for the many communities. Existing positions to collaborate with or mimic include (but are not limited to):

- University of Minnesota credited internships
- REC 3796: Senior Internship in Recreation, Park, and Leisure Studies
- SMGT 3996: Practicum: The Sport Experience

- AmeriCorps
  - True North AmeriCorps

- Rosemount Schools
  - After school Science Club to host educational and recreational activities for underserved youth
  - Students needing volunteer hours for graduation requirements

**Long-Term Recommendations**

1. *Hire specialized ‘community development’ staff to oversee and develop programming for underserved populations*

As the populations diversifies and needs are assessed, we strongly recommend that the Parks and Recreation Department hire highly qualified, culturally competent staff member(s) who can effectively communicate and bridge barriers with the many communities. Ultimately, this staff member will thoughtfully implement specific recreational opportunities that complement the needs of diverse communities.

2. *Assess the levels of access in Schwarz Pond Park and Carroll’s Woods*

As a significantly large natural area, we were thrilled to witness a man with a wheelchair moseying along the paved trail of Schwarz Pond Park. These paved trails are inviting to people of all abilities, and it is important to continue to maintain these trails so that more people of different abilities can access this natural space and enjoy the fresh air. We recommend that the Parks and Recreation Department consider constructing more
accessible paved trails that surround Schwarz Pond Park, and also meander into scenic spur trails. The observation deck is a great example of an accessible, scenic vista that is wide enough for strollers, walkers, and wheelchairs.

Since the internal trails of both parks are unpaved and host higher capability recreation, we highly recommend that the Parks and Recreation Department consider creating more accessible, recreation and leisure space with similar open, natural vistas. In terms of access, the Parks and Recreation Department should construct more seating and social gathering opportunities along the paved trails. Benches in the fitting location can serve as an impromptu social hub, a resting point, or a contemplative space for all visitors who come to use Schwarz Pond Park and Carroll’s Woods for a variety of reasons. We also recommend that the Parks and Recreation Department construct several paved picnic shelters that are proximal to the main parking lot and Schwarz Pond Park. These shelters will offer opportunities for a central gathering area that is accessible to all attendees.

3. Assess access and equity levels of facilities and programs.

When assessing current and future facilities and programs, it critical for the Parks and Recreation Department to consider levels of access and equity, which come in a variety of ways. Whether financial constraints, personal disability, language barrier, access to transportation, there are many barriers that underserved populations face. The following recommendations will support the Parks and Recreation Department in navigating through common barriers among underserved communities, and ultimately work toward an inclusive mission.
**Option 1: Changing the Participant Selection Process within the Rosemount Garden Plots**

As a popular, even wait-listed program, Rosemount’s garden plot program has proven a successful, influential activity for its residents. Community gardens are not only a local, sustainable food resource, but they are also a means to build community relationships. If selected for a plot, participants pay a $30 annual fee. Though a small cost for a considerable amount of food, this is considered a financial barrier to low-income families. Especially for immigrant populations who may come from agricultural communities, including their passion and expertise to this program will have significant impacts to the community. We recommend that the Parks and Recreation Department consider changing the “grandfathered” selection system to a three-year lottery, so to give participants the chance to improve their green thumb as well as provide more cultural and skilled integration opportunities.

Another significant program and area to consider for immigrant communities are the existing garden plots within the City of Rosemount. Though a popular, wait-listed program, we consider this to be a significant program that will be enhanced when immigrant communities are included

**Option 2: Allot Unreserved Green Spaces and Facilities**

For many non-Western cultures, the concept of renting and reserving space is unfamiliar. Since many underserved communities may not have equal access (such as owning a telephone or being proficient in the English language) to reserve facilities for gatherings, we recommend that Parks and Recreation Department allot several green
spaces and facilities that do not require a prior reservation, or traditional use. Perhaps a Somali community needs a worship space, or a family wants to celebrate their grandfather’s 90th birthday under the picnic shelter; event spaces that are not exactly specific to Parks and Recreation, but are embraced and encouraged are an important, inclusive asset to uphold when considering the many uses of Rosemount’s green spaces and facilities. For a time-oriented culture, creating access opportunities that do not require a reservation will speak volumes of an inclusive, resilient community.

In a similar vein, it is also significant to effectively communicate to different communities as to how to make reservations for highly sought spaces and facilities. Language barriers will be a common challenge that the City will face, so it as more immigrant populations arrive. Therefore, it is essential that the Parks and Recreation Department be intentional at seeking out different community representatives (short-term recommendation #2) to demonstrate how to make a reservation for larger, more popular spaces.

**Option 3: Implement Specialized Recreation Opportunities**

Within this recommendation, it is also important to consider access to indoor recreation opportunities. At the community center, open gym hours are a structured event, where visitors can use the space for free for a variety of different activities. In order to make this a known event that is also inviting to underserved communities, we recommend that the Parks and Recreation Department implement recreational “open gym-like” programming that is specific to various communities, including (but not limited to):
• Wheelchair basketball

• Sports for children and adults with special needs, such as volleyball, soccer, bowling, kickball, baseball (T-ball)

Programming of this nature that appeals to a variety of abilities, emphasizes the inclusive community that the Rosemount Parks and Recreation strives for. Children and adults who have special needs, as well as their parents and loved once can actively participate, positively socialize, and ultimately enjoy their time together in a safe, comfortable, supportive environment.

4. Implement “cultural broker” sessions with community leaders and staff

When working with other cultures, whether U.S. born or foreign-born, it is imperative that staff become familiar with customs, traditions, and values, preferably before initial interaction. As “cultural brokers,” staff will bridge, link, and mediate between groups of differing backgrounds for the purpose of reducing conflict and producing positive change (“Cultural Broker,” 2003).

Communication is a key factor in the success of community resilience. With an expected population growth, it is important to identify leaders within each community and connect them with a relevant, individual staff member of the Parks and Recreation Department. Together the individuals can have an effective conversation to discuss community needs, requests, and questions—all the while building rapport, respect, and trust.
Concluding Remarks on Recommendations and the Long-Range Plan

In order to create and sustain resiliency, our recommendations must be continually adapted and changed to fit the needs of the existing community, as well as thoughtfully considered for future generations. We see that the first steps in beginning to build a resilient community is laying a groundwork of equal access and opportunity to education and recreational facilities and programs. By implementing nature-based play within Rosemount, children will be reintroduced to the wonders of nature and gain monumental experiences in their upbringing. And by ensuring inclusive facilities and programs to all Rosemount residents, the Parks and Recreation Department will uphold its mission of providing an essential service that positively impacts the health, environment, economy, and quality of life throughout the City. Ultimately, we hope these recommendations not only help improve visitor turnout, but also empower the greater community to learn more about their nearby natural areas and their neighbors. We are so grateful for having the opportunity to be a participant of the Resilient Communities Program and have the privilege to work alongside the staff of Rosemount Parks and Recreation Department.
REFERENCES


