

# SPRING LAKE REGIONAL PARK MASTER PLAN REPORT



PREPARED FOR:

SCOTT COUNTY, MINNESOTA

AUGUST 2006





# ACKNOWLEDGMENTS

## OVERVIEW

In early 2006, the Scott County Board of Commissioners retained Brauer & Associates, Ltd. to collaborate with county staff and local citizens to complete a comprehensive master plan for Spring Lake Regional Park. This document represents the results of the planning process, which was completed in August of 2006.

## ACKNOWLEDGMENTS

The consultant team would like to thank Scott County for undertaking an open and constructive public participation process for the project. This approach allowed for various perspectives to be considered on important planning issues that affected the master plan for the park. Through this process, it is believed that a responsible balance between human use of the park and its ecological protection was achieved.

The consultant team would also like to thank the Spring Lake Regional Park Master Plan Technical Advisory Committee, Scott County Parks Advisory Commission, and Scott County Board for participating in this project. Their individual and collective insights were instrumental in drawing conclusions that were reasonable, responsible, and insightful.

The consultant team also extends a heartfelt thank you to the Scott County staff, especially Dawn Gibas, Ph.D and Patricia Freeman. The openness with which they approached this project paved the way for a constructive public dialogue that considered all opinions to be of equal merit and worthy of due consideration. Their understanding of the larger regional context, pressing park needs, and how Spring Lake Regional Park fits into the larger regional park picture proved to be valuable as final conclusions were drawn.

Finally, the consultant team extends a thank you to the citizens, City of Prior Lake, and staff from various agencies and organizations who took the time to attend meetings, write letters, and make phone calls so that we could understand the issues first hand and find solutions that seemed reasonable and workable.

Sincerely,

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# SECTION I INTRODUCTION AND PLANNING FRAMEWORK

## OVERVIEW

The project focused on preparing a comprehensive master plan for Spring Lake Regional Park. The process took into consideration Scott County's Parks, Trails, and Open Space System Policy Plan, the setting, recreational and educational needs of the region, and the natural resources of the park. The master plan establishes a vision for the park and provides guidelines for its ecological management and physical development to accommodate public use. The plan is also a tool to be used for public presentations and preparing funding applications.

Although comprehensive, the master plan remains dynamic and will evolve over time. It should be viewed as firm enough to guide park improvements, yet flexible enough to change based on increased knowledge, experience and changing public needs as the plan is implemented.

## INTERRELATIONSHIP WITH PREVIOUS MASTER PLANS

The last master plan for the park was completed when the park was administered as part of the Three Rivers Park District. Under Scott County's regional authority, Spring Lake Regional Park was the first new master plan that was prepared. Although some of the provisions of previous master plans remained valid, changes in the park's recreational and educational demands and approaches to natural resource stewardship warranted a complete update, as reflected in this document. As of the date of adoption of this plan, the previous plans are no longer valid.

## PUBLIC AND SCOTT COUNTY INVOLVEMENT IN THE PLANNING PROCESS

Given the notable interest in the future development and protection of Spring Lake Regional Park, the general public and special interest groups were invited to participate in the planning process on a number of occasions. Through formal and informal meetings, the public had direct access to Scott County staff and the consultant team. The public's input throughout the planning process proved very fruitful and strengthened the final plan.

In addition to general public involvement, the Spring Lake Regional Park Technical Advisory Committee and Parks Advisory Commission provided oversight of the planning process at critical points. Being familiar with local conditions and public demand for certain types of facilities, Scott County staff inherently played an instrumental role in the master planning process. Under the planning framework, the advisory committees, and staff specifically focused on the following key roles:

- Providing perspective and feedback on all planning issues
- Reviewing and commenting on all findings and master plan outcomes
- Reaching consensus on a final master plan

## PUBLIC AGENCY INVOLVEMENT

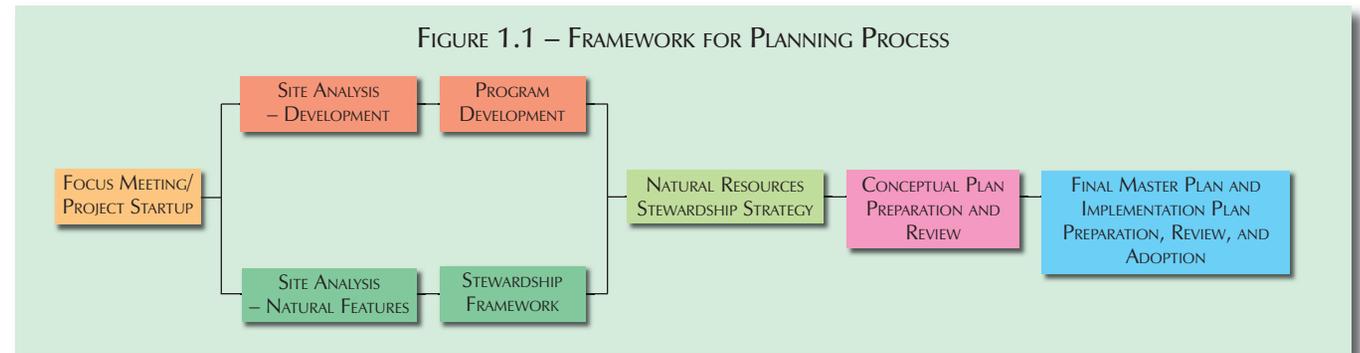
A variety of individuals from public agencies and organizations were involved in the planning process in both an official and advisory capacity, the latter of which was largely through the *Spring Lake Regional Park Technical Advisory Committee*. The committee included representation for the following agencies and organizations (in addition to citizens):

- Scott County Board
- Scott County Parks Advisory Commission
- City of Shakopee
- Shakopee Mdewankanton Sioux Community
- City of Prior Lake
- Prior Lake - Spring Lake Watershed District Board
- Carver County Parks
- Metropolitan Council Parks and Open Space Commission
- Scott County staff

The advisory committee participated throughout the planning process, including attending five planning meetings and two public open houses. The individual and collective input of the committee proved valuable in determining the best course of action on complex planning issues.

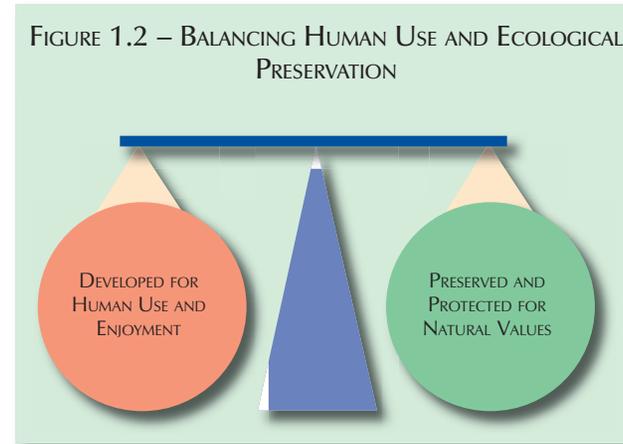
## PUBLIC AND SCOTT COUNTY INVOLVEMENT IN THE PLANNING PROCESS

The planning process followed a step-by-step procedure in which public participation was an integral part. The process ensured that pertinent issues were considered and addressed in the proper sequence and with due diligence. It also ensured that ecological issues were kept at the forefront of all discussions and land use decisions. Figure 1.1 illustrates the basic framework for the planning process.



## BALANCING HUMAN USE AND ECOLOGICAL PRESERVATION

Finding the right balance between human use of the park and its ecological preservation and protection was an important and consistent public concern throughout the planning process, as illustrated in figure 1.2 on the next page.



Since regional parks place significant emphasis on preserving natural values, the planning process went to extensive lengths to ensure that the natural qualities present within the park would be preserved. In addition to its intrinsic values, stewardship of the park's natural landscape will also enrich the human, or cultural, experience for those visiting the park.

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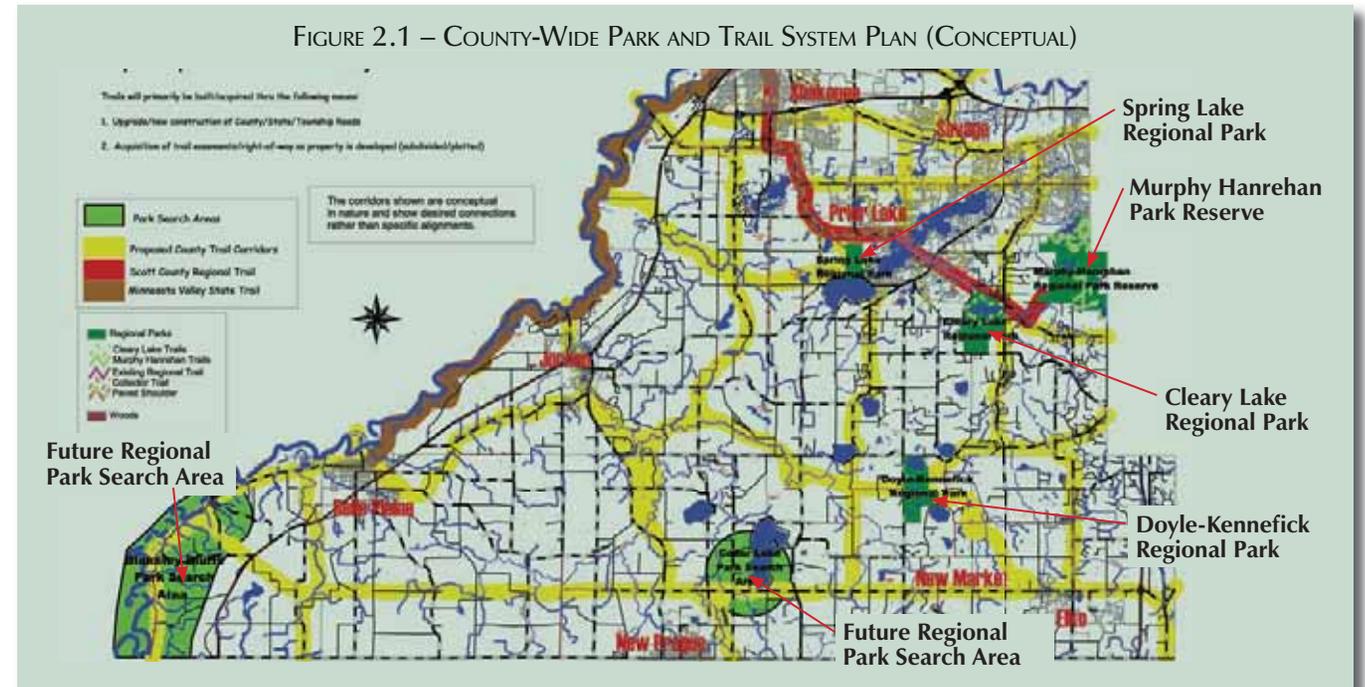
# SECTION II SETTING / TRENDS / FINDINGS FROM THE PUBLIC PROCESS

## OVERVIEW

This section of the master plan considers the setting for the park, regional trends affecting its future, and findings from the public process. Considered collectively, these variables played a major role in shaping the master plan and how the decisions made today will affect the park 10, 20, or even 50 years hence.

## SETTING

Scott County currently administers a number of regional park units, including Spring Lake Regional Park and Doyle-Kennefick Regional Park. Two additional regional parks are also located in Scott County but administered by Three Rivers Park District. These include Cleary Lake Regional Park and Murphy Hanrehan Regional Park Reserve. Scott County is also evaluating a number of search areas for additional regional parks at some point in the future. Figure 2.1 illustrates the location of these parks and search areas on a county map.



At approximately 360 plus acres once acquisition is completed, Spring Lake Regional Park would remain the smaller of the two regional park units administered by Scott County. In addition to being well situated to provide a balanced array of recreational opportunities, the park exhibits an impressive cross-section of natural plant communities and ecological systems that will provide respite from the burgeoning development pressure in the area surrounding the park.

## REGIONAL PARK CONTEXT

In 1975, the State Legislature passed the Metropolitan Parks Act that established the Regional Park System. Under Three Rivers Park District, Spring Lake Regional Park was defined as a resource of metropolitan significance, which warranted it being designated as a regional park. As a newly established implementing agency for the regional park system, Scott County now has the responsibility to develop and implement plans for property acquisition and development associated with the park. The master plan presented here replaces the past master plan for the park and takes into consideration the recreational needs that were defined as part of the public process and regional trend information included in this section.

### RELATIONSHIP WITH OTHER REGIONAL PARKS WITHIN SCOTT COUNTY

Within the regional context, Spring Lake Regional Park interrelates with a number of other regional parks within Scott County, as previously identified in figure 2.1. These parks include:

- **Doyle-Kennefick Regional Park** – will ultimately consist of 900 acres of rolling terrain with a nice lake, wetlands, maple-basswood forests, and historic farm site. Scott County currently owns 440 acres of this site. The park is currently undeveloped and not open for public use.
- **Cleary Lake Regional Park** – is a 1,045-acre park that is one of the most popular year-round recreation spots in the southern metro area. A visitor center/clubhouse offers concessions, room rentals and recreation rental equipment. A 9-hole golf course and driving range is provided, along with water sports including swimming, boating and fishing, and winter activities, including extensive cross-country skiing on groomed trails. Other facilities include a visitor center, picnic areas, group campsites, paved bike/hike trail, turf hiking trails, dog off-leash area, and creative play area.
- **Murphy Hanrehan Park Reserve** – the glacial ridges and hilly terrain make the park reserve one of the most challenging cross-country ski areas in the Twin Cities. The terrain also is popular with horseback riders, mountain bikers, bird watchers and hikers. With the exception of the trails, this 2,400-acre park reserve remains undeveloped. The extensive forests make this the best park in the system for woodland songbirds.

The functional interrelationship between Spring Lake Regional Park and these other regional amenities was duly considered during the master planning process to ensure that each park unit complements the other. The master plan presented here is believed to achieve that goal.

### RELATIONSHIP WITH REGIONAL TRAILS

Spring Lake Regional Park will ultimately interconnect with a number of regional trails planned within the county, including Scott, Spring Lake, and Southern Scott Regional Trails. The park's interconnection with these trail corridors is further considered on page 6.12 in *Section VI – Development Master Plan*.

## CURRENT PARK USES

As an undeveloped park, use patterns have not been extensively tracked. Based on input during the public process, local residents routinely hike through the park on “social” trails. Snowmobilers also use the park as a means to get from Prior Lake over to Spring Lake. Otherwise, current uses are very limited. Although the park’s use is currently relatively low, its innate characteristics coupled with the growing population within the service area suggest that use will be very robust once it is developed for use.

While current use data provides limited insights about future use levels, trends forecasting does allow for projecting future demands and determining how the park is best developed to meet future recreational needs. To this end, trends related to changes in the population and recreational interests were taken into consideration during the preparation of the master plan.

As defined by the Metropolitan Council, a variety of trends are expected to impact the use of the regional park system over the next fifty years. The following defines the overarching trends that had a direct impact on master plan outcomes for this park.

### POPULATION TRENDS FOR THE TWIN CITIES METROPOLITAN AREA AND SCOTT COUNTY

One of the more important trends is that the population in the metropolitan area is expected to continue to grow by a substantial amount over the next 20 to 30 years. As shown in figure 2.2, the population forecast reveals that the population in Scott County is expected to be at the top in terms of percentage increase in population over that time period.

Undoubtedly, this growth trend will put increasing pressure on developing Spring Lake Regional Park to service an expanding population with a wide range of outdoor recreation pursuits and service expectations.

**FIGURE 2.2 – REGIONAL POPULATION FORECAST**

*Population forecasts stratified by regional park agency jurisdiction. (Source: Metropolitan Council.)*

County/City	Population Estimates			Total Increase from 2000		% Increase from 2000	
	U.S. Census	2020	2030	2020	2030	2020	2030
Dakota County	355,904	480,150	517,010	124,246	161,106	35%	45%
Suburban Henn County	648,410	796,530	856,800	148,120	208,390	23%	32%
Washington County	201,130	316,043	365,570	114,913	164,440	57%	82%
Anoka County	298,084	399,810	413,260	101,726	115,176	34%	39%
Scott County	89,498	193,900	221,670	104,402	132,172	116%	148%
Carver County	70,205	159,300	191,380	89,095	121,175	127%	173%
Suburban Ramsey County	223,884	250,860	267,900	26,976	44,016	12%	20%
St. Paul	287,151	320,000	331,000	32,849	43,849	11%	15%
Minneapolis	382,618	423,000	435,000	40,382	52,382	11%	14%
Bloomington	85,172	90,500	93,000	5,328	7,828	6%	9%
<b>Total</b>	<b>2,642,056</b>	<b>3,430,100</b>	<b>3,692,600</b>	<b>788,044</b>	<b>1,050,544</b>	<b>30%</b>	<b>40%</b>

*Note: Suburban Hennepin County does not include Bloomington or Minneapolis, and Suburban Ramsey does not include St. Paul.*

## TRENDS IN PARK VISITS

With an increasing population comes an increase in the number of park visits. When looking further into park visit trends, the numbers become even more telling as to the demands that will be placed on regional park resources, such as Spring Lake Regional Park. Figure 2.3 provides an estimate in the number of visits to the regional system for 2020 and 2050, as projected by the Metropolitan Council. With an increase in visits comes a propensity for crowding, with fewer acres available on a per person basis than there are today. From a planning perspective, the challenge lies in developing the park to meet future demands without significantly diminishing the user experience.

FIGURE 2.3 – TRENDS IN REGIONAL PARK VISITS

*Trends in overall park visits to the regional park system. (Source: Metropolitan Council System Analysis of the Regional Recreation Open Space System.)*

	1999 Visits (1,000's)	2020 Visits (1,000's)	2050 Visits (1,000's)	2020 % increase	2050 % increase
Scott	187	249	308	33%	65%
Carver	175	225	280	29%	60%
Washington	586	743	908	27%	55%
Dakota	750	925	1,128	23%	50%
Anoka	1,843	2,165	2,610	17%	42%
Hennepin	3,235	3,715	4,240	15%	31%
Ramsey	1,577	1,771	2,004	12%	27%
Bloomington	807	902	1,003	12%	24%
St. Paul	4,588	5,136	5,665	12%	23%
Minneapolis	15,525	16,903	17,994	9%	16%
<b>TOTAL</b>	<b>29,273</b>	<b>32,733</b>	<b>36,140</b>	<b>12%</b>	<b>23%</b>

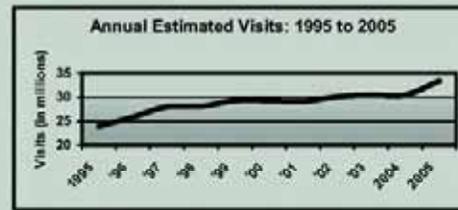
These longer term projections are bolstered by recent trends in park usage levels, as reflected in the most recent (2005) annual use estimate prepared by the Metropolitan Council and exhibited in figure 2.3 on the next page.

FIGURE 2.4 – ANNUAL USE ESTIMATE OF THE METROPOLITAN REGIONAL PARKS SYSTEM FOR 2005

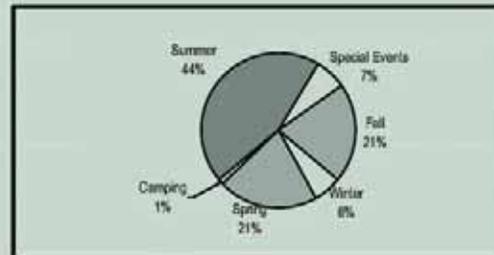
Source: Metropolitan Council

### Executive Summary

- An estimated 33,437,100 visits were made to the Metropolitan Regional Parks System in 2005. Visitation increased 9.6 percent, or about 2,963,000 visits, from the 2004 estimate. This is the largest yearly increase since 1995. The increase is primarily attributed to the following factors:
  - Much drier and warmer summer weather in 2005 compared to 2004 attracted more visitors.
  - Four more park and trail units were counted that were not counted in 2004.
  - Improved facilities and expanded facilities attracted more visitors.
  - An increase in larger group activities and special events (e.g. Taste of Minnesota at Harriet Island Regional Park, which used to be held at the State Capitol)
- Estimated annual visits have increased 39.8 percent since 1995, when visits were estimated at 23.9 million. Forty percent of the increase is attributed to the opening or inclusion of 13 parks and trails to the Regional Park System during this period. A total of 77 park and trail units were sampled in 2005 compared to 73 units sampled in 2004, and 64 in 1995.



- Distribution of estimated visits by seasonal day use, camping and special events:



- Estimated visits to regional trails grew about 12% and visits to park units (regional parks, park reserves and special recreation features) grew 8.9% from 2004.
- Fifty-nine percent of all estimated visits occurred in regional parks and trails in Minneapolis and St. Paul. This continues a decrease in the share of visits to those parks and trails in the regional system over time (60.1% share in 2004). This is due primarily to more park and trail facilities and population growth occurring outside these two cities.
- Walking is the top activity in the regional parks system (34 percent of all visits involved walking as an activity), followed by biking (19 percent), swimming (17 percent) and picnicking (13 percent) based on data collected in 1998-99 in the Metropolitan Regional Parks and Trails Study.

## TRENDS IN RECREATIONAL DEMANDS

Through review of a variety of studies undertaken by the Metropolitan Council, along with other sources, much can be learned about recreational trends influencing decisions about Spring Lake Regional Park's future development. From a regional perspective on park needs, figure 2.5 provides insight into the interests and perspectives that people have regarding various forms of recreational activities.

FIGURE 2.5 – INTEREST IN OUTDOOR-BASED ACTIVITY

Source: "Leisure Trends in the Twin Cities – University of Minnesota Survey Research Center (1996).

Outdoor-Based Activity (Ranked by Column 2, "Have Participated")	"I am not interested in this activity." (%)	"I am interested in this activity and have participated about as often as I wanted to in the last 12 months." (%)	"I am interested in this activity but I have NOT participated as often as I would have liked to in the last 12 months." (%)
Walking (around your neighborhood)	15	72	13
Walking (in natural area, large parks)	22	57	21
Picnicking	27	52	22
Attending sports events as a spectator	35	45	21
Casual sports (catch, frisbee, pickup games, etc.)	43	43	14
Gardening	37	41	22
Visiting playground areas outdoors	46	41	10
Visiting conservatory, arboretum, public gardens	33	39	29
Swimming or sunbathing at a beach	44	35	21
Informal birdwatching, nature study	52	35	14
Biking, 3 miles or less	48	34	19
Camping	42	33	25
Swimming or sunbathing at a pool	52	31	18
Fishing	44	29	27
Biking on paved trails in natural areas, large parks	51	26	23
Power boating, waterskiing, racing, jetskiing	60	23	17
Sledding	60	21	19
Other team sports (basketball, softball, soccer, etc.)	66	20	11
Jogging, running	70	20	10
Non-power boating (canoeing, sailing, sailboarding, etc.)	56	19	25
Biking on unpaved trails in natural areas, large parks	70	16	15
Inline skating, roller skating/skiing, skateboarding	75	14	11
Road biking	76	14	10

Outdoor-Based Activity (continued) (Ranked by Column 2, "Have Participated")	"I am not interested in this activity." (%)	"I am interested in this activity and have participated about as often as I wanted to in the last 12 months." (%)	"I am interested in this activity but I have NOT participated as often as I would have liked to in the last 12 months." (%)
Racquet sports (tennis, squash, racquetball, etc.)	72	13	15
Cross-country skiing	72	12	16
Snowmobiling	78	10	12
Ice skating (figure, speed, etc.)	79	10	11
Horseback riding	76	6	19
Playing ice hockey	89	6	5
Golf	90	6	5
Formal bird watching/nature study	86	5	9

## Various Perspectives on Parks

Source: "Leisure Trends in the Twin Cities" – University of Minnesota Survey Research Center (1996).

Statement	Percentage of residents indicating agreement/disagreement with the following:				
	Strongly Agree (%)	Agree (%)	Neither Agree nor Disagree (%)	Disagree (%)	Strongly Disagree (%)
"I think parks would be valuable even if I didn't actually use them very much."	60	34	5	1	1
"I think more park land will have to be acquired to serve the population of the Twin Cities Metropolitan Area in the year 2010."	26	37	24	11	3
"I think we should improve the maintenance of existing parks before we develop any new ones."	18	38	29	13	2
"I think more park land should be acquired to serve the present population of the Twin Cities Metropolitan Area."	23	31	28	13	4
"I think we should develop the park land we have before we buy any more."	14	34	31	17	4

Whereas the last figure provides a snapshot of people's preferences at a given point in time, looking into the future and forecasting trends in visits to the regional park system is also very telling and important to the master planning process. Figure 2.5 provides some insights regarding use estimates in 2005 and projected out into future decades.

FIGURE 2.5 – TOP ACTIVITIES IN THE REGIONAL PARK SYSTEM – 2005 AND FUTURE

Top activities in regional parks – 2005. (Source: Metropolitan Council Annual Use Estimate of the Metropolitan Regional Parks System for 2005.)

Activity	% of park activity occasions <sup>1</sup>
Walking/hiking	30%
Biking	13%
Swimming/wading	21%
Picnicking	16%
Relaxing <sup>3</sup>	15%
Jogging/running	6%
Playground use	10%
Sunbathing	8%
Zoo visits	7%
In-line skating	4%
Fishing	6%
Dog-walking	1%

Trends in overall park visits to the regional park system. (Source: Metropolitan Council System Analysis of the Regional Recreation Open Space System.)

Activity	Base <sup>1</sup> (1,000's)	Projected change for 2020 (%)	Projected change for 2050 (%)	Projected visits for 2020 (1,000's)	Projected Visits for 2050 (1,000's)
Walking/hiking	9,548	23%	48%	11,744	14,131
Biking	5,482	18%	54%	6,469	8,442
Non-pool swimming	4,280	12%	37%	4,794	5,864
Picnicking	3,240	16%	23%	3,759	3,985
Sightseeing	1,020	34%	76%	1,367	1,795
Fishing	1,160	11%	15%	1,288	1,334
Motorboating	540	7%	20%	578	648
Nonconsumptive wildlife activities	360	40%	72%	504	619
nonmotorized boating	300	33%	78%	399	534
Developed camping	280	19%	32%	333	369
Family gathering	220	14%	33%	251	293
Cross-country skiing	217	-1%	18%	215	256
Horseback riding	60	27%	100%	76	120
Snowmobiling	N/A	42%	121%	N/A	N/A
Visiting historic places	N/A	39%	76%	N/A	N/A
Visiting a beach or waterslide	N/A	14%	35%	N/A	N/A
Hiking	N/A	12%	24%	N/A	N/A
Backpacking	N/A	-2%	10%	N/A	N/A
primitive camping	N/A	-4%	-20%	N/A	N/A
<b>Metro Population increase</b>	<b>N/A</b>	<b>18%</b>	<b>39%</b>	<b>N/A</b>	<b>N/A</b>
<b>Total</b>	<b>26,707</b>	<b>19%</b>	<b>44%</b>	<b>31,775.5</b>	<b>38,391.3</b>

<sup>1</sup> Base number of visits were determined using the Metropolitan Council's 1999 Annual Use Estimate and 1998/99 Regional Parks Visitor Study. It was not possible to determine the base visits for 1999 for those activities labeled "N/A". For some activities such as "hiking" and "visiting a beach or waterslide", they are partially subsets of broader activity categories ("walking" and "nonpool swimming").

## OTHER REGIONAL TRENDS

A number of other notable regional trends add insight into the long-term prospects for Spring Lake Regional Park in terms of user base and challenges. As defined in the Metropolitan Council System Analysis of the Regional Recreation Open Space System study, these include:

- Current lower than expected use of the regional park system by teens and young adults will be reflected in lowered future use of the regional park system by these groups. Leisure research has shown that recreation habits are formed as children and teenagers. What this means is that if teens and young adults are currently not using the regional park system, it is probable that they will continue through their adult life to not use the regional system. Education at an early age about the values that regional parks can bring to one's life will be important to changing this trend.
- The baby boom generation will continue to have a large presence in the regional park system, but their needs will change. The baby boom generation is currently using the regional park system at rates that are higher than their actual share of the metropolitan area population. Visitation by people over the age of 60 is expected to increase as the baby boom generation ages and continues their use of the regional park system. Facilities will need to be kept up to Americans with Disabilities Act (ADA) standards, and more opportunities for low impact and educational learning opportunities should be provided to meet the needs of this growing user base.
- The regional park system will see the effects of an increase in population neutralized to a large degree by a major segment of the population that has not developed a leisure routine that includes visiting regional parks. This is a result of the current under-use by teens and young adults, who will also be less likely to take their children to regional parks, which could develop a downward trend in visitation over multiple generations. The Council and implementing agencies are aware of this issue and will be working on assessing potential barriers to participation and identifying ways to increase visitation to the regional park system by these age groups.
- Facilities in regional parks need to be assessed to ensure they help meet the needs of the growing ethnically-diverse segments of the population.
- Demand for mini-vacation opportunities in the local area will increase. Camping in regional parks may become more popular among local residents. Expect increased interest and markets for packages that combine camping with resource education programs or specific organized events such as bird banding, astronomy, walking or adventure recreation.
- Increasing oil prices may decrease automobile fuel consumption and long auto-trips to national or state parks may decrease in frequency. As such, demand for local recreation opportunities that involve less travel will increase, as will non-automobile access to regional park system units.
- Over the next ten years, the number of recreational vehicles (RVs) and proportion of households with an RV should rise moderately, to 3.1 % of all households. Regional park units will be challenged with the pressure to develop more RV-oriented sites while trying to meet the needs and desires of local residents.

## PARK MANAGEMENT TRENDS

As defined by the Metropolitan Council, "a new paradigm is emerging in the regional park system that focuses on the benefits obtained from visiting parks. This new approach focuses on providing quality benefits to individuals, social/community benefits, economic benefits and environmental benefits." As stated by the Council, this approach takes on a more holistic attitude than previous management approaches.

Under this approach, the report makes the following points:

- The regional park system needs to have a stronger focus on identifying and quantifying the benefits provided by the system.
- Community and environmental benefits and costs will play an increasingly important role in decisions made about planning, managing and funding the regional park system.
- Quantifying the economic benefits of regional parks will strengthen the ability of the system to compete for funding and will allow for inclusion of parks in the economic models used in making decisions that affect the region.

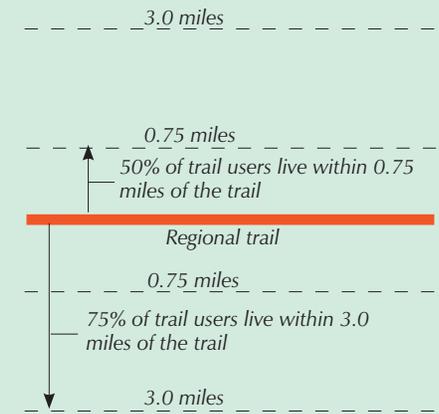
#### SIDEBAR ON TRAIL USE

In terms of actual users of trails, recent research by the Metropolitan Council indicates that majority of trail users live within three miles of the trail, as figure 2.6 illustrates. This suggests that the majority of trail use within the park will be from the surrounding area, not people driving to the area from outside the region.

#### AFFECT OF REGIONAL TRENDS ON MASTER PLANNING SPRING LAKE REGIONAL PARK

The regional trends clearly suggest that Spring Lake Regional Park will play an important role in meeting future demands for parks and open spaces in Scott County. When considering the type of recreation that people will be pursuing in future years, many of the top recreational activities will be accommodated within the park. As the population of the area continues to grow, yearly increases in park visits within Scott County can also be expected. In addition, the type of activities provided in the park need to appeal to both young and old age groups. This is important in that while the park must appeal to an aging population, it must also appeal to the leisure routines of younger age groups. The balance of recreational opportunities provided under the master plan attempts to bridge this gap.

FIGURE 2.6 – TRAVEL DISTANCES FOR TRAILS



#### LOCAL PUBLIC INPUT

The public process was structured to allow all interested parties ample opportunity to participate in developing the master plan. In addition to formal meetings with the Scott County Parks Advisory Commission and Board of Commissioners, a number of other public meetings were also held to give the public-at-large the chance to voice their opinions and critique planning and design ideas. The table on the right summarizes these formal points of public review and input.

#### PUBLIC MEETING SCHEDULE

December 7, 2005 – Public Open House  
 January 5, 2006 – Technical Advisory Committee  
 February 2, 2006 – Technical Advisory Committee  
 March 2, 2006 – Technical Advisory Committee  
 April 5, 2006 – Parks Advisory Commission w/Technical Advisory Committee  
 May 10, 2006 – Public Open House  
 June 27, 2006 – Board of Commissioners Workshop  
 July 12, 2006 - Parks Advisory Commission w/Technical Advisory Committee  
 September 2006 – Board of Commissioners (Formal approval of the Master Plan)

## FINDINGS FROM THE PUBLIC PROCESS

In general, the findings from the public process validated the recreational trends forecasts presented in this section. The initial public meetings were also fruitful in defining how the current park functions and how new uses can best be accommodated. After consideration of a number of conceptual ideas, consensus was gained for the master plan presented in this report. The following summarizes the key points made during the initial public meetings as they relate to major development issues.

### **Level of Development/Natural Resource Protection:**

- Accommodate the recreational activities that address regional needs as defined by recreational trends and that are appropriate for this particular setting
- The development footprint should be kept as small as possible in order to preserve natural open space areas
- The park area north of County Road 12 should be kept as natural as possible, with the major group use area located south of the road along the lakefront
- Ecological stewardship of the park was considered to be of critical importance
- The park should complement, not duplicate, services provided in other parks and nature centers in the area

### **General Issues Raised:**

- Consensus that paved trails should be kept on the periphery of the park as much as possible and used to link major use areas together and keep bicycles off the main road. Developing a more extensive network of natural-surfaced trails received very strong support.
- Spring Lake is not well suited for swimming and therefore no beach should be provided
- There was also very little support for a RV type campground, boat launch, and other larger space consumptive uses unless demand was clearly documented
- There was support for leaving the snowmobile trail where it currently is located, but not expanded
- Walking with pets is a popular activity and the idea for an off-leash pet area surfaced as being a desirable amenity
- Providing more “family-oriented” use areas was thought to be needed to increase park use
- Making a trail connection to the proposed regional and county trails to the north and south of the park was defined as important
- Creating a master plan that is aesthetically appealing as viewed from within and outside the park, as well as from the lake, was an important consideration
- Maintaining a reasonable buffer between the park and adjoining properties was considered one of the most important issues by those attending the meetings

## CONCLUSIONS

In consideration of the regional trends and findings of the public process, it is clear that Spring Lake Regional Park is an essential component of the regional park system and will be vital to servicing the recreational needs of residents within Scott County and adjoining counties and cities in the years to come.

# SECTION III VISION STATEMENT

## OVERVIEW

The vision statement establishes the context for preparing the master plan and the basis for planning decisions related to ecological stewardship and development.

## SCOTT COUNTY

Spring Lake Regional Park is part of the Scott County regional and county park system, which is defined in the *Scott County Parks, Trails, and Open Space Policy Plan*. Within that plan, the vision for Scott County regional parks is stated as follows.

### **Vision Statement for Scott County Parks:**

*“The vision for parks, trails, and open space in Scott County is a coordinated system of natural resource-based parks, open spaces, and trails that enhance the quality of life for present and future generations by acquiring, preserving, developing, maintaining, and managing important natural, historic, and/or cultural areas and landscapes; providing opportunities for the recreational enjoyment and education of the public; and complimenting the opportunities by other outdoor education and recreation providers.”*

The vision and goals established for Spring Lake Regional Park are consistent with and supportive of Scott County’s broader vision and goals as defined by the County Board’s five strategic initiatives:

- Create safe, healthy, and livable communities
- Develop strong public participation and an active and informed population
- Sustain the County’s excellent financial health and economic profile
- Provide a supportive organizational culture which enhances the County mission
- Manage the challenges and opportunities derived from growth and development

## VISION AND GOAL STATEMENT

The vision for Spring Lake Regional Park that emerged through the planning process is to *“create a regional park that focuses on preserving the ecological integrity of the land while providing appropriate recreational and educational opportunities.”*

Goals in support of this vision is to develop a master plan that:

- Limits the built footprint to only that which is necessary to support appropriate recreational activities
- Has popular support for the type and extent of development
- Balances generalized use with select specialized use
- Balances ecological resource protection with recreation and education
- Maximizes educational opportunities and tells the story of the park’s natural history
- Has a regional focus and appeal to attract visitors from beyond the immediate local area
- Is practical and can be implemented, and identifies priorities and strategies for implementation

The master plan is successful in adhering to this vision and achieving the stated goals.

## THEMES AND SUB-THEMES

In support of the vision statement, a number of themes were identified for Spring Lake Regional Park to help guide the development of the master plan.

### OVERARCHING THEME

*“Discover Spring Lake Regional Park, a gem in your backyard — preserve, protect, and share the experience.”*

### SUB-THEMES

Within the context of the overarching theme, the plan also builds on the following sub-themes.

#### **Natural History:**

- Enhance plant community diversity over time
- Provide ongoing stewardship and preservation
- Enhance habitat connectivity

#### **Landforms and Features:**

- Preserve character of rolling landscape
- Take advantage of views and vistas

#### **Wildlife:**

- Enhance wildlife diversity
- Minimize habitat fragmentation

#### **Recreational Uses:**

- Provide recreational opportunities appropriate for setting
- Take advantage of outdoor educational opportunities
- Preserve quiet contemplative spaces
- Ensure connectivity between uses

These themes and sub-themes are incorporated into the master plan.

# SECTION IV PARK BOUNDARY PLAN

## OVERVIEW

As shown on figure 4.1 on page 4.2 and described in this section, additional park dedications will be accomplished through agreements between the City of Prior Lake and Scott County and a cooperative partnership with the Shakopee Mdewankanton Sioux Community, an adjacent property owner. Based on the current rate of development in the area surrounding the park, it is expected that in the next 10 years the park will reach its ultimate size.

## PARK BOUNDARY CHANGES COMPLETED IN 2005/2006

In 2005, Scott County and City of Prior Lake negotiated an agreement approved by the Metropolitan Council to convey ownership of 39 acres of regional park land to the City for active park uses. Under the terms of the agreement, Scott County and the Metropolitan Council considered the land conveyance as advantageous for the regional park system within the county. A key provision of the agreement included the City of Prior Lake agreeing to use its park dedication authority to acquire and convey select adjoining natural resource areas to Scott County for inclusion in Spring Lake Regional Park. In addition to their natural values, these lands will help buffer the park from existing and future adjacent residential development. Under the agreement, the land transfer will result in a net gain of regional park land, with the City of Prior Lake agreeing to convey approximately 51 acres of adjoining lands to Scott County as it becomes available through park dedication. (In February 2006, approximately 18.5 acres of these dedications were conveyed to the County and are now part of the regional park. It is anticipated the remaining park dedications will occur within the next 10 years.) Another key provision of the agreement is that Scott County received \$864,000 from the City of Prior Lake for park land purchases, much of which is being used to acquire land for Doyle-Kennefick Regional Park. Figure 4.1 on the next page illustrates the negotiated land transfers as described.

## ULTIMATE PARK BOUNDARY

At the regional park level, Spring Lake Regional Park (in combination with adjoining City of Prior Lake park properties) plays a vital role in preserving open space and providing outdoor recreational opportunities within Scott County. Although the regional park is currently of adequate size to meet basic recreational needs, its expansion to its ultimate size after park dedications and cooperative agreements are complete will further enhance the park's value. As illustrated on figure 4.1 on the next page, the ultimate park boundary accomplishes several objectives, including:

- Coming as close as possible to the minimal desirable regional park size of 500 acres, as established by the Metropolitan Council
- Maximizing the natural resource base to protect valuable ecological systems, enhance biological diversity, and provide additional opportunities for public observation, appreciation, and education
- Maximizing the recreational opportunities available to the public, especially as it relates to the expansion of the paved trail system within the park
- Ensuring that an effective natural buffer can be maintained between the park and adjoining properties

As previously defined, expansion of the park will happen through park dedications through the City of Prior Lake and cooperative use agreements with the Shakopee Mdewankanton Sioux Community. Figure 4.1 on the next page illustrates the current park boundary and identifies the areas of desired expansion.

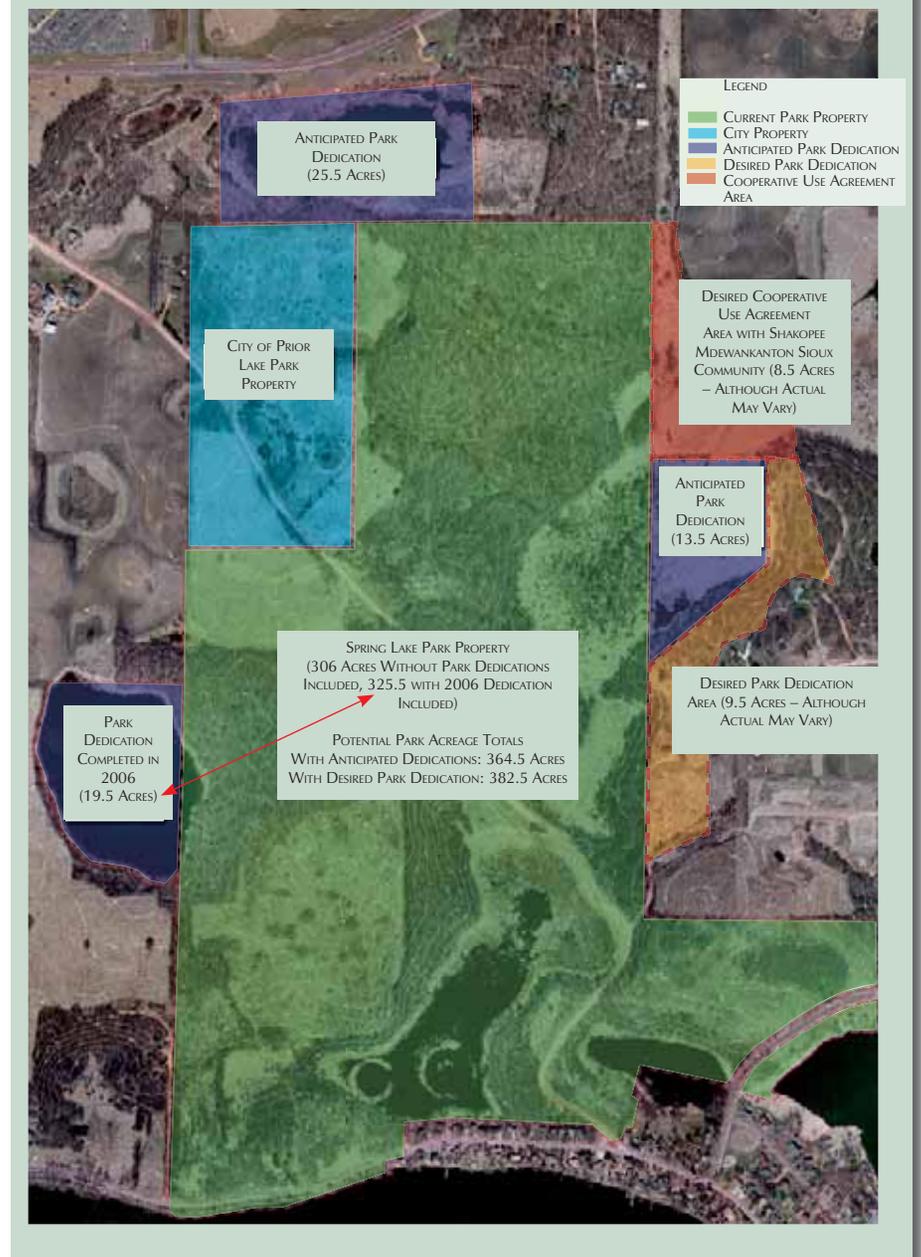
As illustrated in figure 4.1, the park is currently approximately 325.5 acres, including lands that were dedicated in 2006 through previous agreement with the City of Prior Lake.

Lands identified as “anticipated” park dedications will become part of the regional park once private development plats occur and the City of Prior Lake acquires the property through park dedications as part of the previously described land conveyance between the City and County. With these park dedications included, the park size increases to approximately 364.5 acres. Note that since these dedications remain to be negotiated with developers, the actual acreage may vary from what is shown on the map.

Scott County will also continue to collaborate with the City of Prior Lake to secure additional park lands as new development occurs adjacent to the regional park. These areas are identified on the map as “desired” park dedications. Although listed as 9.5 acres, actual acreage may vary depending on subdivision design and development agreements.

Scott County has informally discussed unique partnership opportunities for a cooperative use agreement with the Shakopee Mdewankanton Sioux Community for joint-use of tribal lands on the northeast edge of the park for a trail corridor as defined in Section VI. Although listed as 8.5 acres, actual acreage may vary depending on what can be negotiated.

FIGURE 4.1 – PARK PROPERTY BOUNDARY



# SECTION V NATURAL RESOURCES STEWARDSHIP PLAN

## OVERVIEW

Spring Lake Regional Park displays an impressive assemblage of natural landscape features and landforms that provide the foundation for the park experience and public enjoyment. The natural qualities of the park also underscore the importance of implementing a stewardship program to protect the natural environment for its intrinsic values, including biodiversity, preservation of our natural heritage, wildlife habitat, open space, scenery, and respite from the built form. Through a well-conceived stewardship program, the park's natural values can be indefinitely preserved and protected. The forthcoming stewardship plan provides a vision for the future and a framework for restoring and managing the natural resources within the park.

### INTERFACE WITH THE SCOTT COUNTY PARKS, TRAILS, AND OPEN SPACE SYSTEM POLICY PLAN

The *Scott County Parks, Trails, and Open Space System Policy Plan* sets forth a series of goals and policies pertaining to various aspects of the system. Preserving and maintaining ecological integrity is defined as being important to creating, developing, and maintaining the system of parks, trails, and open spaces in Scott County. The accompanying policies further address this issue. The overall development plan for Spring Lake Regional Park is consistent with these goals and policy directives. The stewardship plan takes this one step further by laying out a course of action where, over time, the ecological qualities of the park will actually be enhanced and thus foster greater ecosystem diversity and habitat quality.

(The full text of *Scott County's Parks, Trails, and Open Space System Policy Plan* is available for review at County offices and on their website at [www.scott.mn.us](http://www.scott.mn.us). Go to Quick Links and select the "Parks, Trails, and Open Space" link.

## NATURAL CHARACTERISTICS

There are a number of physical features of the park that give it its unique qualities and sense of place. Proximity to Spring Lake and Prior Lake, coupled with rolling topography, relatively high quality forests, and a variety of wetlands are key aspects of the park's sense of place. Even the open fields hold the promise of becoming reinvigorated natural areas once prairie and savanna systems are reintroduced as part of the stewardship plan. Each of these existing natural features, along with anticipated enhancements under the stewardship program, significantly influenced design themes for the park and factored into the proposed location for development features.

## SITE TOPOGRAPHY/LAND FORMS

Spring Lake Regional Park is characterized by rolling topography and landforms that add to its natural qualities. Formed over the millennia by glacial activity and associated erosion, the kettle moraine topography of the park provides opportunities for interesting viewpoints, creating a sense of intimacy along trails, and visually separating park uses from each other and from adjoining development.

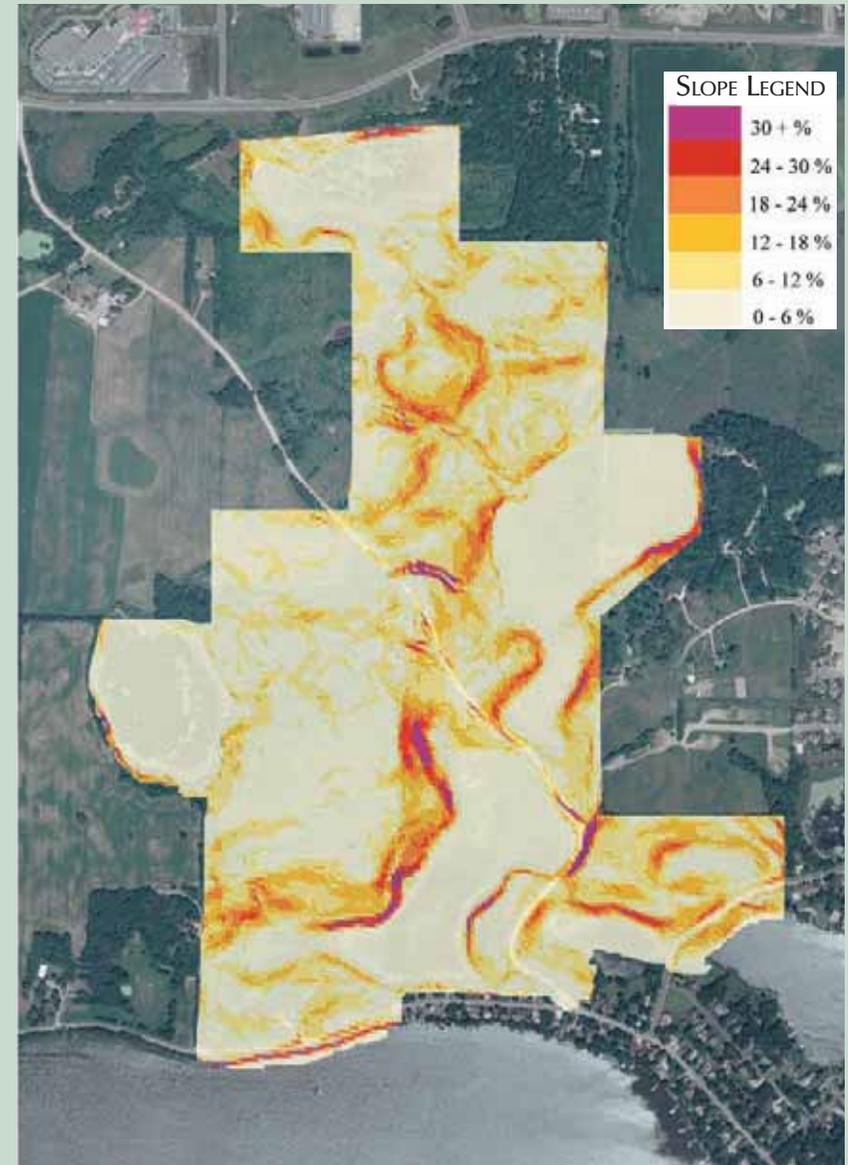
The rolling topography, varying landforms, and depressional areas also support a variety of ecological systems and natural vegetation. Taken as a whole, these features are a major factor in the park's overall appeal, and preserving these innate qualities is one of the main goals of the master plan.

Figure 5.1 illustrates the topographical characteristics of the site. Figure 5.2 illustrates a select cross-section of the park characterizing the relationship between the site's topography and associated native vegetative communities.



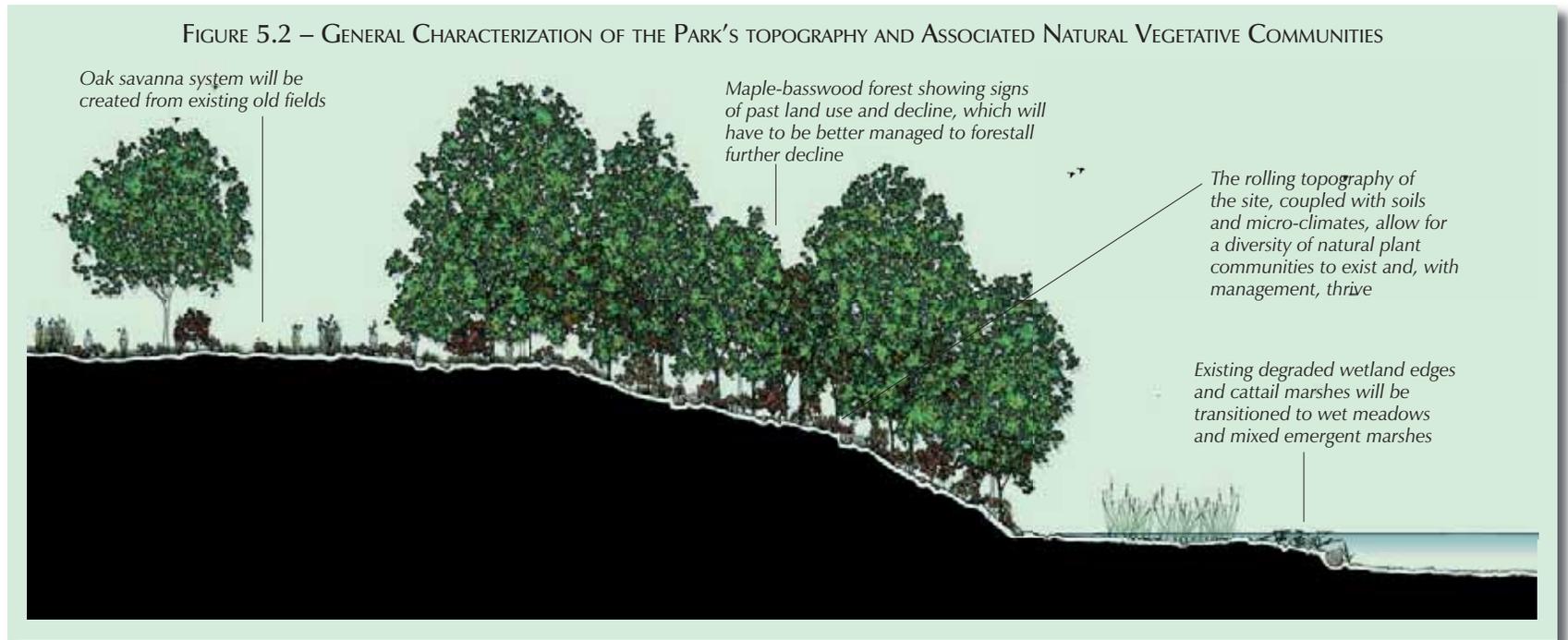
*Through glacial activity and associated erosion over eons, the wooded slopes of the higher elevations of the park give way to depressional areas, creating a contrasting landscape that is ecologically important and visually appealing to visitors.*

FIGURE 5.1 – TOPOGRAPHIC CHARACTERISTICS AND LANDFORMS



*The topographic changes and varying landforms across the site enhance the character of the park. As illustrated, the park offers a contrast of elevated benches (uplands), modest to steeper slopes, and depressional areas (wetlands and ponds).*

FIGURE 5.2 – GENERAL CHARACTERIZATION OF THE PARK'S TOPOGRAPHY AND ASSOCIATED NATURAL VEGETATIVE COMMUNITIES



The park's proximity to Spring Lake is one of its most appealing features.

### VEGETATIVE COVER

The park site includes a mosaic of native plant communities that range from relatively high to significantly altered and degraded quality due to past land uses and the lack of stewardship. The site's uplands contain old fields, patches of shrubland, oak woodland-brushland, and a variety of forest types, including maple-basswood forest and immature, second-growth forests. The site's lowlands contain a variety of wetland types including wet meadow, cattail marsh, shrub swamp, degraded reed canary grass wetlands, and areas of open water. As defined in this section, active stewardship of these resources will be required to forestall further decline in the future.

### PROXIMITY TO SPRING LAKE AND PRIOR LAKE

The park's proximity to Spring Lake and Prior Lake adds significantly to its appeal and overall character. This is especially the case with Spring Lake, where direct access to the lakeshore is more readily available than is the case with Prior Lake. Taking advantage of the views and aesthetic values of these natural amenities while protecting their ecological integrity is a major goal of the master plan, as is reflected in this and subsequent sections.

## SOILS

The character and texture of the soils found on the site significantly influences vegetative patterns, the likelihood for erosion, buildability, and the design of natural infiltration systems associated with managing runoff from development. For stormwater management, the tighter the soil, the slower the percolation rates (i.e., rates of absorption) and the more area needed to infiltrate runoff. Figure 5.4 illustrates the predominate soil types found across the park.

Soils within the park are largely the result of glacial moraine deposits. Upland soils generally evolved under forest cover, and saturated lowland areas developed organic soils (e.g., muck). The site's uplands typically exhibit moderate permeability, while lowland areas are often exhibit limited infiltration capacity due to wetter conditions.

Within Spring Lake Regional Park, loam soils predominate in the uplands, and the park's lowlands are dominated by organic muck. As illustrated in figure 5.5 on the next page, the general characteristics of these soil types should not pose any significant constraint on the types of development proposed for the park as defined in Section VI – Development Master Plan.

FIGURE 5.4 – PREDOMINANT SOIL TYPES



### Soil Type Overview:

Dundas – silty loam, moderately-slow permeable soils  
 Glencoe – clay loam, moderately or moderately-slow permeable soils  
 Hayden – loam, moderately permeable soils  
 Houghton – muck, very poorly drained  
 Le Sueur – clay loam, moderately permeable soils  
 Lester – loam, moderately permeable soils  
 Palms – muck, very poorly drained  
 Webster – silty clay loam, moderately to poorly permeable soils

FIGURE 5.5 – SOIL CHARACTERISTICS

Soil characteristics significantly influence vegetative patterns, propensity for erosion, buildability, and the design of natural infiltration systems associated with managing runoff from development.

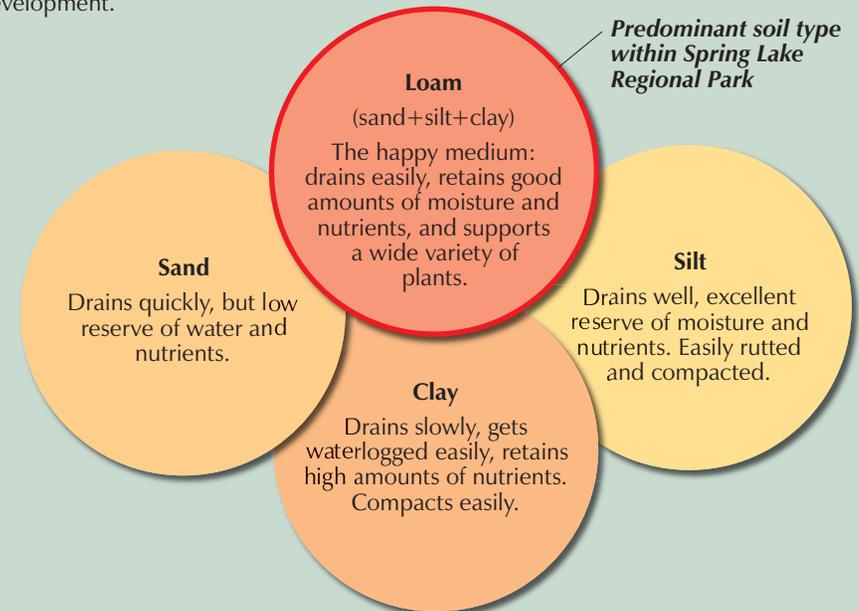
**Soil texture** refers to the size of particles that make up the soil. Particles are classified by size as sand, silt, and clay. Clay particles are very small. Silt particles are moderate size. Sand particles are relatively large. Loam refers to a mixture of these three categories.

Different soils have different proportions of each particle size.

**Sands** have large pore spaces between soil particles. Water drains through them quickly; thus they tend to be drier. Sand feels gritty and does not stick to your hands.

**Clay** soils are plate-like particles that inhibit water flow. Clays have a large water-holding capacity, but water adheres so tightly to the soil particles that much of the water is unavailable for plant use.

**Silt** soils have the most favorable texture for moisture absorption and drainage. Wet silty soil feels slippery and smooth.



## HISTORICAL AND CURRENT CONDITION OF NATURAL PLANT COMMUNITIES

In the fall/winter of 2005 through the spring of 2006, several field investigations focusing on natural resources were conducted as part of the planning process. The goal of the field reconnaissance was to compile a resource inventory of plant communities and land cover characteristics across the site using the *Minnesota Land Cover Classification System* (MLCCS) and a variety of other techniques. Results of this review provided the baseline for comparing historic and current ecological conditions found on the site and then using that information to develop the stewardship program described in this section.

### HISTORICAL CONTEXT

From a historical perspective, the landscape and natural habitat characteristics within Scott County and Spring Lake Regional Park have changed considerably over the last 150 years, as illustrated in figure 5.6 on the next page. As shown, much of the land within (and surrounding the park) was once covered by maple-basswood forest, along with tamarack swamps, wetlands, and aquatic ecological communities. Although the map is at a relatively gross scale and only depicts the dominant ecological systems, it does articulate the degree to which the land has been altered since European settlement has occurred.

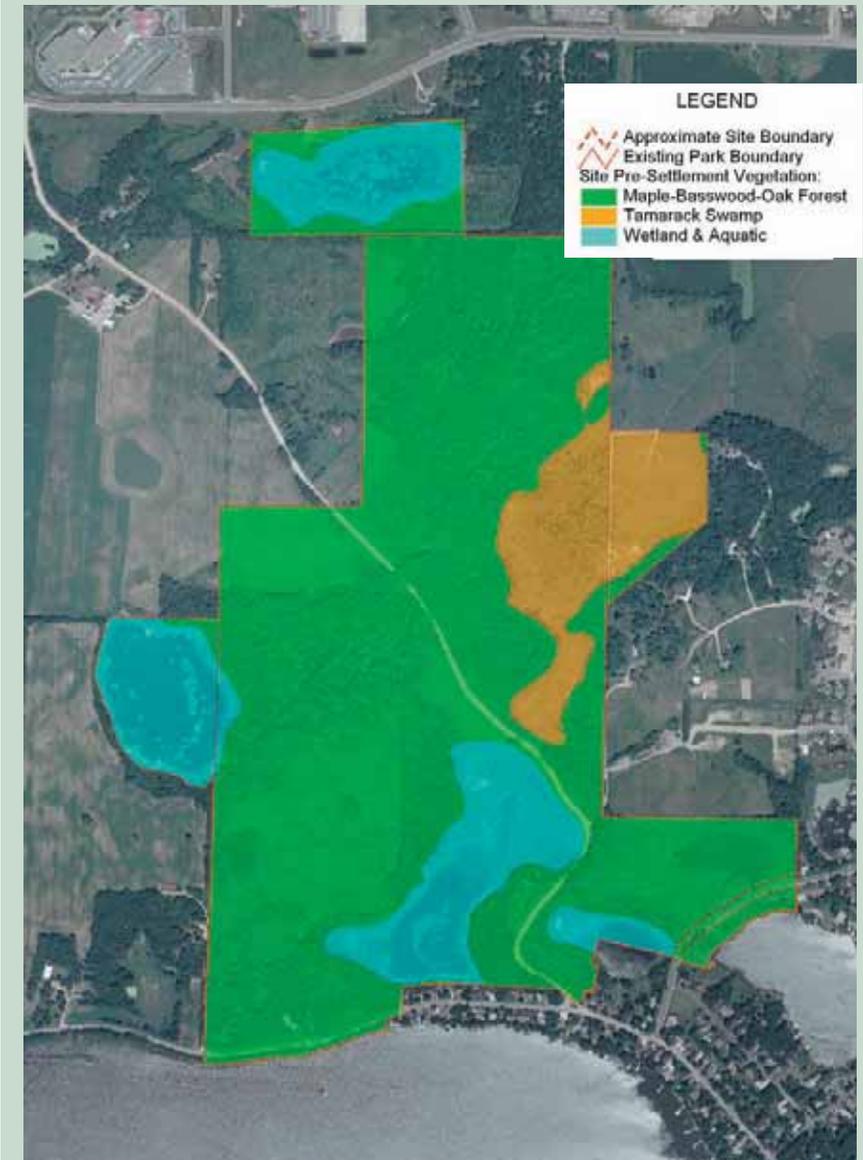
Although much of the historical ecological diversity has been lost over the years, the remaining remnants still hold the promise that the park can be restored to a sustainable natural landscape quality through a well-defined stewardship plan. This is especially the case with the maple-basswood forest community, where extensive opportunity exists to avoid further degradation and maintain a healthy, functioning system.

Restoring the historical tamarack swamp and some of the more extensive wetlands will likely prove a significant challenge and more modest outcomes should be expected. In fact, it is unlikely that the tamarack swamp will be fully restorable due to changed site conditions (especially hydrology) and potentially high costs. Instead, it is more reasonable to expect that other, more restorable natural ecological communities will have to serve as substitutes for this particular ecological community.



*The maple-basswood forests found on the site are in relatively good ecological health overall. However, stewardship is needed to forestall future degradation due to the lack of natural processes (especially wildfire) and invasion by non-native plant species.*

FIGURE 5.6 – PRESETTLEMENT VEGETATION



*Presettlement vegetation was predominated by maple-basswood forests, tamarack swamps, wetlands, and aquatic plant communities. Although some of these can be restored to higher quality and healthy systems, achieving pre-settlement conditions is not scientifically realistic.*

## MAPPING OF EXISTING LAND COVER WITHIN THE PARK



The combined impact of the lack of natural processes (i.e., wildfire), changes to surrounding land uses, and modifications to site hydrology allow species such as reed canary grass to out-compete other native species, ultimately dominating the lowland areas.



The open fields across the site that were once used for farming and pasturing are now weed covered, with woody plants also taking over. Through a thoughtful restoration program, it is reasonable to recreate a more natural and higher quality landscape in these areas, resulting in much improved wildlife habitat potential.

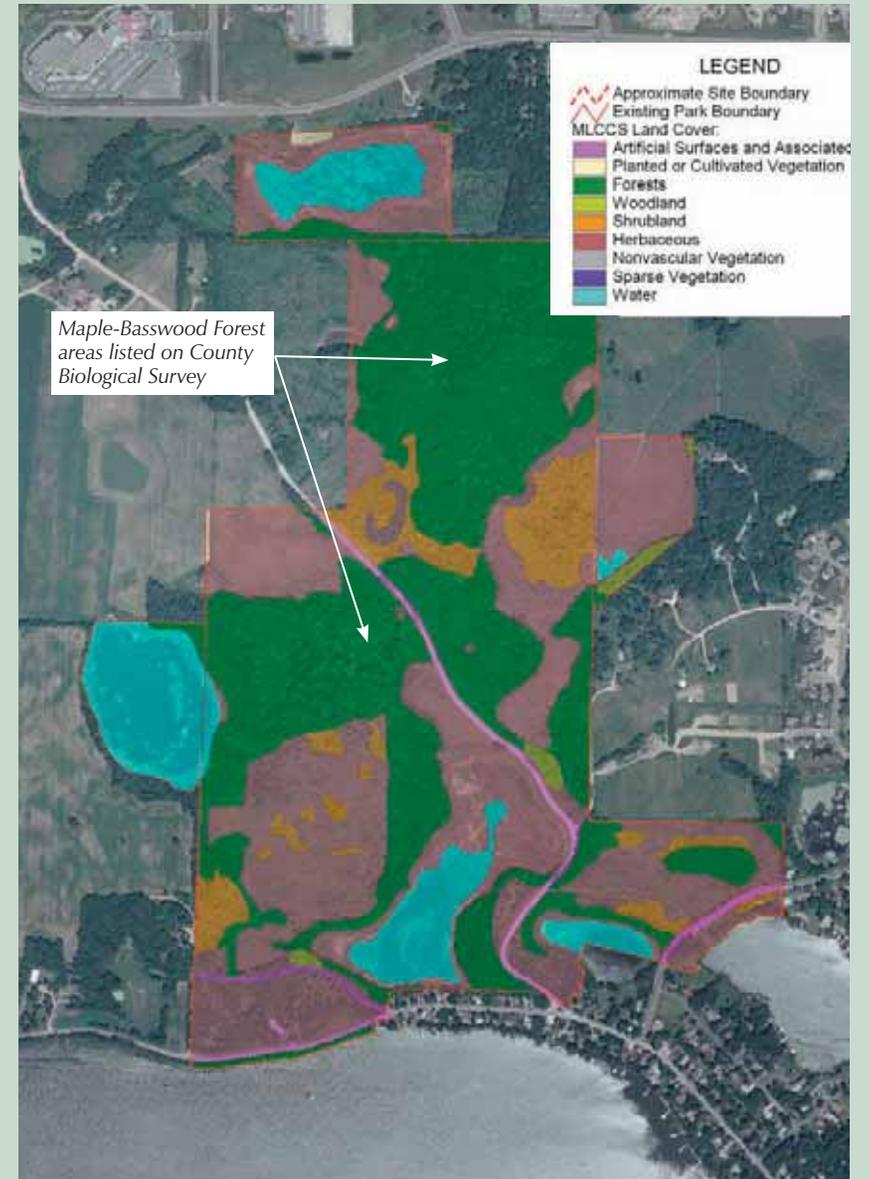


Although the forests are in relatively good condition compared to other parts of this region, invasive species such as buckthorn are present and can spread quickly without intervention.

The existing site conditions and land cover mapping shown in figure 5.7 represent the findings of field reconnaissance conducted for the master plan. This investigation proved fruitful in documenting the general existing conditions found across the site and the ecological issues being faced. The information and mapping presented in this section was prepared for master planning purposes and to establish an underpinning for the natural resource stewardship plan.

The land cover categories defined in figure 5.7 are based on the *Minnesota Land Cover Classification System* (MLCCS) developed by the Minnesota Department of Natural Resources. The categories as shown represent a simplification of these classifications for master planning purposes. The table on the next page provides a brief description of the most significant cover types to characterize the general condition of the park's ecological communities.

FIGURE 5.7 – EXISTING LAND COVER MAPPING



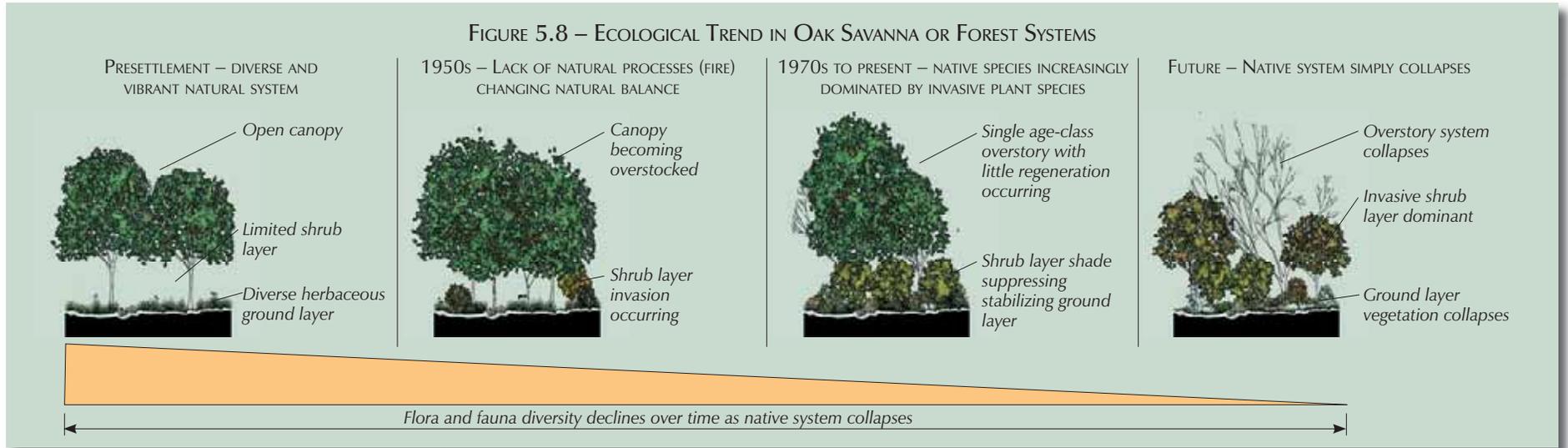
Existing land cover mapping illustrates the mosaic of ecological communities found within the park. It also underscores the need for stewardship to preserve the park's natural values. Note that the Maple-Basswood Forest is listed on the County Biological Survey.

## GENERAL CONDITION OF THE PARK'S ECOLOGICAL COMMUNITIES

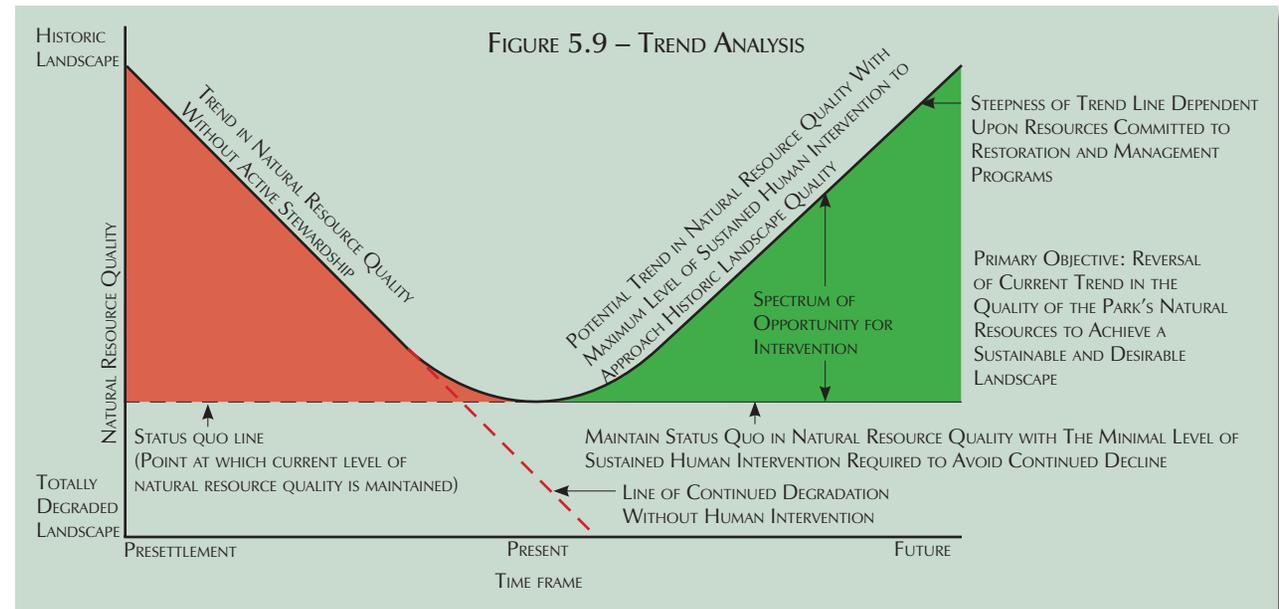
Land Cover Type (s)	Characteristics	Plant Communities	Ecological Quality	Wildlife Habitat Quality
Forests	Stands of trees with a closed canopy, typically of 70 to 100 percent cover.	Ranges from mature Maple-Basswood Forest with keystone species present, to younger, second-growth forests with more aggressive species, such as boxelder and green ash.	Maple-Basswood Forests are relatively high ecological quality, but with signs of limited past disturbance. Second-growth forests low ecological quality.	High value to wildlife due to relatively large tracts and adjacency to complementary habitats (e.g., grasslands and wetlands).
Woodland	Stands or patches of trees with a broken canopy, typically of 30 to 70 percent cover.	Patches of Oak Woodland-brushland, typically with open-grown bur oaks. Historically, these systems were likely Mesic Oak Savanna.	Oak Woodland-brushlands are moderate to poor ecological quality, with some native plant diversity, but significant presence of invasive species (e.g., common buckthorn).	Limited value to wildlife due to small size and level of degradation.
Shrubland	Stands or patches of shrubs with a closed or broken canopy, typically of 50 to 70 percent cover.	Ranges from stands of sumac in the upland old fields to a shrub swamp containing willows in the lowlands.	Upland sumac stands are poor ecological quality due to degraded understory vegetation (e.g., brome grass), and willow swamp poor ecological quality due to abundance of reed canary grass.	Upland sumac stands have limited value to wildlife due to relatively small size and level of degradation. Willow swamps provide moderate wildlife value, particularly for wetland birds.
Herbaceous Vegetation	Areas with a well-developed herbaceous ground layer. These systems can also have significant canopy cover (up to 70 percent).	Ranges from old fields in the uplands to reed canary grass wetlands, Wet Meadows, and Cattail Marshes in the lowlands.	Upland old fields are poor ecological quality, and lowland areas vary from poor to moderate ecological quality, depending largely upon native plant diversity.	Upland grasslands, even in their degraded state, provide habitat for upland birds. Wildlife value of lowland herbaceous communities varies, depending largely upon native plant diversity.

## OBSERVED TRENDS IN ECOLOGICAL SYSTEMS

Without human intervention and conscientious stewardship, it is expected that the overall trend of the ecological systems within the park will be continue to decline, as measured by biodiversity and general ecological health. As an example, figure 5.8 graphically illustrates the current trend in a typical oak savanna or forest system found in this and many other Midwestern regions.



This example is reflective of what is happening to varying degrees in all of the ecological systems found throughout the park. Although some of the ecological decline cannot be entirely reversed, there are also many opportunities to forestall further decline and make substantial progress toward achieving a more sustainable and healthier landscape over time. Figure 5.9 graphically illustrates the current overall trend in ecological quality, as well as defining the spectrum of opportunity for reversing this trend.



## RELATED THREATS TO ECOLOGICAL SYSTEMS

In addition to the overall trend in ecological conditions, there are some other significant threats facing the natural resources within the park. The following considers the most important of these.

### Ecological Systems Fragmentation:

The ecological communities within the park are fairly fragmented, which refers to the division of the various native plant communities into smaller, more isolated areas by roads, old farm fields and pastures, and a variety of other previous land uses. The fragmentation of ecological systems not only reduces overall native plant diversity and health, it also reduces the quality and quantity of food and cover for wildlife. Within the context of a resource-based park such as this, habitat fragmentation is a significant concern and an important consideration in natural resource stewardship planning and the manner in which new development is integrated into the development master plan.

**Surrounding Developmental Patterns/ Future Land Uses:** Although much of surrounding land remains undeveloped as of 2006, new development is already planned or anticipated around much of the park, as illustrated in figure 5.10. This poses a number of threats to the ecological systems within the park, such as increased erosion, changes to site hydrology, and additional ecological fragmentation.



*In part, fragmentation of the ecological systems within the park will be lessened by eliminating parts of the existing roadway. This will allow for a reconnection of natural plant communities and wildlife habitat in certain areas of the park.*



*The open fields across the site that were once used for farming and pasturing are now covered by monocultures of nonnative broom grass and other species that have gone unmanaged. Over time, these areas will be restored to more productive prairies and savannas that will reduce habitat fragmentation.*

FIGURE 5.10 – SURROUNDING DEVELOPMENT PATTERNS



## NATURAL RESOURCES/ ECOLOGICAL STEWARDSHIP VISION

**Erosion:** As with external land uses causing erosion, there are numerous instances within the park that erosion is a significant issue. As surface and ground water hydrology change adjacent to and within the site, the likelihood of erosion is greatly increased, especially along some of the upper drainages where undercutting is already evident. Of equal concern is erosion along lake shorelines. Through sound on and off-site water management and an ambitious stewardship program, it is reasonable to expect that erosion can be largely controlled over time.

**Inappropriate Uses:** The occasional informal trails created by ATV's and other non-authorized vehicles can be found within the park. Although the level of this type of use does not appear to be extensive, if left unchecked it can lead to substantial degradation to ecological systems and soil structure. As the master plan is implemented and more appropriate uses occur, this type of activity tends to wain due to more people being around to report illegal activity. In the interim, local citizens should be encouraged to report such instances and local police should be reminded to routinely patrol the site for this type of activity.

In spite of ecological challenges as defined, there are tremendous opportunities for restoring the natural areas within the park into healthy and less fragmented ecological systems. Through good stewardship, it is also reasonable to expect improvements to the quality of wildlife habitat. Although restoring the park to fully replicate systems that were present prior to settlement is technically and economically unachievable, it is reasonable to expect that through conscientious intervention, a more robust natural ecology can be restored to the park.

### NATURAL RESOURCE STEWARDSHIP PHILOSOPHY

The stewardship plan promotes an ecosystem-based approach to restoration and management. An ecosystem is essentially where things live and represents an interacting group of physical elements (soils, water, plants, animals, etc.) that inhabit a particular place. All of these elements and their interactions need to be considered in developing goals and plans for management. Ecosystem-based management views people as part of the community, and that maintaining a healthy ecosystem is the best way to meet human needs as well as those of other organisms in the community.

General goals of this philosophy are to:

- Enhance the health of the ecosystems in Spring Lake Regional Park
- Enhance the biological diversity of its native habitats
- Provide an appropriate balance between resource preservation and recreational use

The stewardship plan focuses on achieving a sustainable landscape quality, which is defined as the point at which Scott County can indefinitely maintain a certain acceptable level of resource quality within the context of realistic limits – which is contingent upon two primary factors:

- Public understanding of and commitment to natural resource preservation and stewardship programs
- Undertaking ecological restoration and management programs that are scientifically sound and technically implementable

Through a well-defined stewardship program and a concerted, ongoing effort by Scott County, confidence can be gained that the current ecological conditions and trends can be reversed and a more sustainable and higher quality landscape achieved. Note, however, that stewardship programs also need to be flexible due to the changing nature of the living systems addressed by the plan. For these reasons, the plan presented here should be viewed as being neither conclusive nor absolute. It is a starting point in an ongoing process that relies on monitoring and research to provide feedback on program effectiveness.

## ACHIEVABILITY AND SUSTAINABILITY OF ECOLOGICAL STEWARDSHIP PROGRAMS

It is important to recognize that restoring and managing ecological systems must be done in a manner that is both achievable and sustainable. Achievable refers to what is scientifically and economically feasible. Sustainable refers to the level to which restoration and management programs can be scientifically and economically maintained over an extended period of time. The following considers achievability and sustainability from the two distinct but interrelated perspectives of ecology and economy (human/economic capital).

### **Ecological Perspective**

From an ecological perspective, what is achievable and sustainable is defined in scientific terms based on testing and research. Scientifically, human intervention through well thought-out programs that are carefully implemented over a period of time can help to reverse the current downward trend in the ecological quality of the park's natural systems (as measured by biodiversity and general ecological health). A successful program requires a full understanding of the ecological problems being faced and a defined course of action that is based on science. As defined in this section, human intervention will be required given the current state of alteration that has occurred.

Although dramatic improvements can be made in some cases, restoring the landscape to pre-settlement conditions is not realistic from a scientific perspective. Past impacts to the land since man first settled and introduction of invasive alien plants simply preclude this possibility. However, it is achievable to restore and manage many ecosystems to sustainable and productive levels that result in considerable human and ecological value that can be perpetuated for generations to come. The key point here is that Scott County and the regional community must set realistic goals and expectations as to what can be achieved and sustained through restoration and management programs.

### **Economic (Human/Economic Capital) Perspective**

From an economic perspective, what is achievable and sustainable is based on the amount of human and economic capital that Scott County and the Metropolitan Council can commit to ecological programs now and in the future. The importance of this cannot be overstated in that the long-term viability of any ecological program undertaken is directly related to the long-term commitment made to it in terms of human and economic resources. Ultimately, how the collective community values land stewardship and ecological health relative to other quality of life issues will define the extent to which ecological programs can be successfully implemented. Recognizing this, it is critical that Scott County and the Metropolitan Council time ecological programs in a pragmatic and paced manner that keeps pace with available economic resources.

## LONG-RANGE ECOLOGICAL VISION

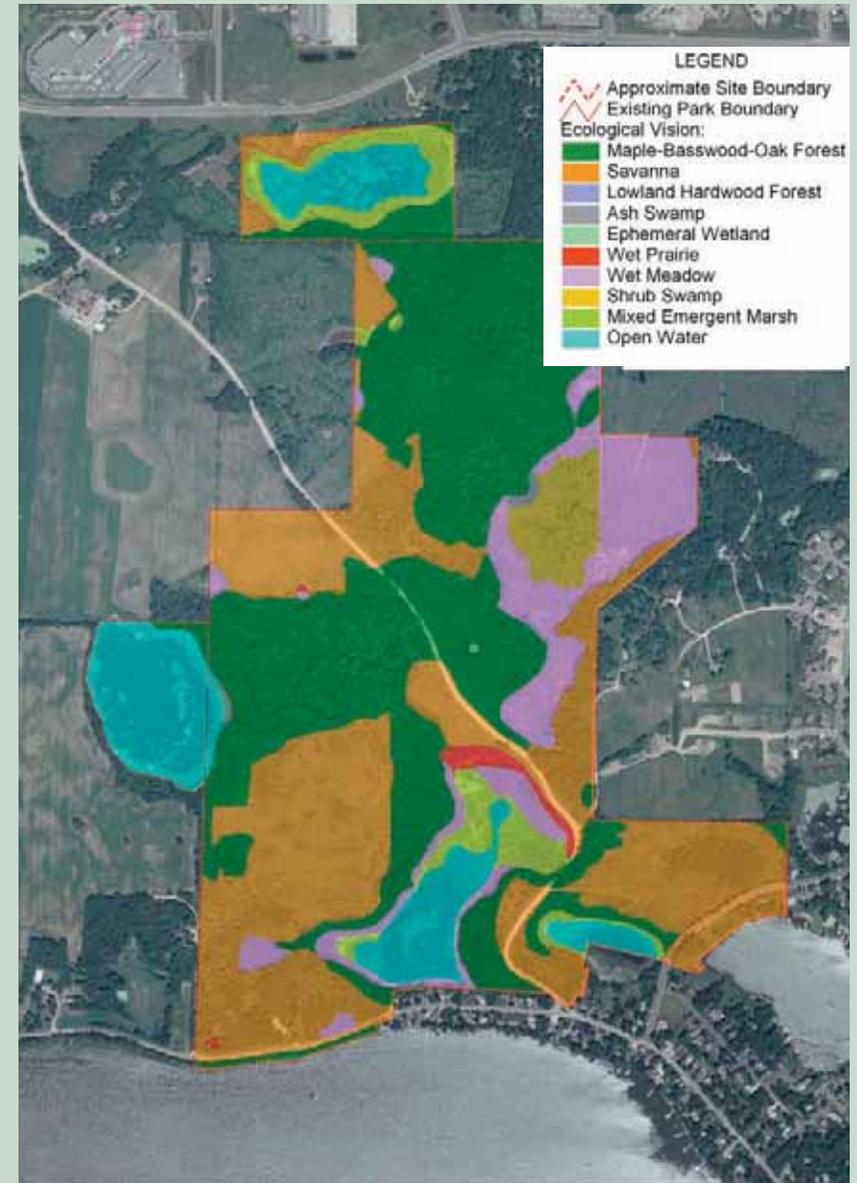
The stewardship plan is underpinned by a realistic long range vision for restoring and managing the natural ecological systems within the park, as illustrated in figure 5.11 on the next page. The vision provides a basis for developing implementation strategies and priorities.

As compared with presettlement vegetation (as illustrated in figure 5.6), the ecological communities envisioned for the site represent a balance between the desire to replicate the historic landscape and the realities of changes to the land that preclude that possibility. For example, stewardship of the historically predominant maple-basswood-oak forest system can be reasonably undertaken with good results. Although it will never replicate a presettlement condition, it can be a healthy, functioning system that offers greater ecological and habitat values than what is present today.

On the other hand, restoring the historic tamarack swamp is expected to be ecologically and economically too challenging to be successful. In such cases, a more modest approach is envisioned in which other native plant communities will serve as a surrogate for those that cannot be practically restored. In spite of this, the ecological vision for the site as defined under this master plan will be of considerable value and consistent with the ideals of a healthy and productive natural environment within the park.

The mapping as illustrated in figure 5.11 is based on the characteristics of the land relative to the type of plant community it will support. Soils, slopes, hydrology, micro-climates, and other ecological factors were considerations, as were natural phenomenon such as fire. As a living environment, the ultimate presence of one ecological system over that of another will be determined by natural processes induced through active stewardship and human intervention. Although this intervention is necessary, the goal is to let nature take its own course to the degree possible in revitalizing the natural resources of the park.

FIGURE 5.11 – LONG-RANGE ECOLOGICAL VISION

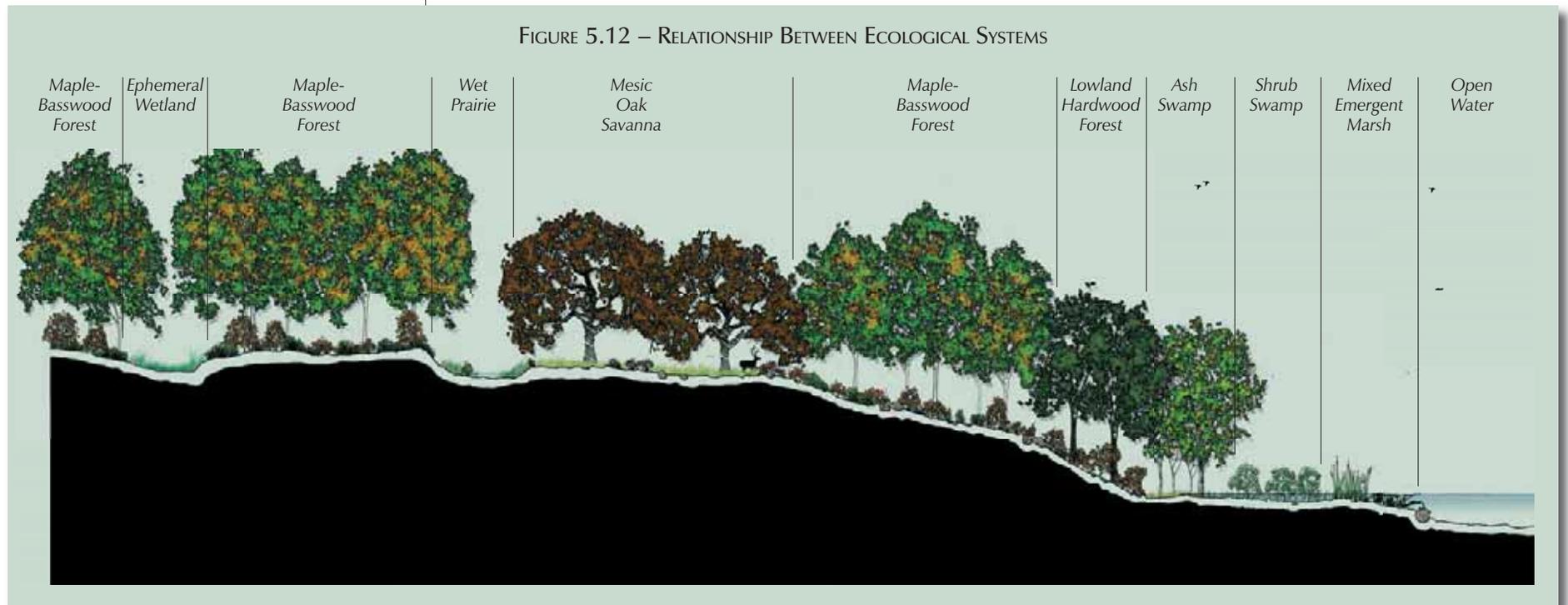


## OVERVIEW OF PREDOMINANT ECOLOGICAL COMMUNITIES

As illustrated in figure 5.11, the predominant ecological communities envisioned within the park include:

- **Maple-Basswood Forest** – is the pre-European settlement vegetation community that dominated the region's uplands
- **Mesic Oak Savanna** – is one of the most endangered native plant communities in Minnesota, generally found in transition zones between prairies and deciduous forests
- **Lowland Hardwood Forest** – is a transitional forest on wet-mesic sites with seasonally high water tables that do not flood regularly and have mineral soils
- **Ash Swamp** – is a wetland with scattered ash trees and a dense herbaceous vegetation layer, often located on the edges of lakes or larger wetlands
- **Ephemeral Wetland** – is a temporarily flooded or saturated wetland
- **Wet Prairie** – is a diverse herbaceous plant community rich in wildflowers, sedges, and native grasses
- **Shrub Swamp** – is a wetland with significant shrub cover, often forming patches within a matrix of herbaceous vegetation
- **Mixed Emergent Marsh** – generally occurs on the edges of large wetlands or lakes

Figure 5.12 illustrates the general interrelationship between these ecological communities.



## NATURAL RESOURCES/ ECOLOGICAL STEWARDSHIP PLAN

The stewardship plan sets forth a framework for restoring and managing the ecological systems found within the park. The plan describes ecological prototypes, implementation strategies and priorities, phases in restoring ecological communities, and the techniques that would be used to restore the various plant communities. The plan also outlines ecological protection zones that influenced development considerations. The following considers each of these plan components.

### ECOLOGICAL PROTOTYPES

Ecological prototypes refer to the general structure, site conditions, vegetative species composition, and other variables attributed to each of the ecological communities illustrated in figure 5.11 and listed on the previous page. Prototypes assist restoration and management efforts by helping compare existing conditions against measurable criteria for healthy systems and in recognizing possible causative agents that result in ecological changes. By recognizing what a healthy system looks like, specific targets or models for management and restoration programs can be developed and implemented.

Ecological prototypes are defined along topographic, soil type and hydrological gradients from higher and drier uplands to lowlands and lake edges. Within Spring Lake Regional Park, both minimally and significantly altered ecological prototypes can be found. In minimally altered areas, depending on soil types and hydrology, native plant and animal communities have developed over long periods of time and have persisted even to present day under less than ideal conditions. On these same soil types, alteration of land use and hydrology, along with cessation of natural processes, have created substantive changes in the plant and animal communities. Each of the minimally and significantly altered types of plant and animal communities fall within a definable ecological prototype, or in some cases, in the ecotonal (i.e., transitional) area between prototypes.

The following descriptions define the *dominant and definable prototypes for healthy (minimally altered) and unhealthy (significantly altered) ecological systems found within the park.* (Note that prototypes for Lowland Hardwood Forest, Ash Swamp, and Ephemeral Wetland are not included since these ecological communities collectively cover only a small area within the park.) Lacking greater technical evaluation and in-field research, the prototypes presented here serve as a starting point as Scott County moves forward with its stewardship program for the park. Although these prototypes are not exhaustive, they do articulate the fundamental qualities between healthy and unhealthy ecological systems found within the park.

Note that the prototypes have been developed for use at the master plan level and will require refinement under a more detailed plan that would be necessary for implementing the stewardship program. For consistency with the Minnesota Department of Natural Resources and Metropolitan Council preferences, Scott County will continue to use the *Minnesota Department of Natural Resources' Minnesota Land Cover Classification System (MLCCS)* where it has application as part of the stewardship program.

## MAPLE-BASSWOOD FOREST ECOLOGICAL PROTOTYPE

### HEALTHY SYSTEMS

#### General Structure:

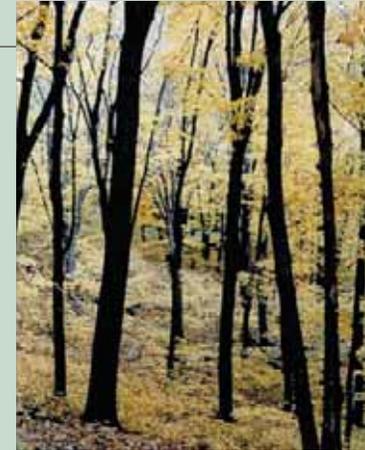
- Mixed canopy of oaks, ash, maple, elm, and basswood
- Predominated by cool season grass and sedge ground cover and spring ephemerals

#### Soils Profile/Topography/Hydrology:

- Found in isolated or fire-protected locations, steep draws, and on landscape islands
- Topography ranges from level ground to rolling and steep grades
- Loam and fine sandy loam

#### Indicator Species of Healthy System:

- Basswood
- Sugar maple
- Red oak
- Green ash
- Ironwood
- Woodland sedges
- Spring wildflowers (trilliums and spring beauty)
- Sedges, such as Pennsylvania sedge
- Shrubs, such as pagoda dogwood



### UNHEALTHY SYSTEMS

#### General Structure:

- Shift to even canopy, with limited age groups of trees
- Dense understory, often sugar maples
- Bare soil after spring ephemerals die back
- Noticeable soil erosion

#### Indicator Species of Unhealthy System:

- Boxelder
- European buckthorn
- Motherwort
- Garlic mustard
- Burdock
- Rough bedstraw
- Exotic honeysuckles
- Prickly ash



### PROTECTION AND MANAGEMENT CONSIDERATIONS

#### Causes of Change:

- Cessation of light ground fires
- Loss of seedbank and erosion
- Weed invasion and agricultural practices
- Altered hydrology, whether drier or wetter
- Logging disruption of composition, structure, light, and nutrient regimes
- Livestock grazing causing weeds and tree damage
- Invasion by non-native earthworms

#### Restorative Capacity:

- Often highly restorable under well-designed and implemented restoration and management program
- Highly disturbed sites may require replanting of native species if native seed bank is absent

#### Protection Strategy:

- Adopt land development practices that place a high priority on ecological protection of upland natural communities
- Implement an annual, long-term monitoring, restoration and management plan
- Protect historic hydrologic regime/systems

## MESIC OAK SAVANNA ECOLOGICAL PROTOTYPE

### HEALTHY SYSTEMS

#### General Structure:

- Semi-open to open tree canopy
- Multiple age classes of trees
- Dominant cover of native grasses, sedges, and forbs
- Natural oak regeneration
- Sporadic native shrub layer
- High light levels interspersed with partial/isolated shade

#### Soils Profile/Topography/Hydrology:

- Well drained silt, clay and sand loams, gravelly sands, alluvium glacial features
- Higher and dry sites, and moist, well drained soils

#### Indicator Species of Healthy System:

- Bur oaks
- Northern pin oaks
- Shrub component: chokecherry, low juneberry, dogwood, wolfberry, New Jersey tea, American hazelnut, leadplant
- Many grasses and forbs found in the prairie would be present in savannas, along with oak woodland under-story plants being present in the groves



### UNHEALTHY SYSTEMS

#### General Structure:

- Continuous, closed canopy
- Dense layer of non-native shrubs
- Bare, eroding soil (ground layer vegetation sparse to absent)
- Low light levels, predominant dense shade
- No oak regeneration
- Few or no young age classes of keystone trees (e.g., oaks)
- Lack of native groundcover vegetation
- Encroachment by development or agriculture

#### Indicator Species of Unhealthy System:

- European buckthorn
- Tartarian honeysuckle
- Black locust
- Boxelder
- European brome, Kentucky bluegrass, and other non-native grasses
- Agricultural weed species



### PROTECTION AND MANAGEMENT CONSIDERATIONS

#### Causes of Change:

- Cessation of historic fire regimes - the lower frequency of fire on these sites compared to open prairie sites allowed the development of the tree component
- Destruction due to development
- Invasion of competing non-native shrubs
- Encroachment of adjacent development with associated pollutants
- Intensive grazing
- Change in hydrologic regime (drier or wetter)

#### Restorative Capacity:

- Oak savanna occurs on sites where fire was frequent enough to prevent closed tree and shrub canopies so that prairie grasses and forbs dominate the ground layer
- Highly restorable under well-designed and implemented restoration and management program
- Highly disturbed sites may require replanting of native species, especially ground cover, if native seed bank is absent

#### Protection Strategy:

- Adopt land development practices that place a high priority on ecological protection of upland natural communities
- Implement an annual, long-term, monitoring, restoration and management plan
- Protect historic hydrologic regime/systems

## WET PRAIRIE ECOLOGICAL PROTOTYPE

### HEALTHY SYSTEMS

#### General Structure:

- Patchy, patterned plant communities reflecting soil and hydrological gradients
- High biodiversity – plants, insects, birds, and animals
- High diversity of native grasses and forbs
- Predominance of native grass, sedge, and forb species of low, moist-to-wet soils
- Natural succession and progression toward conservative species
- High groundwater table and often groundwater-based hydrology
- Full to nearly full sun

#### Indicator Species of Healthy System:

- Prairie cordgrass
- Canada bluejoint
- New England aster
- Mountain-mint
- Extensive variety of other native grasses, sedges, and forbs

#### Soils Profile/Topography/Hydrology:

- Shallow organic soils
- Soils are saturated in the spring and dry out as year progresses



### UNHEALTHY SYSTEMS

#### General Structure:

- Altered hydrology due to de-watering or flooding
- Heavy invasion by woody growth (e.g., glossy buckthorn)
- Invasion by non-native reed canary grass
- Homogenous vegetation and low pattern of diversity

#### Indicator Species of Unhealthy System:

- Reed canary grass
- Glossy buckthorn
- Overstocked dogwoods
- Purple loosestrife
- Stinging nettles
- Invasive giant reed grass



### PROTECTION AND MANAGEMENT CONSIDERATIONS

#### Causes of Change:

- Draining of soils for agriculture tillage
- Cessation of wild fire and overgrazing
- Hydrologic changes due to urban development and a change to surface water rather than groundwater dependent hydrology
- Nutrient enrichment from dewatered substrates and off-site introduction
- Salt and fertilizer loading

#### Restorative Capacity:

- Potential to be restorable under well-designed and implemented restoration and management program in cases where off-site factors can be controlled
- Highly disturbed sites may not be realistically restored due to extent of past degradation and uncontrollable off-site factors
- Restoration may require replanting of native species if native seed bank is absent

#### Protection Strategy:

- Adopt land development practices that place a high priority on ecological protection, with a particular focus on upland buffer systems and natural infiltration systems
- Implement an annual, long-term monitoring, restoration, and management plan
- Protect historic hydrologic regime/systems

## MIXED EMERGENT MARSH ECOLOGICAL PROTOTYPE

### HEALTHY SYSTEMS

#### General Structure:

- Shallow, open water communities
- Water depths less than 2 meters (6.6 feet)
- Emergent, submergent, floating and floating-leaved aquatic vegetation
- Presence of habitat and communities of waterfowl, amphibians, fish, furbearing mammals and invertebrates

#### Soils Profile/Topography/Hydrology:

- Sand and gravels or shallow bedded organic matter

#### Indicator Species of Healthy System:

- Hard-stemmed bulrush
- River bulrush
- Softstem bulrush
- Bur-reed
- Broad-leaved arrowhead
- Spike rushes
- Sweet flag
- Blue flag iris



### UNHEALTHY SYSTEMS

#### General Structure:

- Low biodiversity - plants, insects, birds, animals
- Predominance of weedy, non-native vegetation
- Absence of ecological functions

#### Indicator Species of Unhealthy System:

- Glossy buckthorn
- Narrow-leaved or hybrid cattail
- Purple loosestrife
- Reed canary grass
- Eurasian milfoil



### PROTECTION AND MANAGEMENT CONSIDERATIONS

#### Causes of Change:

- Sensitivity to artificial disturbances – like water impoundment or drainage
- Water level changes or eutrophication disrupting natural processes
- Nutrient enrichment
- Dominance of cattails, reed canary grass, or common reed grass after disturbance

#### Restorative Capacity:

- Potential to be restorable under well-designed and implemented restoration and management program in cases where off-site factors can be controlled or mitigated
- Highly disturbed sites may not be realistically restored due to extent of past degradation and uncontrollable off-site factors
- Highly disturbed sites may require replanting of native species if native seed bank is absent

#### Protection Strategy:

- Adopt land development practices that place a high priority on ecological protection of wetland communities beyond that of existing wetland ordinances
- Implement an annual, long-term monitoring, restoration, and management plan
- Protect historic hydrologic regime/systems

## SHRUB SWAMP ECOLOGICAL PROTOTYPE

### HEALTHY SYSTEMS

#### General Structure:

- Semi-open to closed shrub canopy
- Dominant cover of native shrubs, grasses, sedges, and forbs
- Sporadic wet meadow openings
- Filtered sunlight reaches ground layer

#### Soils Profile/Topography/Hydrology:

- Organic peats and mucks and saturated mineral soils
- Lowland depressions and drainageways

#### Indicator Species of Healthy System:

- Pussy willow
- Slender willow
- Speckled alder
- Bog birch
- Red-osier dogwood
- Sedges and forbs found in wet meadows and sedge meadows



### UNHEALTHY SYSTEMS

#### General Structure:

- Abundance of non-native shrubs
- Drained organic soils
- Eroding channels in swamp
- Lack of native groundcover vegetation
- Encroachment by development or agriculture

#### Indicator Species of Unhealthy System:

- Glossy buckthorn
- European buckthorn
- Reed canary grass
- Giant reed grass

### PROTECTION AND MANAGEMENT CONSIDERATIONS

#### Causes of Change:

- Degradation due to altered hydrologic regime
- Invasion of competing non-native shrubs
- Encroachment of adjacent development with associated pollutants
- Grazing

#### Restorative Capacity:

- Moderately restorable under well-designed and implemented restoration and management program
- Highly disturbed sites may require replanting of native species, especially ground cover, if native seed bank is absent
- Restoration of historical hydrologic regime may be essential for success.

#### Protection Strategy:

- Adopt land development practices that place a high priority on ecological protection, including preservation, ecological buffering, and sound stormwater management
- Implement an annual, long-term monitoring, restoration, and management plan
- Protect historic hydrologic regime/systems

## STEWARDSHIP PLAN IMPLEMENTATION PRIORITIES

The stewardship plan implementation strategy and priorities establish an overall road map toward realizing a more diverse and healthy natural landscape. Implementing the plan will require a multi-phased approach spread out over an extended period of time and lock-stepped with funding appropriations and scientific expertise.

The baseline strategy for implementing the stewardship plan is to sequentially address stewardship needs based on priorities. At a master plan level, the key priorities are defined in the following box.

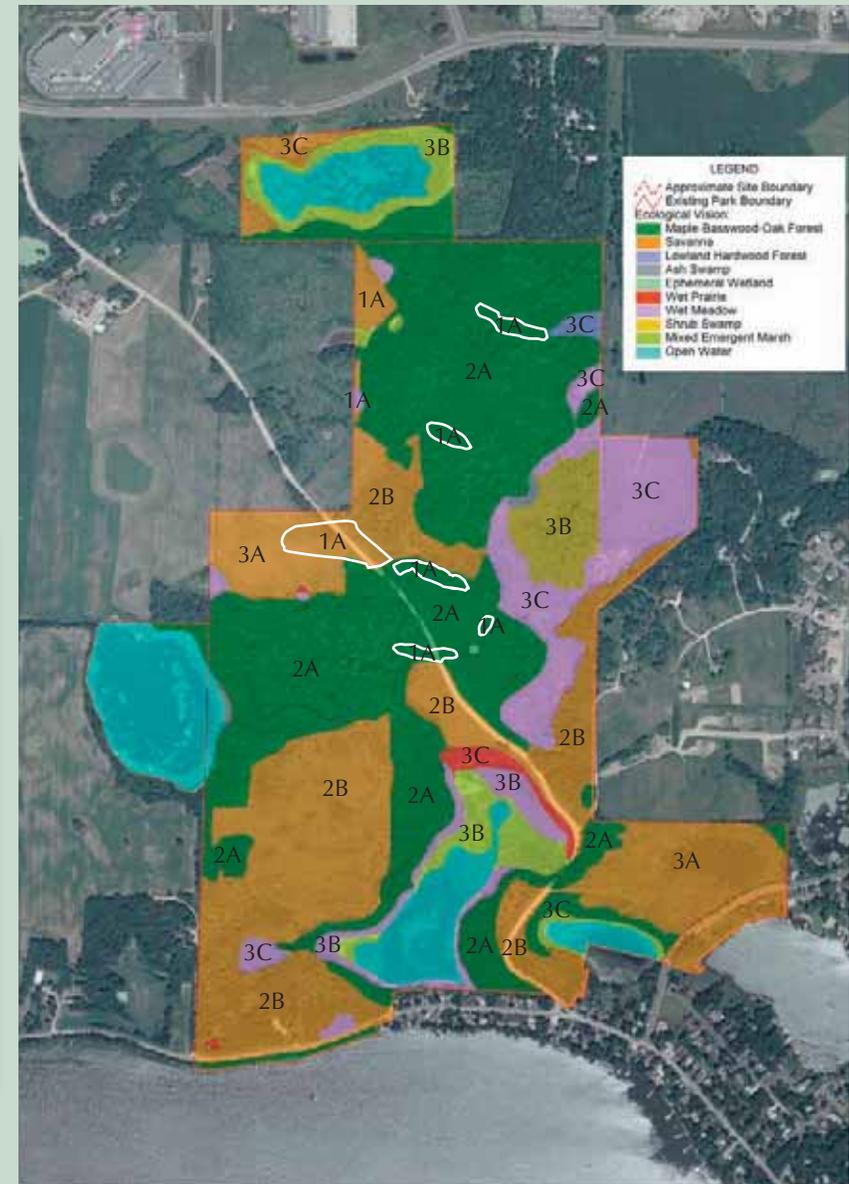
### ECOLOGICAL STEWARDSHIP PRIORITIES

- 1) **Mitigate immediate or the most pressing threats to ecological systems** that, if left unmanaged, will result in a more difficult and costly ecological concern to remedy.
- 2) **Protect and enhance the highest quality and core areas prior to further decline**, starting with smaller units and expanding into larger systems. Restoring intact areas, those that are less fragmented, and areas readily observable by the public are also top priorities. The maple-basswood forest systems stand out as a high priority in this regard.
- 3) **Systematically expand stewardship activities**, with an emphasis on selecting areas that interface with previously restored areas to reduce habitat fragmentation, create sustainable systems, and maintain stewardship efficiencies.

As the order of priorities suggest, the first two are more specific than the third, with the reason being that the immediate threats are more definable and at a scale that can be addressed with more modest levels of funding. As the priorities shift to larger systems, the specifics are less certain due to the unpredictability of funding levels for larger, more complex projects (and lack of a detailed ecological analysis that has yet to be conducted.) Notably, the lack of specificity on the last priority should not be construed as being less important. On the contrary, the nearer-term priorities serve to set the stage for larger scale efforts in the future. Whereas addressing the top priorities will be significant achievements, they are only part of the overall vision for long-term stewardship.

Figure 5.13 highlights the key ecological stewardship priorities. The figure is subsequently followed by a table that provides a broader overview of each priority.

FIGURE 5.13 – ECOLOGICAL STEWARDSHIP PRIORITIES



OVERVIEW OF ECOLOGICAL STEWARDSHIP PRIORITIES		
Graphic Tag	Description	Rational for Priority Ranking
1A – Ravine Stabilization	Several drainages within the park’s Maple-Basswood Forests are seriously eroding, creating unstable and hazardous ravines. The subwatersheds that contribute to these areas should be considered in designing the stabilization strategy.	Without intervention and stabilization, these ravines will likely continue to erode, causing damage to the park’s higher quality forests, degrading downstream aquatic systems, and presenting a hazard to park users.
2A – Maple-Basswood Forest	The park’s large tracts of Maple-Basswood Forest are in generally good condition. However, some invasion by common buckthorn and other invasive species was observed.	These large forests present a tremendous natural resource that should be protected from further degradation. Since their existing ecological condition is quite good, limited effort should be required to protect these habitats and enhance their ecological functions.
2B – Mesic Oak Savanna - Natural Areas	The majority of these areas will require conversion of old fields and upland shrublands to native savanna.	Restoration of savanna from old fields will require a moderate level of effort and will require several years to establish - and longer to mature. Many of these areas will be focal points of the park, and warrant prioritization for the enjoyment and appreciation of park users.
3A - Mesic Oak Savanna - Archery Area and Off-Leash Pet Area	These areas will require conversion of old fields and upland shrublands to native savanna.	While these areas will require a moderate level of effort and time to establish and mature, their short-term use should not be impeded by delaying restoration.
3B - Priority Wetland Areas	These wetlands represent higher quality, more unique, core habitat areas within the park.	These areas will require a low to high level of effort and time to restore. For example, the shrub swamp with its scattered tamarack trees is an uncommon wetland type for the region that would, under ideal conditions, be desirable to restore. But the abundance of reed canary grass currently limits its ecological functions and poses a real challenge.
3C - Remaining Wetlands and Upland Habitats	These areas are typically smaller or more degraded.	Due to their size, location, and/or condition, immediate restoration/enhancement of these areas is not essential. For example, the large wet meadow in the east-central portion of the park is primarily reed canary grass and will require significant time and effort to restore.

**Qualifier to Stewardship Prioritization:** The priorities established in figure 5.13 are at a master plan level and will be refined as the plan is implemented. Priorities are also subject to revision based on scientific rationale and funding availability. For example, there may be areas that fall under level 3 priorities that may become higher priorities to address critical ecological concerns that may arise. Likewise, ecological stewardship may become practical as part of specific developments that occur as the plan is implemented.

### PHASES OF THE STEWARDSHIP PLAN FOR EACH ECOLOGICAL COMMUNITY

The actual restoration of a given ecological community will occur in phases. Each phase will have distinct objectives toward attaining more diverse and healthy ecological systems within the park. The phased approach also allows for close monitoring of program successes and ensuring that resources invested in the program are appropriately allocated to their greatest value. In general, three major phases are envisioned for the stewardship program, as defined in the following table.

GENERAL STEWARDSHIP PHASING PROGRAM		
Phase	Overview	Additional Comment
<b>Phase I Testing and Education Phase</b>	Broadens understanding of restoration needs, options, and opportunities. Also increases local residents' knowledge and understanding of restoration issues. This phase is especially important during the initial implementation phase. As the program matures over time, the need to do extensive testing prior to restoring larger tracks is diminished due to knowledge gained over that time. However, testing of restoration approaches will always remain part of the program as new conditions are encountered.	<p>Small test or demonstration plots are the backbone of the initial testing program. Testing should occur in each ecological unit to test a cross-section of conditions found and to provide wider public exposure to the program. These tests will help determine which restoration practices are best suited for the setting. Potential test and demonstration plots include:</p> <ul style="list-style-type: none"> <li>• Reduction of invasive shrub cover – to increase light to the ground layer and stimulate growth.</li> <li>• Regeneration of oak forests – to stimulate new growth.</li> <li>• Reduction of noxious weeds and woody plants – to give competitive edge to native plant species.</li> <li>• Reintroduction of ground cover plants and seed – to reestablish native seeds.</li> <li>• Establishment of community outreach programs – so residents establish a personal stake in the stewardship program.</li> </ul> <p>Education plays a key role in the successful implementation of stewardship programs. The public's understanding of what is occurring becomes paramount to their support for the stewardship program. Although primarily for research purposes, the testing programs also serve as in-the-field educational tools. Direct exposure to restoration practices and their impact on the surrounding environment will give park visitors working knowledge of stewardship programs.</p>
<b>Phase II Remedial Phase</b>	Involves the major restoration and management tasks and consequently is the more expensive phase. Its focus is on returning the land to the biological and structural conditions necessary for a healthy ecological landscape to emerge and prosper.	The remedial phase employs a variety of restoration techniques in a major effort to restore vegetation and habitat structure and biological diversity and restore ecological and bio-geochemical functions. Tasks undertaken during this phase include reducing introduced nonnative and other undesirable trees and brush, removal of previous debris and substrate fill areas, addressing erosion and other problems, and other general tasks. In some cases, this phase may involve machine/mechanical planting of native plants, including larger trees and other plants. The period of time required to conduct the remedial restoration phase depends on the level of work effort required, condition of the ecological systems, opportunities and constraints (e.g., access, weather, biological response), and level of funding available for the program.
<b>Phase III Maintenance Phase</b>	Represents the routine tasks that are conducted annually at strategic times to maintain specific ecological and biological objectives set for each unit and subunit.	<p>After significant investments during Phase II, the stewardship program shifts to a lower level of intervention during the maintenance phase. This is inherently less costly and provides an excellent opportunity for long-term citizen and student involvement as volunteers.</p> <p>Once established, the maintenance phase is guided by both regular management techniques and by strategies that are implemented on a rotational basis through identified subunits. It is during the maintenance phase that the restoration plan would become part of the park's general operations and maintenance function. Along with this comes routine training and education of maintenance staff.</p>

## OVERVIEW OF STEWARDSHIP TECHNIQUES

As the previous table defines, the stewardship program requires undertaking specific tasks to meet performance criteria and achieve improvements to the ecological systems within the park. The following is an overview of specialized, yet relatively straightforward, techniques used to carry out specific restoration tasks. Of the techniques listed, prescribed burning is the single most useful and important management method required for restoring native plant communities. The other techniques and strategies are most often used to prepare a site for prescribed burning or as a means to reintroduce proper conditions and species into sites. It is important to underscore that these techniques are used as part of a well-thought out program that considers scientific practicality, costs, and safety.

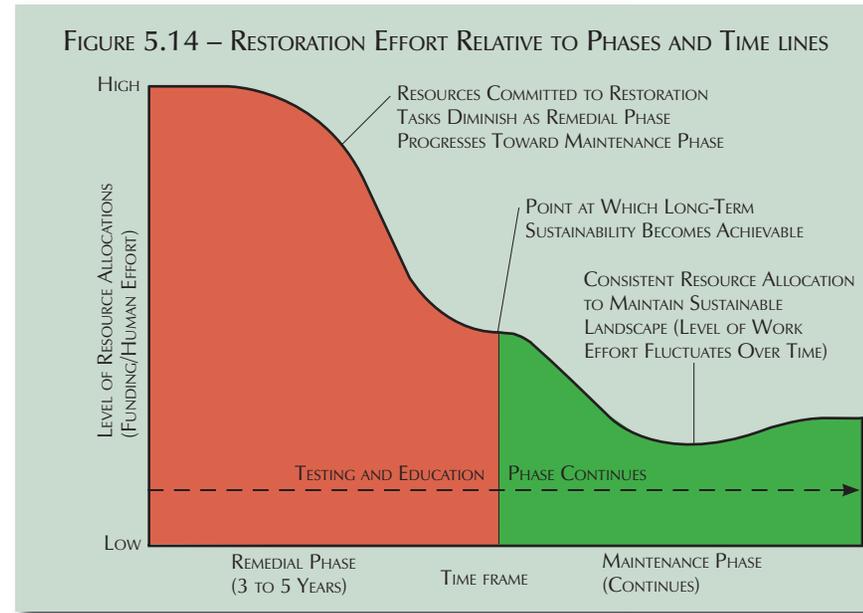
### OVERVIEW OF STEWARDSHIP TECHNIQUES

Technique	Description
<b>Prescribed Burning</b>	Prescribed burning is generally defined as “the highly controlled use of fire under optimal weather and environmental conditions to achieve specific ecological objectives.” Wildfire and fires started by indigenous people have for centuries played an important role in the evolution of many biological systems throughout North America. It is now recognized by the scientific community just how essential the role of fire is in maintaining grasslands, wetlands, savannas, barrens, and numerous forest types. It is also recognized that fire suppression can result in gross changes in the aspect, appearance, and ecological functions of these natural systems. Fire suppression is often followed by a decline in the richness and diversity of native plants and animal species, increased litter, shading, phytotoxin build-up in substrates, decreased availability of essential nutrients and increased homogeneity in habitat structure and spatial heterogeneity. Reduced nutrient cycling and increasing domination by few species often results. In some ecosystems, shifts in wildlife and increases in shade tolerant and less flammable plant species accompany fire suppression, with detrimental effects. Simply stated, no other technique comes close to the impact that this naturally occurring phenomenon has on restoring and preserving natural ecological systems. It is a fundamental component of a restoration program.
<b>Weeding and Brushing</b>	Preparing the site for prescribed burning will likely be necessary on sites that have significant restoration needs, especially in locations where invasive species, like buckthorn, are dominant. Weeding and brushing are the primary techniques used where there is dense brush and little combustible fuel. Manual reduction of existing dense shrub growths will be required to open up these areas. In cases where the direct use of fire is hampered due to non-native cool season grasses being present, pre-burn treatments may be necessary, including the very careful and discriminate use of herbicides and low mowing of the grasses can reduce green foliage and, after drying, litter can be used as fuel to sustain a low-level fire. Prescribed fire usually follows 5-15 days after the herbicide treatment or after the mowed grasses are dry enough to burn, which varies depending on weather conditions. Although the use of herbicides is always kept to a minimum, their use is a fundamental aspect of creating the conditions necessary for restoring native plant communities. Carefully selected herbicides have very low toxicity to humans and wildlife and will not present a threat when used properly.
<b>Seed Harvesting / Disbursement/ Planting</b>	Field observations suggest that some seed banks may remain present within the park’s soils, especially in areas where remnant native plant communities still exist. If carefully fostered, these seed banks can be a major facet of the restoration program and greatly reduce cost and time necessary to reestablish native systems. However, seeds and plants from local sources will also be required to ensure that sufficient quantity and quality exists to undertake a successful restoration program. This is especially the case in the oak savanna and prairie systems, where much of the seed bank may have been lost due to past agricultural uses. In these instances, directly reintroducing native plant species will be necessary to reestablish healthy ecological systems.  For native species that are no longer present within the park, alternative sites for seed harvesting, propagation, cultivation, and collection will have to be identified for eventual redistribution within the park. Wherever possible, seeds and plants should come from sites that are as close to the park as possible, with the outside limit being a 150 mile radius from the park. In the long-term, the park itself will be its own source for seeds and plants.

## TIME FRAMES FOR IMPLEMENTING STEWARDSHIP PROGRAMS

Although generalized, the work tasks and techniques involved in restoring and managing the park’s natural resources remain relatively consistent between phases and between ecological systems. A step-by-step process using the defined techniques will be sequentially implemented over a period of time to achieve certain desired results. Although the techniques are relatively consistent between phases, the primary distinction often lies in the intensity of the work involved to achieve a set of objectives, and the use of one restoration technique over that of another.

For example, the initial removal of dense clusters of buckthorn in a given area may require substantial effort during the remedial phase. Under the maintenance phase, continued removal will still be necessary, but require substantially less effort. Figure 5.14 illustrates how the level of restoration effort lessens as the management plan moves from the remedial into the long-term maintenance phase.



As figure 5.14 illustrates, the remedial phase can take three to five years (or more) to complete for each ecological community within a given land unit. This time frame is highly dependent upon the magnitude of the work involved to complete restoration tasks and the resources committed to this effort. The maintenance phase begins once remedial work is completed and continues on indefinitely at a sustainable level. As illustrated, the work effort under the maintenance phase will fluctuate due to the ever-changing conditions found across the site. The actual schedule for implementing the stewardship program would also likely be staggered to ensure that the work undertaken in any given year is manageable and affordable. Since the timing of funding and overall funding is undefined, the actual timetable will have to be considered in detail as the program is implemented. Realistically, restoration of the site is a 20 plus year endeavor even under the best funding scenario, with the maintenance phase continuing indefinitely thereafter.

### RESTORATION AND MAINTENANCE APPROACH FOR THE DOMINANT ECOLOGICAL SYSTEMS

Although over-simplified, the work tasks and techniques involved in restoring and managing the park's natural resources remain relatively consistent between phases and between ecological systems. The following table provides an overview the general restoration approach to each of the dominant ecological systems.

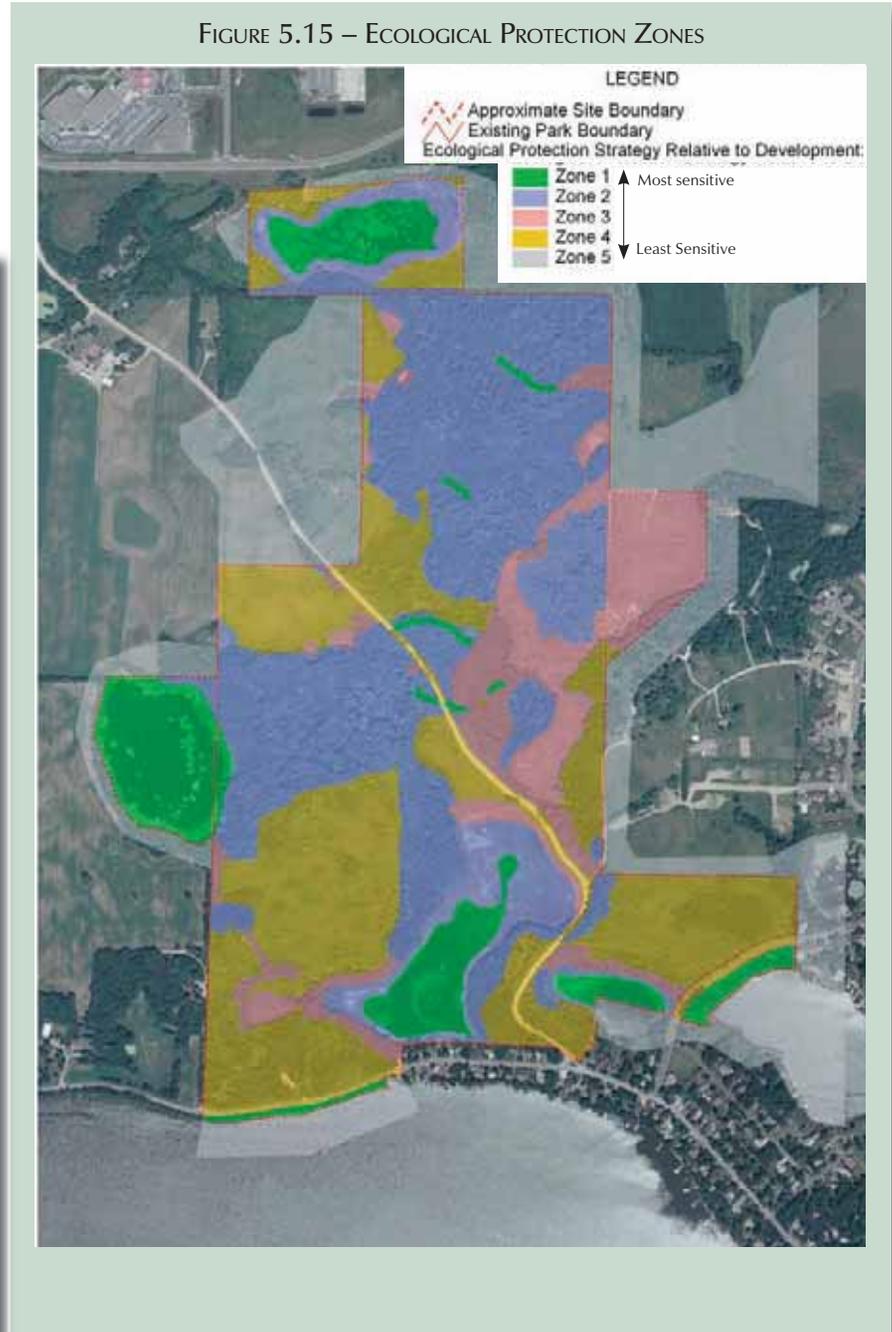
## OVERVIEW OF RESTORATION AND MANAGEMENT APPROACHES FOR SELECT ECOLOGICAL SYSTEMS

Technique	Description
<b>Maple-Basswood Forest Dominated System</b>	<p>The ground cover vegetation in this system is progressively declining over time, with fewer and fewer native species being found – especially at the ground level. Native ground cover vegetation in this system is increasingly out-competed by an aggressive understory of buckthorn and other invasive plants. The result is a decline in the native soil stabilizing vegetation, which tends to accelerate overland flow of water that causes erosion and poorer water quality in downstream locations. Lack of tree regeneration and virtual dominance by older age classes of oaks, maples, basswoods, and ash is a major ecological concern. Over time, the larger trees will begin to reach pathological maturity and ultimately degenerate. This is very problematic because these older trees often do not regenerate vegetatively, which leaves little opportunity for the system to “fix itself” through natural processes alone. Human intervention in these systems will be required if they are to be healthy and sustainable for future generations.</p> <p><b>Generalized Management /Restoration Approach:</b></p> <ol style="list-style-type: none"> <li>1) Herbicide treatment and manual reduction of undesirable introduced woody plants.</li> <li>2) Remove excessive litter and fallen trees to open up the understory and allow for prescribed burning to take place.</li> <li>3) Undertake prescribed burning on a regular rotation, typically every 3 years.</li> <li>4) Seed with locally collected native plant seeds where native seed banks are not present or do not respond to the above treatments.</li> <li>5) Stimulate hardwood species regeneration through the introduction of acorns and seedlings.</li> <li>6) Monitor and report results. Adjust program as warranted.</li> </ol>
<b>Savanna Dominated System</b>	<p>Currently, the areas envisioned as savanna-dominated systems is covered with broom grasses and successional/volunteer woody plant species due to past use of these upland areas for farming and pasture. In these areas, established non-native species are out-competing native species to the point where oaks have little chance to regenerate themselves. Native grasses are also scarce for the same reason. Under these conditions, reestablishing the savanna system can only occur through a well-conceived restoration and management program. It is important that the restoration program focus on restoring an oak savanna system versus a prairie system. The primary difference is that the reintroducing oak seedlings and small trees is a top priority in the restoration process and critical to reestablishing a healthy savanna system. Given the time frames involved in reestablishing this type of system, the sooner this restoration work is completed, the sooner a healthy savanna system will be realized.</p> <p><b>Generalized Management /Restoration Approach:</b></p> <ol style="list-style-type: none"> <li>1) Remove invasive non-native and undesirable woody plants and weed species from areas envisioned as savannas. Non-burnable vegetation should also be removed. Herbicide treat any stumps of woody plants, especially buckthorn, and other non-native grasses to create proper conditions for prescribed burning. Mowing may also be used to prepare area for burning.</li> <li>2) Undertake prescribed burning on a regular cycle until native plants respond.</li> <li>3) Seed with locally collected native plant seeds where native species seed banks are not present or do not respond to the above treatments. Seeding of native prairie grasses and forbs in existing old fields should be conducted by no-till drilling or scattered by hand after prescribed burning. Tillage is not desirable as this could stimulate weed species seeds.</li> <li>4) Plant seedlings and trees in select locations over a period of time to reestablish a dynamic oak system.</li> <li>5) Monitor and report results. Adjust program as warranted.</li> </ol>
<b>Lowland Dominated System (Lowland Hardwood Forest, Ash Swamp, Ephemeral Wetland, Wet Prairie, Wet Prairie, Shrub Swamp, and Mixed Emergent Marsh)</b>	<p>Significant signs of deterioration of the lowland and wetland systems has been observed, most likely caused by excessive nutrient loading and unnatural fluctuations in water levels from stormwater runoff from upland areas. Of equal importance, the lack of essential management, such as prescribed burning, reduces the diversity of plant life that can compete against more aggressive native and non-native species. As with the other systems, a well-defined and consistent stewardship system is required if the natural qualities of these systems is to be restored.</p> <p><b>Generalized Management /Restoration Approach:</b></p> <ol style="list-style-type: none"> <li>1) Complete a more in-depth investigation of the influences causing these systems to degrade, with specific attention given to managing on and off-site hydrology and stormwater.</li> <li>2) Undertake prescribed burning on a regular rotation.</li> <li>3) Spray herbicide treatment to reduce existing persistent non-native/undesirable grasses.</li> <li>4) Seed with locally collected native plant seeds or plugs where native species seed banks are not present or do not respond to the above treatments.</li> <li>5) Monitor and report results. Adjust program as warranted.</li> </ol>

## ECOLOGICAL PROTECTION STRATEGY RELATIVE TO DEVELOPMENT

To minimize disruption to sensitive natural areas, the park was divided into five zones that correlate ecological significance with development planning. Figure 5.15 illustrates the protection zones identified for the park, which are further described in the accompanying table.

FIGURE 5.15 – ECOLOGICAL PROTECTION ZONES



OVERVIEW OF ECOLOGICAL STEWARDSHIP PRIORITIES		
Zone	Ecological Significance	Development Approach
1	Most sensitive ecological areas requiring higher degree of protection due to landscape character and susceptibility to degradation (erosion, hydrologic changes, etc.).	Development within or directly adjacent to this zone to be generally precluded, with significant emphasis on resource protection. Passive, non-intrusive recreational opportunities will have limited merit within this zone. Boardwalks and overlooks are two examples of the type of development that could be considered in or adjacent to these areas, especially when having an educational purpose.
2	Largely intact ecological areas requiring substantial protection. This zone is typically relatively intact forested communities, but also may include other select or unique systems.	Development within this zone to be carefully considered, with significant emphasis on resource protection. Passive, less-intrusive recreational opportunities will have the highest merit within this zone, although there will be instances where resource protection will have to be balanced against providing for recreational uses that are best sited within this type of setting. The group camping area is an example of this type of activity, as described in <i>Section VI – Development Master Plan</i> .
3	Less intact, but still significant, ecological areas that justify significant protection. Requires more substantial ecological restoration than Zones 1 and 2.	Allows for more flexibility on development than zones 1 and 2, although these areas remain ecologically sensitive and caution has been taken not to over develop these areas.
4	More disturbed landscape due to past land uses (i.e., farming, pasture land, development). Often requires significant ecological restoration to reinvigorate natural landscape.	Highest level of flexibility on development, although ecological stewardship remains a key factor in decisions. New, larger-scale facilities are best suited for this zone since the ecological impacts are more manageable.
5	Area outside of the defined park boundary that may play a role in protecting the park in variety of ways (i.e., habitat continuity, ecological integrity, aesthetics, stormwater management, etc.).	Any ecological protection strategies that occur outside the park would require a partnership with adjoining landowners.

## PROVIDING BUFFERS TO PROTECT SENSITIVE ECOLOGICAL SYSTEMS

The development master plan (as presented in Section VI) was prepared in response to the ecological protection zones as defined on the last page, with emphasis being placed on locating proposed development in areas where it is least disruptive to the site's natural areas while still providing the recreational opportunities desired by the public.

Maintaining buffers between built features (including trails) and adjacent sensitive natural areas is essential to ensuring their long term ecological quality, diversity, and habitat value. Irrespective of how well they are aligned and designed, development has an impact on the resource, including habitat fragmentation, soil compaction, increased runoff, and erosion. For these reasons, providing adequate buffers is an essential part of development planning and design.

### **BUFFER DEFINITIONS**

Buffers refer to the area between a sensitive ecological system and the edge of a development or construction related to development. It is an area in which no development should occur, with the exception of restoration, management, and stewardship of natural resources. Managing stormwater through the use of natural infiltration techniques can occur in this zone if it is done in harmony with the natural systems that are found on the site.

The term "sensitive ecological system" refers to lands where ecological systems exhibit qualities that would be unacceptably degraded (i.e., health, function, diversity, etc.) due to development if a buffer was not provided. Under this definition, the term is inclusive of all ecological systems that hold the promise of being stable, functioning, and productive systems if managed and cared for through a routine stewardship program.

Consistent with common practice, wetlands, riparian areas, and water bodies are always considered sensitive ecological systems irrespective of their location and current condition. This also holds true for steep slopes and other landscape or geological features that if disturbed would significantly impact other ecological systems. In each case, adequate buffering is essential to protecting these systems.

### **BUFFER WIDTH GUIDELINES**

Buffer widths vary in response to a number of conditions, including:

- Sensitivity of the ecological systems being impacted
- Size and scale of the natural area being impacted (larger areas allow for more liberal buffers)
- Type of development being proposed and its potential for creating ecological impacts
- Desired recreational or educational experience

The type of development and desired recreational or educational experience are important considerations when establishing buffer requirements for development, especially a trail. For example, a trail might be legitimately located within a sensitive area for educational purposes. Depending on the circumstances, each of these situations will affect the optimal width of a buffer.

As a general guideline, figure 5.16 on the next page highlights recommended buffer widths primarily associated with riparian areas. Notably, these guidelines may also have application to non-riparian areas that are considered to be ecologically significant. Given the variability of the situations that may be encountered, the extent to which buffers are provided adjacent to a given development should carefully be considered by a trained specialist as part of the development planning and design process.

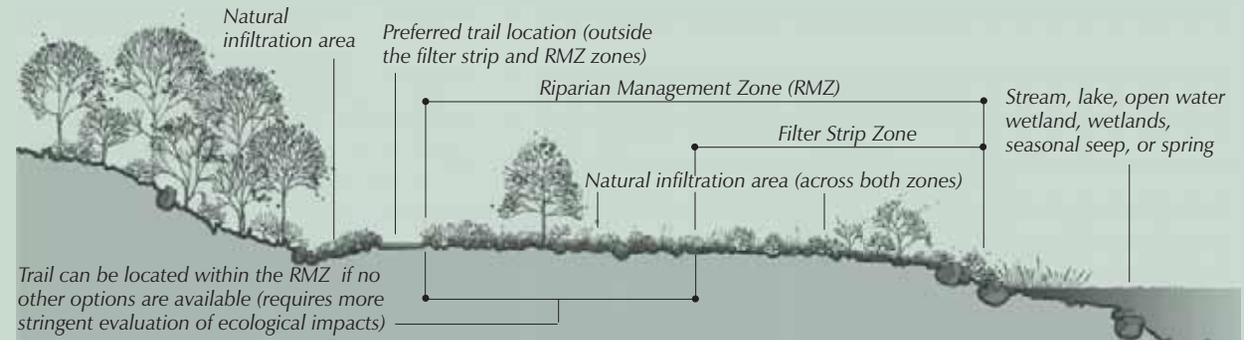
FIGURE 5.16 – BUFFER WIDTH GUIDELINES ASSOCIATED WITH FILTER STRIPS AND RIPARIAN MANAGEMENT ZONES

**General Buffer Guidelines for Riparian Areas**

The buffer guidelines are consistent with those recommended in the following publications: *MN DNR Trail Planning, Design, and Development Guidelines (2006)* and *Sustaining Minnesota Forest Resources Handbook (Minnesota Forest Resources Council, 1999)*.

These publications define buffers as “filter strips” for managing non-point pollution near surface water and wetlands associated with timber harvesting, prescribed burning, and construction. The guidelines have application to trail and other forms of development adjacent to perennial and intermittent streams, lakes, open water wetlands, wetland inclusions, seasonal seeps, and springs.

The guidelines also make a distinction between filter strips and riparian management zones (RMZ). Filter strips help minimize the runoff of sediment, debris, nutrients, and pesticides into water bodies and wetlands. RMZs encompass the area of land and water forming the transition from aquatic to terrestrial ecosystems along stream, lakes, and open water wetlands. Within this zone, a higher level of protection is recommended to protect the intrinsic qualities of these ecosystems. This includes greater scrutiny of trail alignments. The graphic and related text define the width guidelines for filter strips and RMZs.



**Filter Strip Zone Width Guidelines**

Slope of Land	Recommended Width
0-10%	50 feet
11-20%	51-70 feet
21-40%	71-110 feet
41-70%	111 to 150 feet

**Non-Trout Stream Riparian Management Zone Width Guidelines**

Water Body Type	Recommended Widths
Stream > 10 feet wide	100 feet minimum/200 feet preferred
Stream 3-10 feet wide	50 feet minimum/100 feet preferred
Perennial Stream < 3 feet wide	50 feet minimum and preferred
Open water > 10 acres	100 feet minimum/200 feet preferred
Open water < 10 acres	50 feet minimum/100 feet preferred

**Trout Stream Riparian Management Zone Width Guidelines**

200 feet preferred (150 feet minimum) for all designated trout streams, lakes, and tributaries

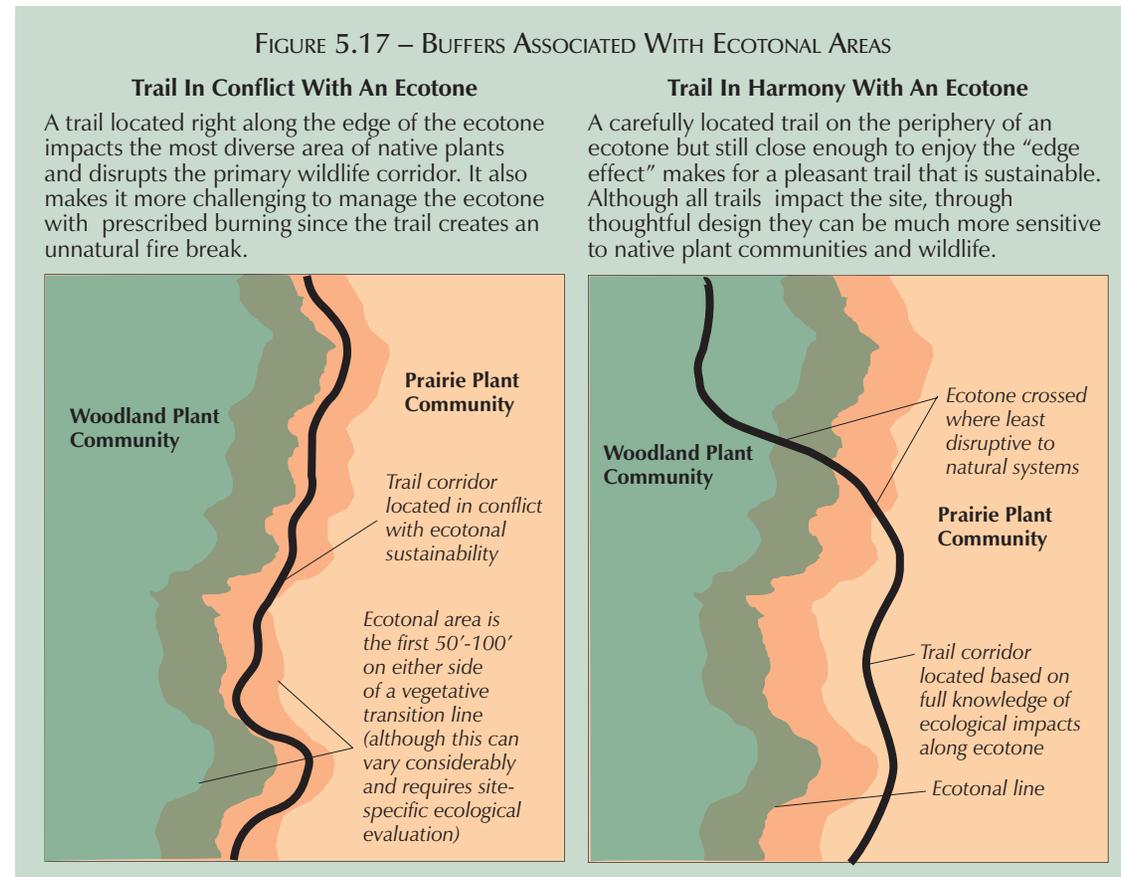
**BUFFERS ASSOCIATED WITH ECOTONAL AREAS**

Ecotonal areas are the transition zones between ecological systems where native plant diversity is often the greatest. These areas are also notable corridors for wildlife where animals travel from one type of habitat to another. Poorly placed development can pose significant impediments to travel for some species, even creating “sinks” that trap animals in an isolated area.

Understandably, ecotonal areas also appeal to humans and it is very tempting to place development right along or through the edges of these diverse landscapes. Finding a balance between providing the experience of being in proximity to an ecotonal edge while still protecting the ecotone is a major consideration. A robust understanding of these systems is critical to aligning a trail, for example, in the least disruptive manner. Even locating a trail a few feet one direction or another can substantially improve the protection of ecotonal areas without diminishing the experience.

Typically, the ecotonal edge is the first 50 to 100 feet on either side of a vegetation transition line, although this can vary considerably. For example, locating a trail right along the ecotonal edge should be the exception, not the rule. If trails are located within this zone, careful consideration should be given to minimizing the impact on these diverse systems. As with buffers in general, this typically requires technical evaluation by a trained specialist.

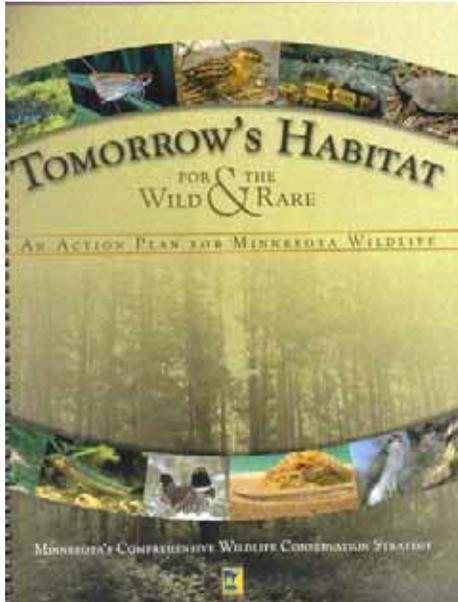
When trails inevitably cross vegetation transition lines, it will be done at select locations where impacts can be minimized. Figure 5.17 provides examples of trails on the edge of ecotonal areas.



### BUFFERS AND SHORELINE PROTECTION STRATEGY FOR LAKEFRONT AREAS

Along the lakeshores, the extent of buffers will have to be balanced against providing access as defined in *Section VI – Development Master Plan*. Although an optimal buffer width may not be achievable in all cases, the intent along the lakefronts is to use natural vegetation and bio-engineering techniques over mechanical or engineered means to stabilize embankments and the shorelines. This is especially the case with Spring Lake, where the shoreline is the steepest. In addition, access to the shorelines will be limited to select locations where observation platforms, docks, and overlooks will be provided.

## ENHANCING WILDLIFE HABITAT



This publication can be found on the MN DNR's website ([www.dnr.state.mn.us/cwcs/index.html](http://www.dnr.state.mn.us/cwcs/index.html)).

Wildlife habitat is a function of ecological quality. The healthier and more diverse the ecological systems found on a site, the more diverse and rich the array of wildlife that can be sustained. Today, the park still retains a capacity to support wildlife, albeit less robustly than historically would be the case due to habitat degradation and alternative land uses that have occurred over time. The innate qualities of the park, its landforms, access to water, and ecological diversity are especially important to avian and waterfowl species.

Other forms of wildlife, ranging from deer to opossums, frequent the park for the same essential reasons that attract avian populations – namely the wetlands, lake, and variety of upland ecological systems. Here too, habitat degradation and fragmentation is having an impact on the diversity and frequency of wildlife sightings. Although no formal studies have been completed for the park, on-site observation suggests that species adaptable to disturbed landscapes, such as deer, are thriving. Those that are less adaptive are less frequently sighted and more threatened.

### LIMITING HABITAT FRAGMENTATION

Mapping ecological systems, limiting the development footprint, and providing buffers adjacent to development collectively reduce habitat fragmentation. In spite of these efforts, fragmentation can still occur if wildlife needs are not specifically considered as development is undertaken and final trail alignments are planned.

Limiting the fragmentation of ecotonal areas is especially important with wildlife since many species tend to concentrate along these edges. This is especially true of riparian areas, along the edge between forests and meadows, and areas adjacent to steeper slopes and wetland edges. The less a trail or other development encroaches into these areas, the less fragmentation will occur.

To reduce habitat fragmentation, the physical design and management of trails and other forms of development should incorporate the needs of wildlife and protect the ecological values that are most important to species of greatest conservation need. The publication entitled *Tomorrow's Habitat for the Wild and Rare: An Action Plan for Minnesota Wildlife* published by the MN DNR is an important resource in this regard and should be referenced as specific development projects are implemented.



Owls and other forms of wildlife will prosper as the stewardship program is implemented over time.



and overall populations of birds also declines. Reversing this trend is one of the key objectives of the stewardship plan.



this snake), the fragmentation of the site's ecological systems favors species that are more adaptable to a disturbed landscape, such as deer.



Although historically not common to this region, opossums have proven very adaptable to changing climates and are commonly found on the park. As with managing plant communities, managing animal species is of equal importance to ensure a balanced ecosystem within the park.

## WATER RESOURCES MANAGEMENT

Water resources management refers to managing stormwater within and adjacent to the site in an ecologically-sound manner that is consistent with the larger ecological vision for the park. The main principle is to manage stormwater using natural infiltration methods and preserve the natural hydrology of the site. Under this approach, stormwater runoff from parking lots, roads, buildings, and other built features will be effectively captured and treated prior to reaching downstream wetland, pond, and lake systems. The following provides a framework for water resource management.

### NATURAL INFILTRATION METHOD AS AN UNDERPINNING FOR AN ECOLOGICALLY-BASED APPROACH TO STORMWATER MANAGEMENT

The natural infiltration approach to stormwater management relies on passive, overland routing of runoff, as opposed to storm sewers, engineered ponds, and other built structures. This approach offers a couple of distinct advantages over conventional stormwater systems (i.e., storm sewers, engineered ponds, and other built structures), including:

- Introduced contaminants picked up by runoff are removed at the initial stages of water flowage, rather than being transported to downstream locations and accumulating in wetland, lake, and river systems. This greatly reduces degradation to water quality and vegetative health in downstream systems.
- Stormwater flow rates and volumes more closely emulate natural conditions. This greatly reduces unnatural fluctuations in water levels in downstream systems (wetlands and lakes) and therefore reduces impacts to the natural condition of water systems and vegetation.

For these reasons, the use of natural infiltration for managing stormwater is fundamental to creating sustainable trails where impacts to adjacent ecological systems are to be kept to a minimum. These systems typically consist of four primary components, as illustrated in figure 5.18 and 5.19.

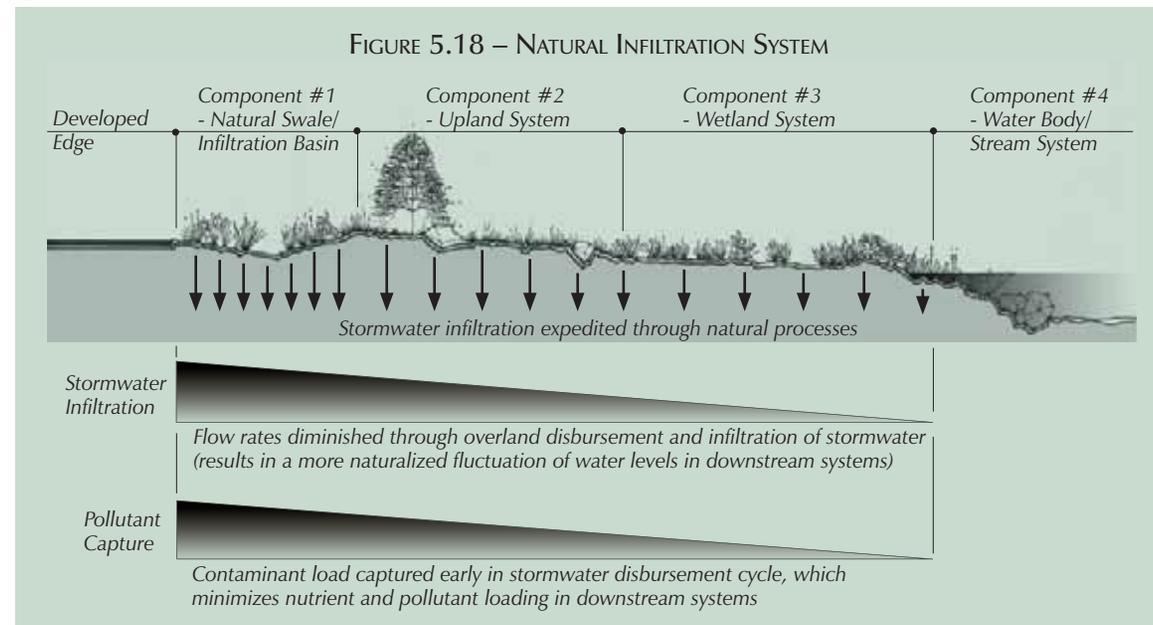


FIGURE 5.19 – OVERVIEW OF NATURAL INFILTRATION SYSTEM COMPONENTS

As defined in figure 5.18, each component of the system functions in sequence to treat the water before it enters wetlands, lakes, and rivers. The following considers each of these in greater detail.

#### Component #1 – Shallow Natural Infiltration Swales and Basins Systems

Initially, stormwater runoff from development is routed into natural or man-made shallow swales or, more recently, “raingardens” or “natural infiltration basins” that are planted with native plants with deep root systems. These swales, basins, and raingardens provide initial infiltration and removal of pollutants, as well as convey runoff from developed areas and disperse it across upland and prairie systems.

*(Left photo) The “ribbon infiltration area” between these trails is a depressional area (about 5 feet deep) to promote natural infiltration of runoff. With native grasses, absorption rates are increased and standing water only occurs after longer or heavier periods of rain.*

*(Right photo) Similar situation, with the natural infiltration approach being ecologically sound and also visually appealing to trail users.*



#### Component #2 – Upland Systems

The upland systems (i.e., prairies, oak savannas, upland forests, etc.) are the second component, functioning to convey stormwater as diffused overland flow to the wetland systems that often link directly or indirectly to lakes. These systems infiltrate a substantial portion of the annual surface runoff volume due to their very deep root system. They also provide additional solids settling and biological treatment.

*(Left photo) Deep-rooted prairies and savannas are well-suited for natural infiltration system, especially their capacity to slow down the rate of flow associated with stormwater leaving hard surfaces.*

*(Right photo) Diverse forested systems also serve to capture stormwater runoff in a natural way. Notably, systems that are degraded are much more susceptible to erosion than more diverse systems.*



#### Component #3 Wetland Systems and Component #4 – Water Body/Stream Systems

The wetlands are the third component of the natural infiltration system and provide both stormwater detention and biological treatment prior to runoff entering the lake and stream systems. The final component is the lake or stream, which provides stormwater detention, additional solids settling and biological treatment.

*(Left photo) By the time water gets to a wetland, most of the impurities should be taken out by the previous parts of the infiltration system. Still, wetlands serve an important cleansing function and are critical to ensuring surface and ground water quality.*

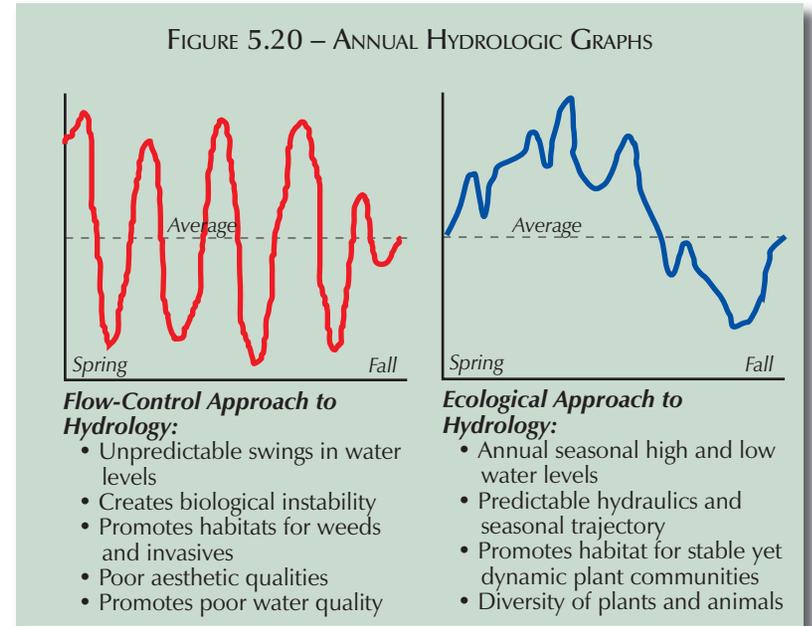
*(Right photo) By using natural infiltration systems, water fluctuations in lakes and rivers will be much more natural and stable. By limiting unnatural water fluctuations, native plants will remain vital and be able to compete with non-native species that thrive when natural systems are compromised.*



### Hydrograph Associated With Natural and Flow Rate Control Approaches

The use of a natural infiltration system also produces a much more natural hydrograph, resulting in lower peak flows and higher base flows relative to the hydrograph of a typical engineered flow rate control approach, as illustrated in figure 5.20.

As the graphic illustrates, there are numerous advantages to using an ecological approach to stormwater management, making it the preferred method whenever possible. Engineered or mechanical systems for conveying stormwater should only be used when natural approaches are technically not feasible.



### BEST PRACTICES FOR STORMWATER MANAGEMENT

The use of natural infiltration methods to managing stormwater should also be supported by the application of a variety of best practices that address common development circumstances likely to be encountered as the master plan is implemented. There are a variety of best practices related to managing stormwater, preventing erosion, and limiting non-point water pollution that have application to future development and complement the guidelines provided in this master plan. The table on the next page highlights several publications that are recommended resources covering many relevant best practices. Scott County will apply pertinent best management practices whenever a new development is being implemented. This will include the application of best management practices recommended by the City of Prior Lake and the Prior Lake–Spring Lake Watershed District.

### MINNESOTA POLLUTION CONTROL AGENCY

The Minnesota Pollution Control Agency (MPCA) has developed a manual entitled *Protecting Water Quality in Urban Areas* to help local government officials, urban planners, developers, contractors and citizens prevent stormwater-related pollution. The manual contains detailed information about BMPs that can be used to protect lakes, streams and groundwater from stormwater-related pollution. The manual is available online through their website (<http://www.pca.state.mn.us/water/pubs/sw-bmpmanual.html>) and covers the following topic areas:

- Water quantity and quality
- BMP selection
- Comprehensive stormwater policies and plans
- MPs for stormwater systems
- Stormwater-detention ponds
- Erosion prevention and sediment control
- Pollution prevention
- Models and modeling

### URBAN SMALL SITES BEST MANAGEMENT PRACTICE MANUAL

Available through the Metropolitan Council, *The Urban Small Sites Best Management Practice (BMP) Manual* provides information on tools and techniques to assist municipalities and watershed management organizations (WMOs) in guiding development and redevelopment. The manual includes detailed information on 40 BMPs that are aimed at managing stormwater pollution for small urban sites in a cold-climate setting. The BMP Manual is available online on the Metropolitan Council's website (<http://www.metrocouncil.org/environment/watershed/bmp/manual.htm>). Key sections that have application to trail development include the following:

- Runoff pollution prevention
- Impervious surface reduction
- Pavement management
- BMP maintenance
- Landscape design and maintenance
- Grading practices
- Soil erosion control
- Mulches, blankets, and mats
- Vegetative methods
- Sediment control
- Silt fences
- Inlet protection
- Temporary sedimentation basins/traps
- Check dams
- Stormwater treatment BMPs
- Infiltration systems
- Infiltration basins
- Infiltration trenches
- Filtration systems
- Bioretention systems
- Filter strips
- Wet swales
- Retention systems
- Wet ponds
- Detention systems
- Dry ponds
- Dry swales

### MINNESOTA STORMWATER MANUAL

This manual is a valuable tool for those involved in stormwater management and conserving, enhancing, and restoring high-quality water in Minnesota's lakes, rivers, streams, wetlands, and ground water. The manual is a dynamic document and revisions will take place every two years, with the most recent version posted on the MPCA website ([www.pca.state.mn.us/water/stormwater/stormwater-manual.html#manual](http://www.pca.state.mn.us/water/stormwater/stormwater-manual.html#manual)).

## CONCLUSIONS

As a regional park, preserving natural open space values and ecological health is fundamental to the master plan for Spring Lake Regional Park. Ensuring that these core values are protected, or even enhanced, in future years is of equal importance to developing the park for recreational uses.

The thoughtful development and implementation of natural resource stewardship and water resources management programs is fundamentally important to restoring and preserving natural processes in this park and achieving the vision defined by the master plan and expected by the local community.

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# SECTION VI DEVELOPMENT MASTER PLAN

## OVERVIEW

The development master plan reflects the consensus reached between the public, Spring Lake Regional Park Task Force (TAC), Scott County Parks Advisory Commission (PAC), and Scott County Board regarding how the park should be developed to meet regional needs. The public process played a pivotal role in shaping planning outcomes by giving citizens numerous opportunities to voice their opinion on the park's future development. Through this process, the TAC, PAC, and County Board gained an appreciation for public interests and sentiments that were duly considered as conclusions were drawn. In the end, the master plan represents a reasonable balance between meeting the needs of the regional population while respecting the opinions and concerns of residents living near the park.

Notably, it should be recognized that the master plan remains dynamic and will evolve as it moves through implementation steps and benefits from new findings on recreational trends and operational experiences in the years to come. This is especially important in Scott County, where localized needs and use patterns are still emerging and not fully documented given the relative infancy of the County as a regional park implementing agency. For this reason, the County is committed to additional public input as the plan is implemented to confirm that actual development is in line with public demand and expectations. This will ensure that the true values that the park brings to the region will remain at the forefront of the decision making process.

## BALANCING HUMAN USES WITH ECOLOGICAL PROTECTION

The master plan represents a balance between recreational and educational uses and preserves the site's ecological values. While providing a cross-section of recreational and educational opportunities within the park was a fundamental goal, showing restraint in the size of the built footprint was also a clear public value. In this context, determining the most appropriate location for development relative to ecological resources was an important planning consideration that significantly affected planning outcomes.

In comparing the development plan with the ecological protection zones shown in figure 5.16 in *Section V – Natural Resources Stewardship Plan*, the majority of the proposed development purposefully stays on the periphery of the most sensitive areas. The exception to this includes nature trails, trailheads, overlooks, and group camping related facilities – each of which requiring a certain natural setting to be successful. Otherwise, larger scale features such as the multi-use facility, 4-season pavilion, park drives, and paved trails are located in less sensitive areas or on the edges of the park where fragmentation of the nature systems is less of an issue.



*Preserving the park's natural attributes was a clear objective of the planning process. Development within the most sensitive or higher quality natural areas was purposefully limited to uses that were compatible with the setting, such as nature trails.*

## INTERFACE WITH SCOTT COUNTY PARKS AND OPEN SPACE SYSTEM POLICY PLAN



*Preserving as much natural open space as possible is a major theme of the master plan.*

The Spring Lake Regional Park master plan is consistent with the vision, goals, and policies of Scott County's *Parks, Trails, and Open Space Policy Plan*. This includes alignment on issues related to the preservation of ecological systems and providing recreational amenities that meet the needs of the regional population. Scott County will further apply the policies, standards, and guidelines defined under this and other pertinent plans as the master plan is implemented.

### REGIONAL PARK AND REGIONAL PARK RESERVE COMPARISON

As a *regional park*, there is no specific requirement that the overall extent of development consume a maximum of 20% of the land area, leaving 80% as natural open space. This requirement only applies to a *regional park reserve* as dictated by Metropolitan Council *Regional Parks Policy Plan*. Although not required, it was clearly established during the public process that limiting the built footprint to the minimum necessary to accommodate defined recreational uses was desirable and a high priority. The master plan layout reflects this by limiting the extent to which built features intrude into the natural areas.

The desire to minimize the built footprint also played a role in eliminating certain types of space-consuming development from consideration, especially when those amenities could justifiably be accommodated elsewhere in the regional system. The most prominent example of this related to a full-service campground, which was generally thought to be too large for this size of park to accommodate. Another example was the elimination of the existing through-road that runs north to south through the park.

Through the thoughtful selection and siting of proposed development, the overall built footprint under the new master plan is approximately 15%, which still remains well below the 80/20 threshold for regional park reserves. Even though this was not a specific requirement for a regional park, it does reflect the public's desire to preserve as much open space as possible while still meeting the public need for various forms of recreation.

## INTERFACE WITH CITY OF PRIOR LAKE PARK PROPERTY

As defined in *Section IV – Park Boundary*, Scott County and City of Prior Lake share a common interest in maximizing the park amenities in this area to meet broad local and regional park needs. This working relationship extends to the efficiencies and common goals associated with park development, including the following considerations.

### ACCESS DRIVE AND SITE BUFFERING

As illustrated on the master plan and defined in this section, the City is providing land area for a separate access drive to the regional park on the north side of its property. In addition, the City will work with the County on providing an adequate buffer between the proposed regional park drive and the athletic fields planned for the city park to preserve the sense of place within the regional park. (Note that this may require flexibility on property boundaries between the two parks if the access drive and buffers provided on city park property substantially diminishes the land area needed for developing its own facilities. Any land swaps that might be required will be further defined when either the City of Prior Lake or Scott County initiate development of either of these parks.

### SHARED PARKING, RESTROOM, AND MAINTENANCE FACILITIES

Where feasible, shared use of facilities will be maximized between the city and regional park. This includes the shared use of city park parking for the off-leash pet area and general access to restrooms under normal park hours. The City anticipates having a maintenance function within the city park, which also provides an opportunity for shared use under a joint-use agreement. Collectively, these provisions reduce the cost and size of the development footprint within the regional park.

## UNIVERSAL DESIGN/SPECIAL NEEDS FRAMEWORK

Universal design combines the basic principles of barrier-free design with a more comprehensive view of human capabilities. Universal design attempts to consider all degrees of sensory awareness, all types of locomotion, and all levels of physical and intellectual function. By doing so, the needs of individuals with varying desires, abilities, and expectations can be reasonably accommodated. The philosophy of universal design as defined by *Universal Access to Outdoor Recreation* include:

- People purposely choose settings for their recreation activities.
- Choices are made with the expectation of achieving specific recreational experiences.
- Desire is to provide as broad of a spectrum of activities and recreational settings as practical for a given site.

The *recreation opportunity spectrum* (ROS) classifications used by the USDA Forest Service is in keeping with the principles of universal design. These are flexible guidelines for making appropriate accessibility decisions that permit universal access within the context of the public's expectation for a certain type of setting. The ROS framework is based on a continuum of possible combinations of recreation settings, activities, and experiential opportunities, as well as the resulting benefits that can accrue to the individual (by improving physical and mental well-being) and society.

The recreation opportunity spectrum is divided into four classifications that cover the full spectrum of outdoor recreation environments. These classifications are divided primarily in terms of perceivable modifications to the natural environment and the related influences these modifications have upon visitor expectations. The following briefly defines the four ROS classifications:

- Urban/rural areas – are highly developed and evoke expectations of easy access
- Roaded natural areas – are less developed than urban settings, but still contain a relatively high number of modifications to the environment (these areas evoke an expectation for a moderate level of accessibility and a reasonable expectation for “like” experiences)
- Semi-primitive areas – are rarely developed, and evoke an expectation of difficult access
- Primitive areas – have few, if any, modifications (these evoke expectations for the most difficult access)

Under the ROS framework, it is not necessary, nor even desirable, to develop all recreation equally. From the ROS perspective, each site should be developed or modified in a manner that achieves harmony between recreation expectations and the environmental setting. What is important is that the level of access be in line with what is expected by the public – whether they are able-bodied or disabled – for a particular setting

### APPLICATION OF UNIVERSAL DESIGN PRINCIPLES

The objective with universal design is to consciously apply the principles to this park setting to determine what is most appropriate given the circumstances. Of the four ROS classifications defined above, the **roaded natural area classification** has the most utility given the park's location and physical characteristics.

### INVOLVEMENT OF REPRESENTATIVE POPULATIONS IN THE DESIGN PROCESS

Since universal design is still an evolving approach to design, achieving universal access is often simpler in concept than in practice. Anticipating the needs of people with varying degrees of abilities is a formidable task since it is often very difficult to understand the specific needs of individuals with certain disabilities when one does not share those limitations. Therefore, it is imperative that the design process include individuals that represent a cross-section of people with and without disabilities. As the project moves into design implementation phases, efforts should be made to involve representatives of divergent populations in the detail design of specific facilities. This approach helps to ensure that the design for any given facility will actually serve the intended populations.

## DEVELOPMENT MASTER PLAN OVERVIEW

The development master plan provides a cross-section of features and amenities to meet current and anticipated recreational and educational demands. The mix of facilities included in the master plan provides for short, day-long, and overnight stays at the park where one can enjoy a variety of complementary recreational and educational activities in a natural setting. The mix of facilities also places emphasis on year-round use of the park to allow visitors to enjoy the park all seasons of the year.

### Larger-scale Development Master Plan graphic!

An 11" x 17" map is attached to the back of the report for reference.



Where feasible, existing "social" footpaths through the park will be used for nature trails since they already take visitors to some of the nicest areas of the park.

Figure 6.1 illustrates the overall development master plan for the park.

### MAJOR DEVELOPMENT ZONES

The park consists of two major development zones, as the following defines.

#### Lakefront Zone

This is the area directly adjacent to Spring Lake and separated from the larger part of the park by County Road 12. This area is well suited for a more intensive development that takes advantage of the lakefront setting. The primary focus of development in this area is on group activities and family recreation.

#### Main Park Zone

This zone encompasses the vast majority of the park and focuses on preserving the site's natural amenities while providing recreational and educational opportunities that are less space consumptive and consistent with the natural sense of place.

FIGURE 6.1 – DEVELOPMENT MASTER PLAN ZONES



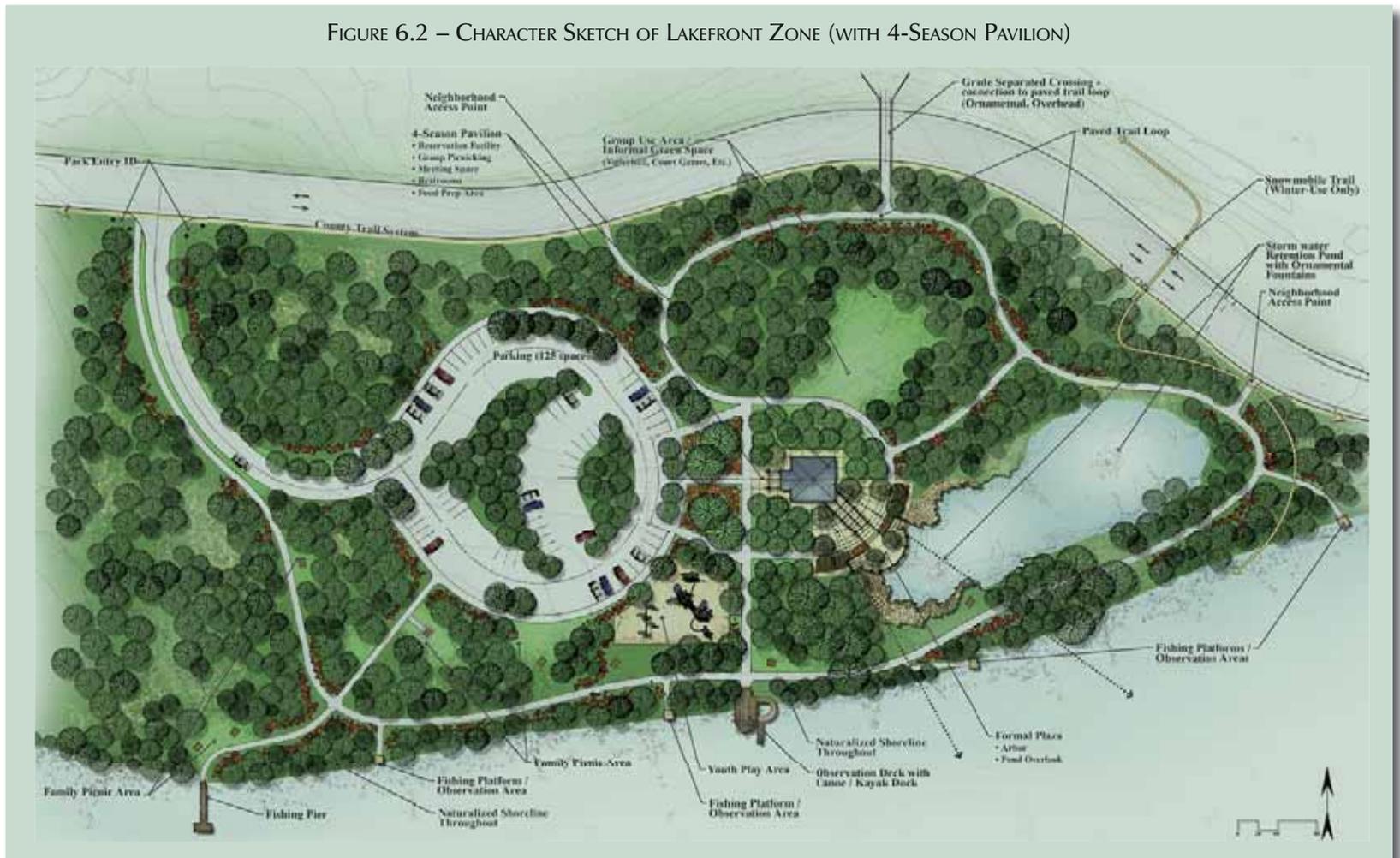
### OVERVIEW OF THE DEVELOPMENT PROGRAM

The development program defines the recreational and educational uses within the park and the facilities to support those uses. The program is an outgrowth of research on recreational trends, the findings of the public process, and the development parameters established by the Metropolitan Council. Forthcoming is a description of the facilities, features, and amenities envisioned for the park that are consistent with the vision statement defined in Section III.

### LAKEFRONT DEVELOPMENT ZONE (PAVILION AREA)

The lakefront development zone is situated in an ideal location for family and group activities. Located on the shores of Spring Lake, this isolated corner of the park is well suited for the 4-season pavilion, play area, and lakeshore related activities, as illustrated in figure 6.2.

FIGURE 6.2 – CHARACTER SKETCH OF LAKEFRONT ZONE (WITH 4-SEASON PAVILION)



The following defines each of the key features associated with this development area.

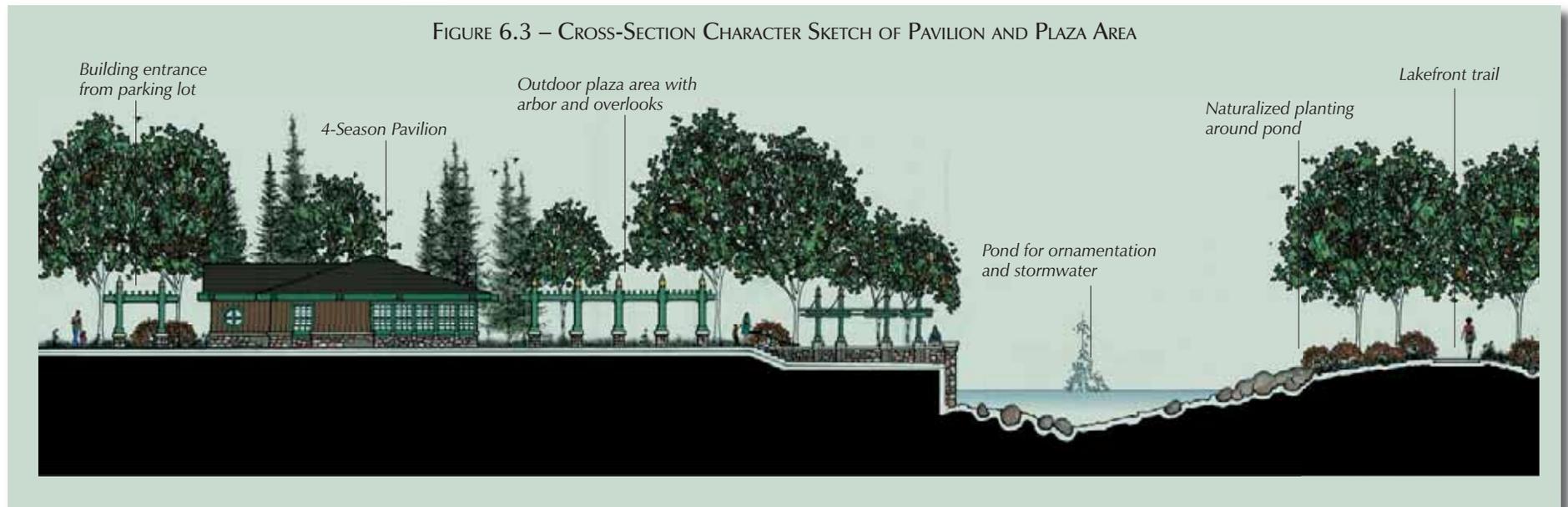
#### 4-SEASON PAVILION

The 4-season pavilion is a proposed year-round facility that provides space for social gatherings and recreational/educational programs. By reservation, the pavilion will also be available for public and private special events, conferences, and meetings. The facility will be designed to be highly flexible and adaptable to changing programmatic and user needs over time. The indoor and outdoor areas will function together for larger group events in the summer.

Amenities envisioned within the building include a general activity area that can be divided into smaller spaces, food preparation facilities, restrooms, and storage area. At an overall size of 3,000 s.f., the building will have a capacity of approximately 150 to 200 people. The architectural style will be in keeping with the natural and lakefront setting.

In addition to the building structure, a formal outdoor plaza and gathering area is envisioned to expand the function of this facility. This includes an arbor area, pond/lake overlooks, sitting areas, and picnic tables. Adjacent to the plaza is a ornamental pond feature that complements the pavilion and plaza and provides an appealing backdrop for weddings and other social events. Although a designed part of the pavilion area, the pond also serves as a stormwater detention basin and exhibit how native plants can be used to create an appealing landscape around a small water body. A small fountain might also be provided in the pond to add to its appeal and reduce water stagnation. The character sketch in figure 6.3 provides a cross-section of the pavilion and plaza area.

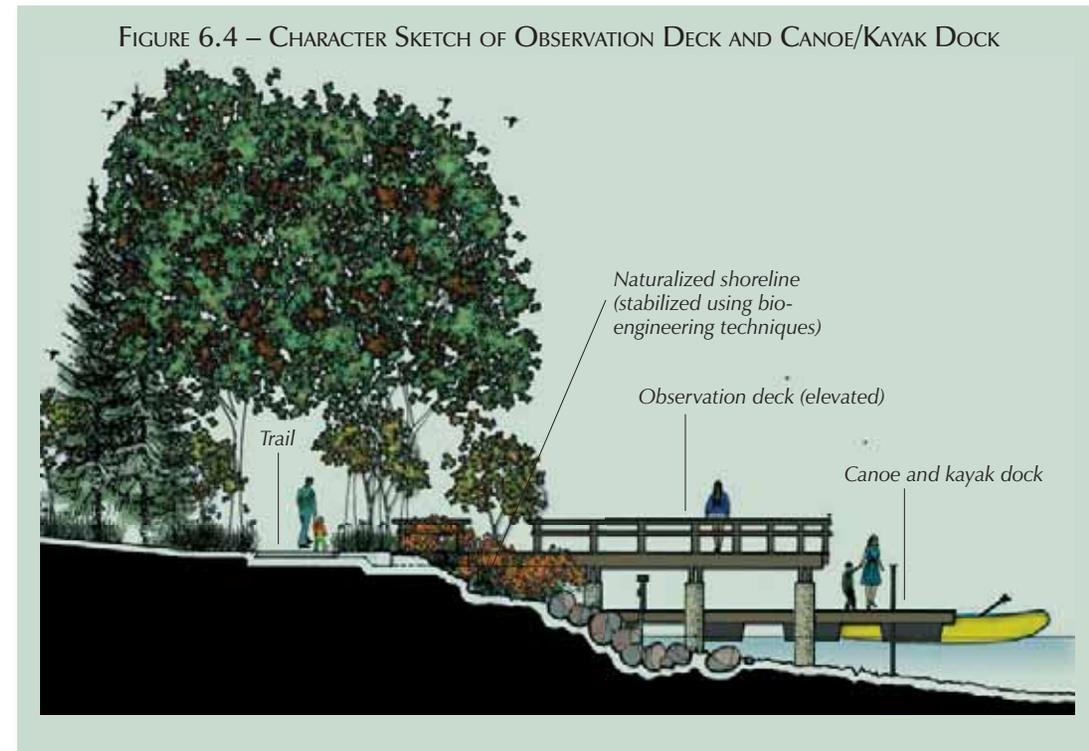
FIGURE 6.3 – CROSS-SECTION CHARACTER SKETCH OF PAVILION AND PLAZA AREA



## LAKEFRONT AREA DEVELOPMENT FEATURES

In addition to the pavilion and plaza, a variety of other amenities are provided in the lakefront area for public recreation, as previously illustrated in figure 6.2. The children's play area will support family activities associated with the pavilion, as well as day-to-day use by residents in the surrounding area. It will be sized to accommodate the groups using the pavilion, with a design theme that complements the lakeshore setting.

Along the shoreline, key design features include an observation deck with an adjoining dock for canoe and kayak launching. Figure 6.4 provides a character sketch of this feature. As demand warrants, lockable canoe and kayak racks would be provided along the lakeshore. The possibility of renting canoes and kayaks is also provided for under the master plan.



The observation deck will be complimented with a number of fixed-location fishing platforms/observation decks that provide additional controlled access to the lakeshore. A fishing pier is also being suggested to provide select fishing locations and another opportunity for visitors to get to the edge of the water. (Note that no swimming beach or general access to the lakefront is provided for ecological reasons, as defined on the next page.)

A group use area and general green space is provided to the north of the pavilion as an informal games area, such as volleyball and bocce ball. This area will be mowed grass.

Scattered picnic tables are also provided along the lakeshore for informal use. A looped trail ties all of the lakefront amenities together and connects the area to the grade-separated bridge crossing of County Road 12, which takes visitors into the north unit of the park to enjoy the trail system and other park amenities. (The grade-separated crossing is considered in greater detail later in this section.)

### LAKEFRONT ENTRANCE DRIVE AND PARKING LOT

As previously illustrated in figure 6.2, a separate access is provided off of County Road 12 for vehicular access to the pavilion and lakefront area. The access terminates at a parking lot sized to accommodate approximately 125 vehicles. The parking lot will be designed in response to land forms and existing vegetation and to reduce its visual impact as visitors enter the site. The width of the drive and character of the parking lot will be consistent with the design standards as defined later in this section for the main entrance drive and associated parking lots. This includes asphalt pavement and curbing to minimize vehicular parking on or driving through natural landscapes or visitor use areas. Porous pavements will also be considered to reduce the extent of site runoff in the lakeshore area.

(Note: In 2006, County Road 12 was realigned through the southern portion of the park, which in turn provided the space needed to accommodate the proposed facilities and take advantage of the lakefront amenity.)

### SHORELINE STABILIZATION, WATER QUALITY PROTECTION, AND RELATED NATURAL RESOURCE ISSUES

An important ecological consideration along the lakefront is long-term stabilization of the shoreline embankment and protection of lake water quality from site-related development. As previously illustrated in figure 6.4, limiting access to the shoreline to specific points is important to stabilizing the embankment down to the lake. To accomplish this, extensive natural plant materials and bio-engineering techniques will be used to stabilize the shore and define the places where people can access the edge of the lake. In addition, a natural buffer along the top of the embankment will be provided to trap pollutants and infiltrate stormwater before entering the lake (consistent with the principles defined in *Section V – Natural Resources Stewardship Plan*). With the exception of the trail along the edge of the lake as illustrated, other maintained areas (including turf grasses around picnic areas and the play area) will be set back from the lake far enough to allow for an adequate natural filter strip along the lakeshore. The value of using natural vegetation along the shoreline will be highlighted through interpretive signage to underscore the importance of protecting lakeshore environments and encouraging homeowners to use similar approaches for their properties.

With respect to the trail along the shoreline, the intent is to reach a balance between providing access while still protecting the shoreline. In doing so, locating the trail where people will inherently want to go is important to keeping them on the trail and off of the natural vegetation. At the point of implementation, determining the trail's exact location will include evaluation of ecological impacts to ensure it is placed where it will be successful while protecting the shoreline ecology.

Although this area is the most intensely developed of any within the park, preserving as much of the natural vegetation as possible remains a goal. All areas outside of the defined development will remain natural and be managed as part of the overall stewardship program. This includes using natural vegetation around the parking lot to reduce its visual impact and remind visitors that this is a resource-based regional park setting. The same holds true for the pond, which will be bordered as much as possible with select native plants that add visual appeal to the area while remaining consistent with the park's native plant communities.

#### **An important parking note!**

*The parking lot provided along the lakeshore is sized to accommodate only public park uses. It is not sized to accommodate any future private development along the lakefront, should that occur. Given space limitations, private entities will have to provide parking to meet their own needs outside of the park property.*

#### **An important consideration!**

*The entire development area along the lakeshore will be designed to minimize environmental impacts. Emphasis will also be placed on using natural landscaping to enhance the aesthetic of the developed features and amenities.*

## VEHICULAR ACCESS AND PARK DRIVES

Providing convenient, visually appealing, and easy to understand vehicular access into the park was a major design objective, as was limiting the footprint of the park drive to only what is necessary for accessing park features and amenities. As the master plan illustrates, there are two primary access points into the park. The main park entrance is on the north end from County Road 82. A secondary entrance is off of County Road 12 to service the lakeshore development zone and 4-season pavilion. The following considers these access points and park drives in greater detail.

### MAIN PARK ENTRANCE, PARK DRIVE, AND PARKING LOTS

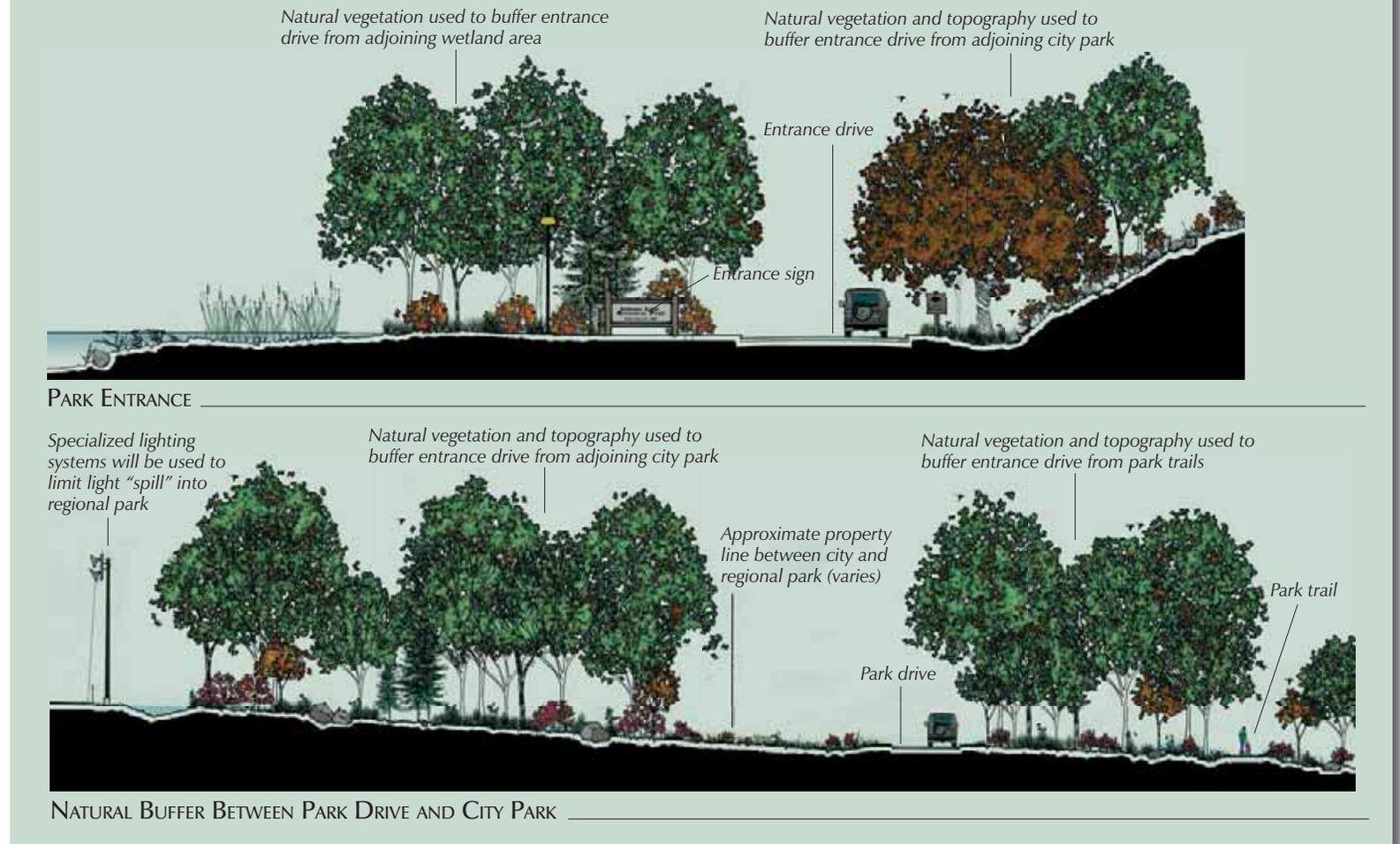
As illustrated on the master plan (figure 6.1), the main park entrance will connect with a future collector street that will tie into County Road 82. Although connecting directly with the county road was considered, securing the right-of-way through the private land to the north of the park proved cost prohibitive. In addition, integrating the park access into a proposed private development plan for this area would have diminished the sense of entrance that was desired for the park. For these reasons, accessing the park from the future collector street through City of Prior Lake park property was found to be the best solution and most desirable from the City's and County's perspective – even though doing so encroached upon city park property.

As shown on the master plan (figure 6.1), creating a sense of entrance into the park is an important design consideration. This will be accomplished in a number of ways:

- Using separate access points into the regional and city parks to avoid confusion and reduce traffic volumes through the regional park
- Providing an entrance monument/sign surrounded by natural landscaping that is appealing and clearly defines the entrance to the regional park
- Providing adequate natural buffers on either side of the park drive as it traverses through City property to create a sense of entrance consistent with the overall regional park experience

Providing adequate natural buffers between the regional park drive and the City's park development is an important aspect of creating the desired sense of entrance and making the park drive a pleasant experience for park visitors. As part of this discussion, the City of Prior Lake expressed an interest in collaborating with Scott County on creating these buffers as part of the detail development plan for these parks. In addition to providing visual separation between park uses, the buffers will also be used to manage stormwater flowing from the city park using natural infiltration approaches as defined in *Section V – Natural Resources Stewardship Plan*. Figure 6.5 on the next page provides character sketches of the park's entrance and the proposed buffer between the regional and city park properties.

FIGURE 6.5 – CHARACTER SKETCHES FOR PARK ENTRANCE AND NATURAL BUFFER BETWEEN PARK DRIVE AND CITY PARK



Once past the south end of the city park property, the park drive continues to its terminus at the parking lot for the multi-use facility. To limit development impacts, the alignment of the drive follows the existing road alignment as much as possible in this area. As it passes through the wooded area, the proposed alignment will follow the contours of the land to limit grading and impacts to these resources. The larger parking lot at the end of the drive is purposefully located in an old pasture or field area to avoid impacts to the higher quality wooded area to the north.

The park drives will be 22' to 24' wide, asphalt paved, rural section roads (no curb) with a gravel 2' shoulder on each side. A rural section is proposed for the drive to limit the concentration of stormwater and encourage natural infiltration of runoff. The park drive will also be aligned in response to existing lands forms to give it a pleasant, natural character. Careful alignment of the road will also minimize visual overlap between it and the various nearby trails.



*For some park users, the experience of traveling along the park drive will be their primary form of recreation, especially those that are less ambulatory and the elderly. For this reason, the character of the park drive becomes an important design consideration.*



*Removal of the existing north-south road through the park will eliminate pass-through traffic from taking away from the park experience. In some areas, the roadbed will be used for new trails and parts of the new park drive.*

Enhancing the visual aesthetic of the park drive corridor is also an objective of the master plan. Restoring native plant communities along the drive corridor coupled with the thoughtful alignment of the park drive will ensure a natural character to the roadway corridor and help set the tone for a park visitor's overall experience.

With respect to parking, a number of parking lots are shown on the master plan at trailhead locations and adjacent to the multi-use facility. This includes three trailhead parking lots along the main park drive to accommodate trail users and picnickers. These parking lots are kept purposefully small in keeping with the setting and to limit the size to only what is necessary to meet daily parking needs. Each of these lots will accommodate 20 vehicles, with some room for expansion if warranted by demand. Three to five parallel parking stalls are also provided along Northwood Road to support the limited development features adjacent to Prior Lake and the archery practice range. Parking lots will only be expanded if clear demand is documented.

The larger parking lot at the end of the park drive will be sized to support the multi-use facility, group camping area, outdoor classroom, and outdoor skills area. The initial size of the parking lot is contingent on the size and scale of the multi-purpose building. Assuming a modest size as defined later in this section, an initial parking lot capacity of 30 to 50 spaces should be adequate to meet the needs of this area, although this will have to be confirmed when actual development occurs and the building program becomes more refined.

From a design standpoint, the parking lots will be paved with asphalt and have curbing to control vehicles from parking on or driving through natural landscapes or visitor use areas. The design of the parking lots and management of stormwater will be based on the principles defined in *Section V – Natural Resources Stewardship Plan* as related to using natural infiltration techniques. This may include the use of slotted curbs and adjoining raingardens to minimize the concentration of runoff.

### ELIMINATION OF EXISTING PUBLIC ROAD THROUGH THE PARK

The existing north-south public road (Howard Lake Road) that traverses through the park from County Road 82 to County Road 12 will be eliminated under the master plan to preclude pass-through traffic from diminishing the park experience. Since the existing and planned future public roads to the east and west of the park are capable of handling the traffic needs of the area, neither Scott County and City of Prior Lake anticipate any significant transportation concerns due to the elimination of this road.

In select sections, the old road bed will be used for either the new park drive or trails. Where it is reused, the road bed will have to be narrowed down in some areas to the 22' to 24' width proposed for the new park drive. Otherwise, the roadbed will be removed and restored consistent with the surrounding landscape.

### CONTROL OF VEHICULAR ACCESS POINTS

At a minimum, a gate will be provided at each access point to control traffic during closed hours. The option to provide a gate house at some locations is also included in the master plan, although constructing them is not envisioned at this time. The County Board will determine whether entrance or other park-use fees will be collected in the future. Should that occur, gate houses or other means to track use and collect fees (i.e., electronic medium) may be incorporated at select access points.

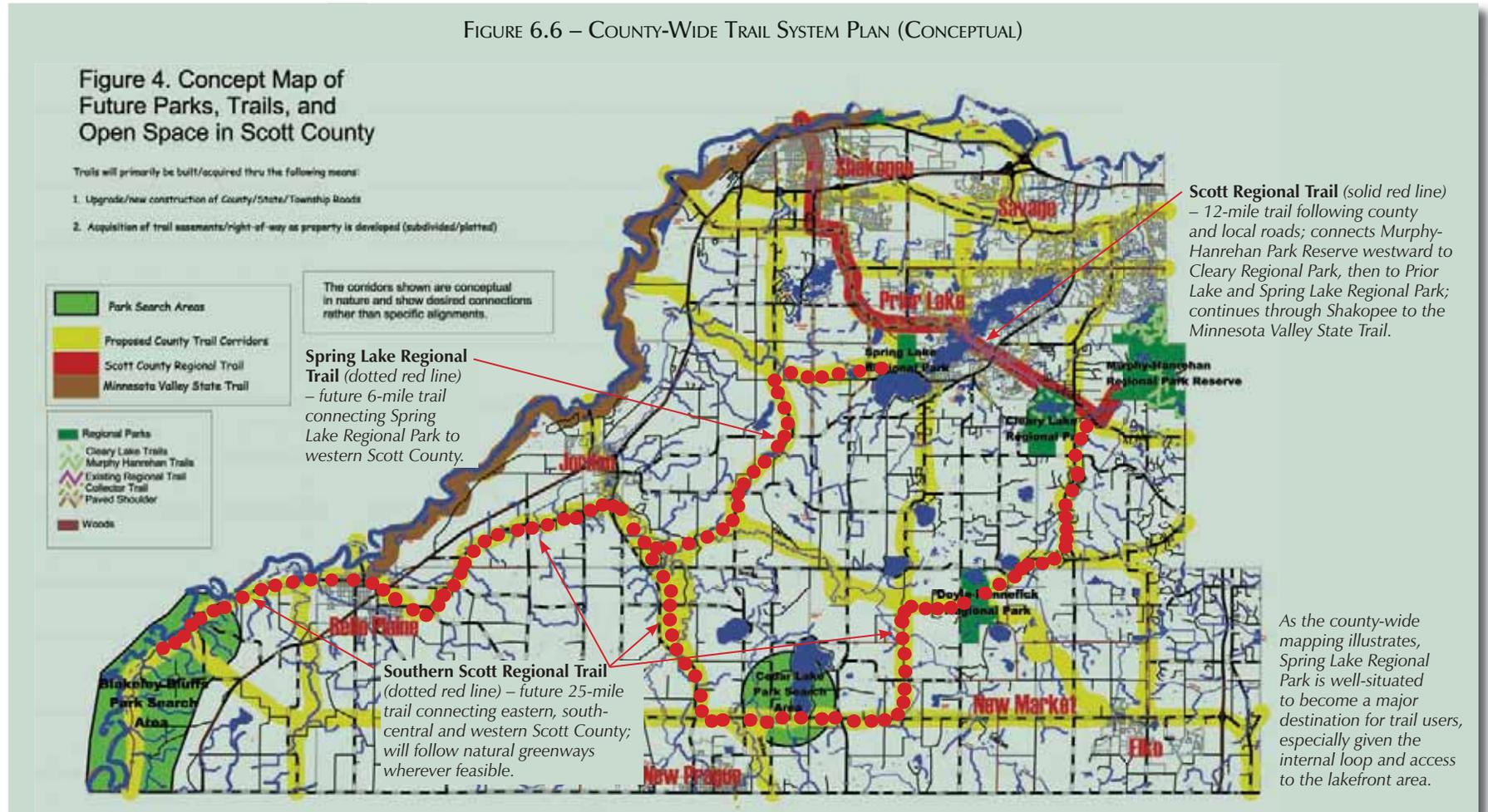
## PAVED TRAILS

As illustrated on the master plan (figure 6.1), a looped paved trail will be provided within the park for year round use. Trail use will be limited to non-motorized activities including walkers, joggers, bicyclists, and inline skaters. A trail width of 10 feet is proposed to accommodate these uses and minimize the potential for conflict or crowding. (This width is also consistent with regional standards for this type of trail.)

### CONNECTION OF PAVED TRAILS WITH COUNTY-WIDE TRAIL SYSTEM

An important aspect of the paved trail is its connection to the larger trail system planned for Scott County. As figure 6.6 illustrates, Spring Lake Regional Park is at a cross-roads of an extensive planned trail network, making it a key destination within this system and accessible via trail from many parts of the county. The connection to the regional trail on the north side of the park is especially important due to its linkage to population centers and other regional parks.

FIGURE 6.6 – COUNTY-WIDE TRAIL SYSTEM PLAN (CONCEPTUAL)





An intimate, winding trail that responds to various landforms is envisioned for the park, as illustrated by this photo of a similar park setting.

As illustrated on the master plan, the trail connection to the regional trail to the north of the park (County Road 82) will have to be integrated with future private development plans for this area. This will be coordinated by Scott County and City of Prior Lake when a new development is proposed for this area. The trail connection to the county trail system along County Road 12 will be coordinated by Scott County as part of roadway upgrading starting in 2006.

### SELECT TRAIL ACCESS POINTS FROM SURROUNDING AREA

Access to the paved trail within the park will be limited to the locations shown on the master plan. Developments to the north of the park will be served by the connection to the regional trail. Developments to the west will be served by local trail connections to the city park, which in turn will have a direct connection to the regional park. Developments to the south will have access to the park from the trails along County Road 12. Developments to the east will have several access points from local streets and through future development areas as shown on the master plan.

### INTERNAL PAVED TRAIL LOOP

The trail loop internal to the park totals approximately 3.5 miles. As illustrated on the master plan, the trail alignment is purposefully on the periphery of the park in most areas to maximize overall mileage and, of equal importance, leave the more central and larger areas for nature trails. Although on the periphery, it is still important to provide a reasonable buffer between the trail and adjoining land uses to enhance the visitor's experience, and to avoid encroaching too close to private residential properties. The character sketch in figure 6.7 illustrates this point.

FIGURE 6.7 – CHARACTER SKETCH OF BUFFER BETWEEN PAVED TRAIL AND ADJOINING PROPERTIES

Reasonable buffer provided between the trail and private properties to enhance the visitor's experience. Buffer width, vertical separation, and vegetation will each be used to varying degrees to create the buffer.



An important qualifier to buffers is that their ultimate width will also factor in the desire to keep the paved trail out of the core of the natural areas where natural trails will be developed. This balancing act will occur on a site-by-site basis, with the County making the ultimate determination of trail locations that are consistent with the overall vision of the master plan.



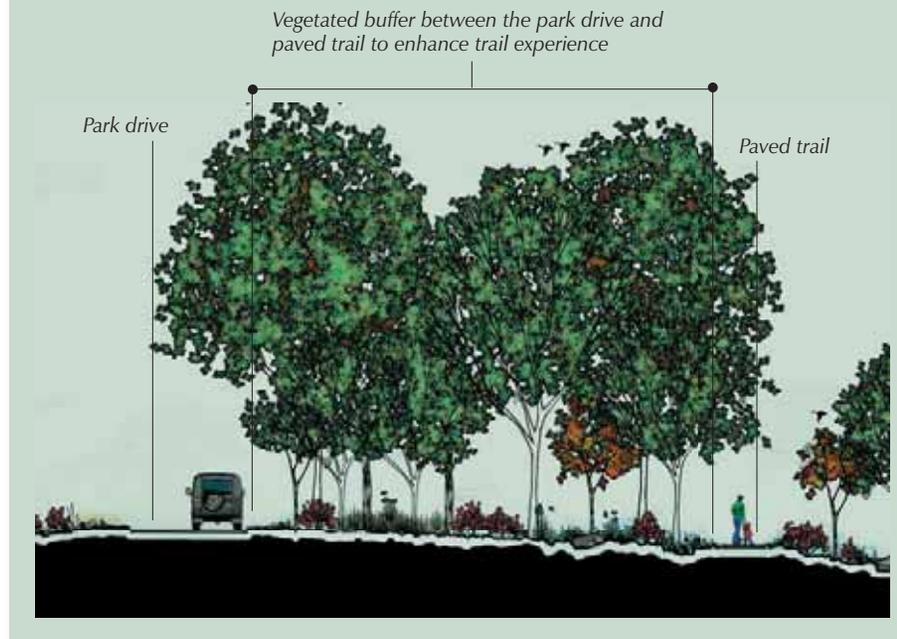
The juxtaposition of different ecological systems will be one of the highlights of the paved trail loop within the park, as this example of a trail in another regional park entering an open prairie suggests.

Even within the park, creating a sense physical and visual separation between the trail and other development features is important to enhancing the visitor's experience. This is especially the case with the entrance drive, where the trail is purposefully separated from the roadway by natural vegetation and topography. The character sketch in figure 6.8 illustrates this design intent.



The paved trail will be open year-round, with fall expected to be a popular time for many visitors to enjoy the park, as it is with this example from another regional park.

FIGURE 6.8 – CHARACTER SKETCH OF BUFFER BETWEEN PAVED TRAIL AND PARK DRIVE



In one area, the paved trail loop traverses across a wetland via boardwalk. Although necessary to complete the loop, the boardwalk also presents an opportunity for visitors to experience a unique feature of the park and have a better chance of observing wildlife. The character sketch in figure 6.9 illustrates this type of setting.



Although it must be carefully done, providing access to unique wetland and pond features is often a highlight of a trail and a main reason that people return to use it time and again.

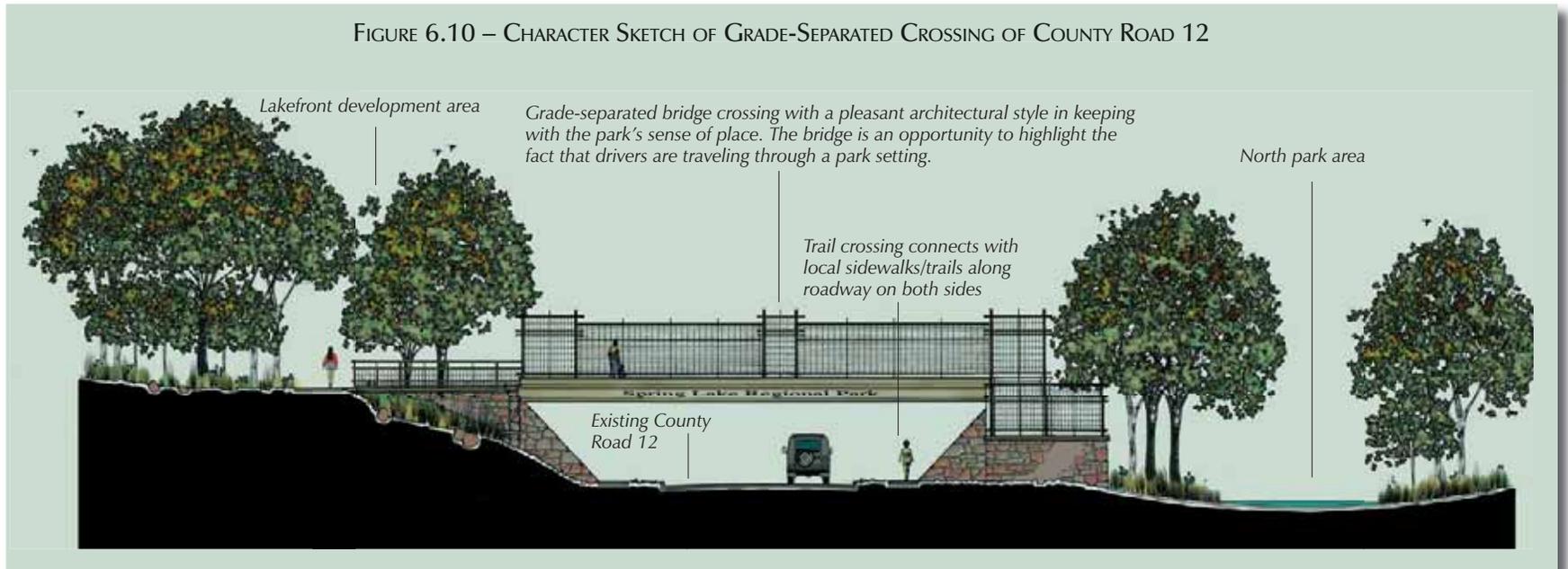
FIGURE 6.9 – CHARACTER SKETCH OF BOARDWALK

Boardwalk located to provide unique observation points while avoiding undue impacts to the surrounding natural area. Siting of the boardwalk will require input from natural resources specialist to determine optimal location.



As shown on the master plan (figure 6.1), the paved trail makes a grade-separated crossing to connect with the development area and lakefront on the south side of County Road 12. Given the anticipated traffic volumes and the desire to make a strong physical connection between the north and south park units, a grade-separated crossing is an important design feature. This is especially the case for visitors using the pavilion area, where a safe and easy crossing will encourage them to use the larger park area during the park visit. It is also an opportunity to alert or remind drivers using County Road 12 that they are traveling through a regional park. The character sketch in figure 6.10 illustrates how this crossing might appear.

FIGURE 6.10 – CHARACTER SKETCH OF GRADE-SEPARATED CROSSING OF COUNTY ROAD 12



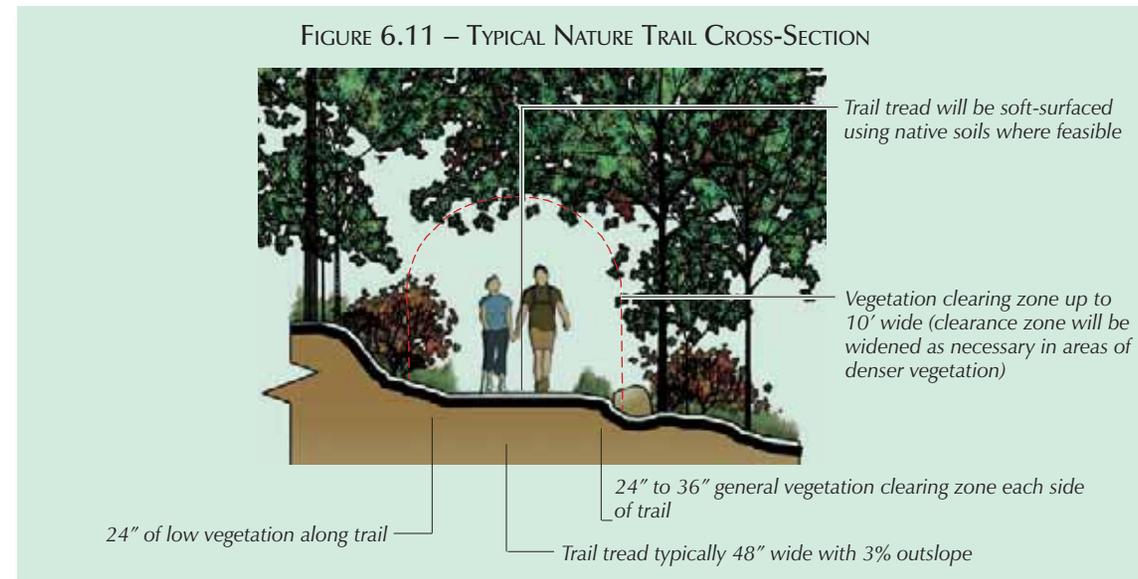
### DESIGN STANDARD FOR PAVED TRAILS

The regional trail will be designed in accordance with the typical standards. The *Minnesota Planning, Design, and Development Guidelines* (MN DNR 2006) will be used as the baseline standards and guidelines for developing paved trails (defined as shared-use trails in the guidelines). Where feasible, standard trail curve and gradient guidelines will be applied. In areas where the trail traverses through more sensitive natural areas and along slope lines that pose design challenges two principles will be applied: 1) maintain a safe trail experience; and 2) minimize impacts to natural systems and landforms. Innovative design techniques will likely be required in some instances. This might include the use of bridges, boardwalks, switchbacks, and directional trails.

Maintaining a high degree of accessibility will also be a design objective. Along with hard surfacing, maintaining a trail grade of 5 percent or less will be adhered to wherever possible. Notably, there are areas within the park where limiting the grade to 5 percent will be a challenge given site topography. In these instances, signage will be used to alert trail users about upcoming steeper grades.

## NATURE TRAILS

As illustrated in figure 6.1, an extensive network of looped nature trails (over 3 miles) will be provided within the park for year-round use. Trail use will be limited to walkers and joggers. A trail width of 48 inches is proposed to allow for users to walk side by side while still keeping the trail intimate and natural. In select locations, the trail may be narrowed in response to the terrain, especially in areas of steeper grades or sideslopes. Where the terrain is relatively flat, the preferred width of 48 inches is anticipated. Although extensive brushing adjacent to the trail is not envisioned, a reasonable clearance zone on either side of the trail will be provided to allow adequate space for sight lines and ease of passage. Figure 6.11 illustrates a typical natural trail cross-section highlighting tread and clearance zone widths.



The following photos illustrate the general character of the nature trails from similar settings that reflect the type of trail proposed for the Spring Lake Regional Park.



Where feasible and well-sited, the existing footpaths will be used as the corridor for the nature trails.



In general, the nature trail will gravitate toward a width of 48 inches to accommodate trail users walking side by side. Being soft-surfaced, the final width of these trails will be dictated as much by use patterns versus a set design width.



In select locations, a narrower trail width will be desirable in response to terrain and other landforms and vegetative patterns. This variability adds to the character of the trail.

As noted in the last graphic and shown in the photos, native soils will be used as much as possible for the surface of the trail. To remain sustainable, the trail's design is important, as are good trail building techniques. This requires the use of a "rolling grade" design pattern as illustrated in figure 6.12.

FIGURE 6.12 – OVERVIEW OF ROLLING GRADE AS THE PRIMARY DESIGN PATTERN FOR NATURE TRAILS

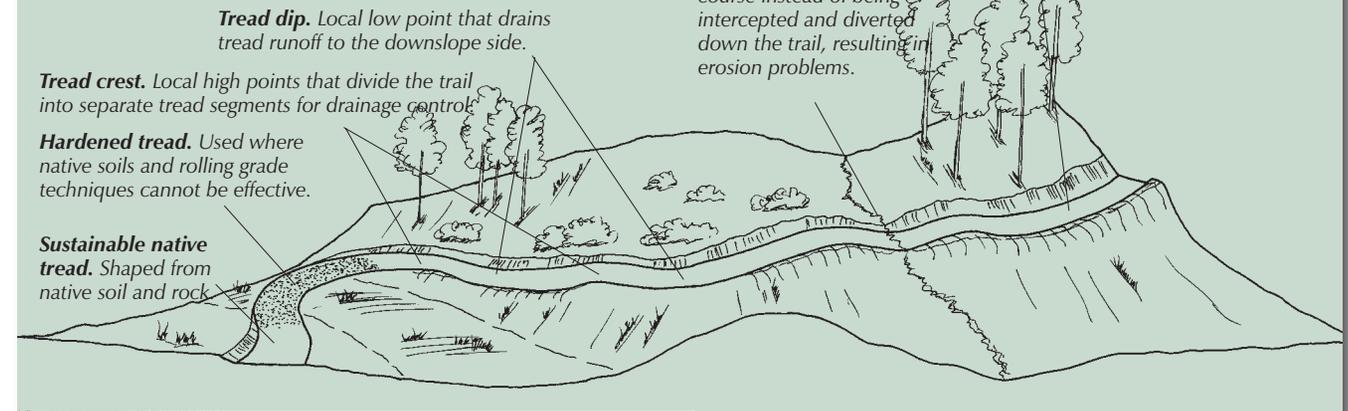
Rolling grade will be used as the primary pattern for designing and building the natural surfaced trails. This includes using a series of tread dips, crests, climbs, drainage crossings, and edge buffers to prevent erosion. The following illustrates key aspects of rolling grade design.

**Sideslope (fall line slope):** Rolling grade will be used when the trail is traversing slopes of 20% to 70%.

**Tread grades:** Are typically less than 1/4 to 1/3 of the sideslope (fall line slope) to avoid drainage problems. No part of the trail should be completely level.

**Drainage crossing.** All natural drainage channels and swales, no matter how small or intermittent, must be crossed with a tread dip. This will ensure that site drainage continues on its original course instead of being intercepted and diverted down the trail, resulting in erosion problems.

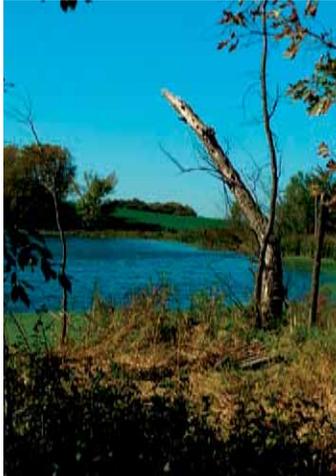
**Tread climb.** The steepness and length is of the tread is determined by the soil type, type of trail use, and site drainage characteristics.



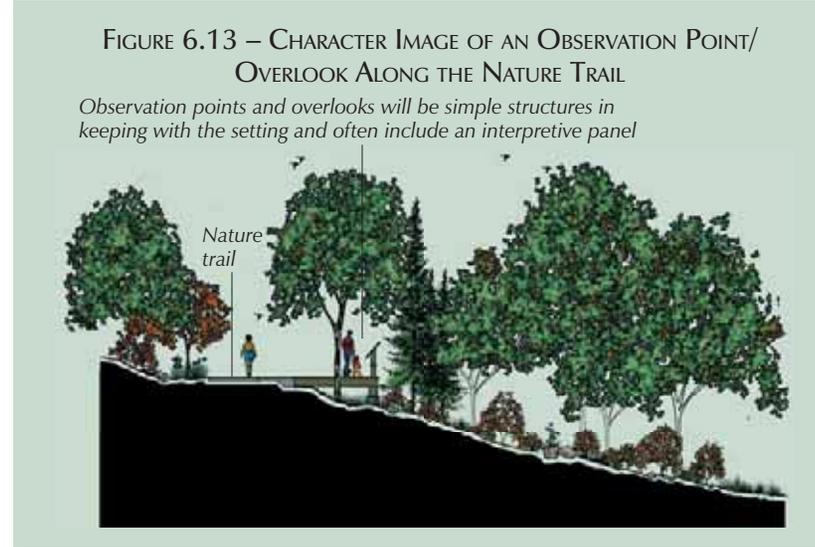
## NATURE TRAILS FOR RECREATION AND EDUCATION

As illustrated on the master plan (figure 6.1), the nature trail system purposefully traverses all of the major ecological systems within the park to give trail users a real sense of the park's natural qualities. In addition to recreation, one of the main values of the nature trails is that they can be used casually and through structured interpretive programs to inform the public about natural resources issues and the importance of active stewardship to ensure that the park's ecological systems remain healthy for generations to come.

To complement the trail, a series of observation points will also be provided at select locations. The master plan highlights several locations that hold promise for compelling views. There are also others that will be uncovered as the natural trail system is implemented. As figure 6.13 illustrates, these are intended to be simple, unobtrusive features.



Properly sited observation points and blinds will allow visitors to observe natural features and wildlife without unduly disturbing either.



As noted, the use of an interpretive signage program is envisioned for along the nature trail for both casual and formal educational purposes. The following photos illustrate this type of program in another regional park setting.



With advances in graphic capabilities and durability, interpretive signage programs have become common in regional park settings. Typically, this includes an overall map highlighting the nature trail (left photo) coupled with signage at various stations that highlight a natural feature or natural vegetative community.



Interpretive trail signage is complemented by directional mapping at key trail intersections and trailheads. This is especially important with nature trails that extensively wind through the park.

### DESIGN STANDARD FOR NATURAL TRAILS

The natural surfaced trails and rolling grade design pattern is consistent with the *Minnesota Planning, Design, and Development Guidelines* (MN DNR 2006), which will be used as the baseline standards and guidelines for developing nature trails. These guidelines take into consideration the natural forces acting on natural surfaced trails, such as erosion, compaction, and displacement, and offer design techniques to offset these concerns. Adherence to these standards should result in very sustainable and enjoyable natural trails.

## TRAILHEADS AND TRAILSIDE AMENITIES

As illustrated on the master plan, there are a total of five trailhead locations, including:

- Multi-use facility parking lot area at the end of the park drive
- Lakefront/pavilion development area, which includes the grade separated bridge crossing to allow easy access to the trail system
- Three smaller trailheads located along the main park drive

With respect to trailhead amenities, an information kiosk, sitting area, picnic tables or shelter, and parking will be provided for trail users. At the multi-use facility and lakefront development area, restrooms will be available for trail users. Vault-style toilets will be provided adjacent to the parking areas at the trailheads along the park drive. These will be in an enclosure to improve their aesthetic qualities.

Trailside amenities throughout the park will include overlooks, observation platforms, interpretive signage/kiosks, and benches in select locations. The extent to which this occurs will be based on specific opportunities that arise as the master plan is implemented.

The design principle for trailside amenities is to keep them simple and unobtrusive in keeping with the natural landscape. Important to siting these features is controlling the field of view from specific points of interest to preserve the aesthetic value of what is being observed. The careful placement of trails and trailside amenities will be important to preserving the experience that park visitors are seeking. The design guidelines for trailside amenities include:

- Using natural materials that blend in with the surroundings.
- Placing them where they do not interfere with other park experiences (visually and physically).
- Keeping them as small as possible to retain an intimate setting, yet serve the public need.

## MULTI-USE FACILITY

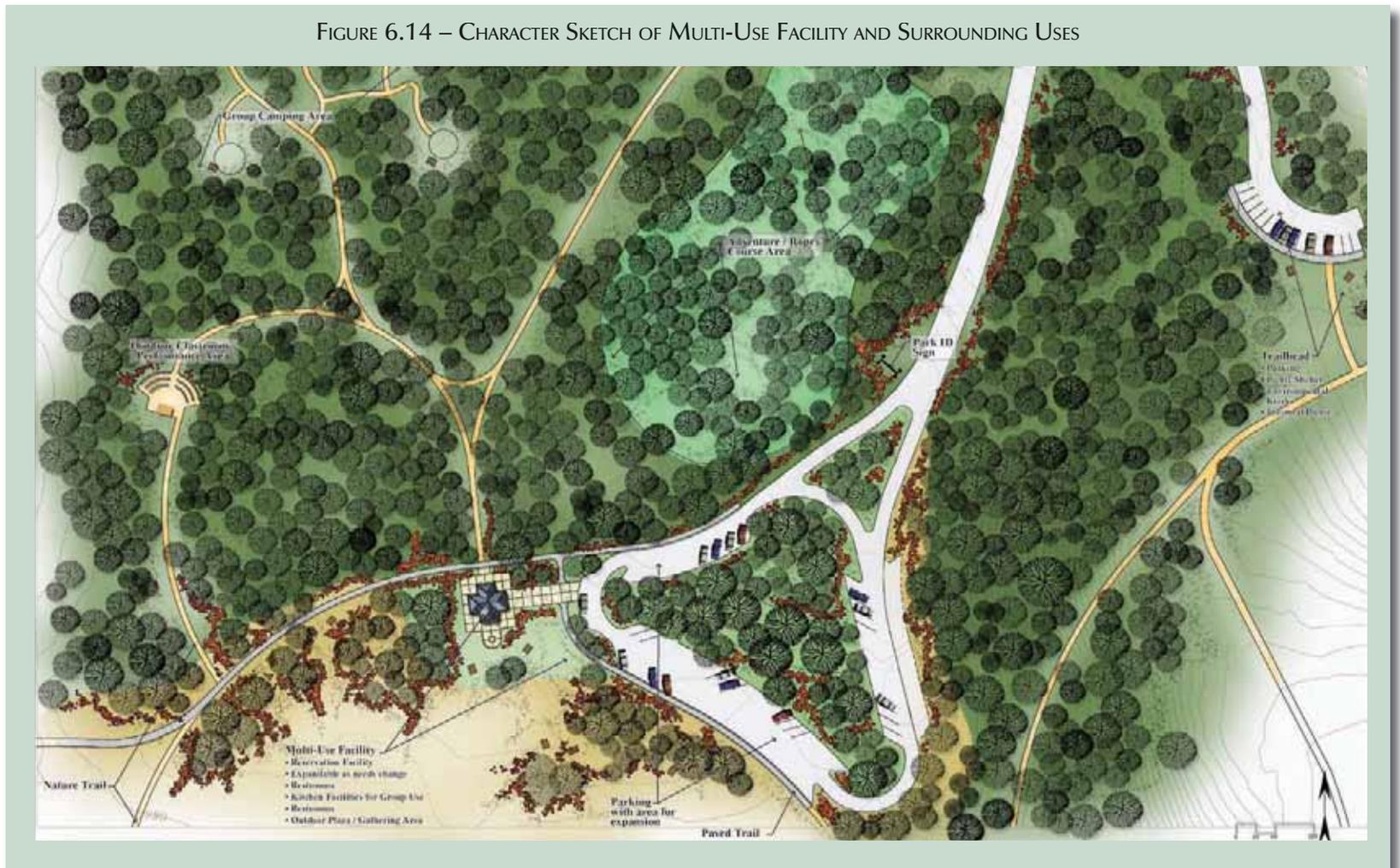
The multi-use facility is a proposed year-round facility that complements other park features and broadens the park's capacity to provide services to the public. From a use perspective, this facility will be specifically designed to be highly adaptable in order to accommodate a wide range of recreational, social, and educational activities and programs with varying group sizes. This flexible-use approach is especially important in this instance, where use patterns and facility demands are still taking shape in Scott County. This requires that some flexibility be built into the master plan to accommodate potential changes in use demands over time.

Based on current findings, this facility will focus on serving the needs of groups, families, and youth for all seasons of the year. The latter of these is of particular importance in that attracting more use of this and other regional parks by younger age classes is fundamental to instilling life-long outdoor recreational and learning values. The flexible-use approach to this facility also grants a high level of confidence that the year-round group activity needs of today and those that will emerge in the future can all be readily accommodated by a single, well-designed, and expandable facility.

In the nearer term, the multi-use facility will support the group camp area located to the north of the building. The facility will also be available for other group uses on a reservation basis. Amenities envisioned as part of the initial development of this facility includes a general activity space, kitchen facilities, restrooms, and storage area. The building will have a capacity of approximately 40 to 50 people. An overall size of 1,200 s.f. is envisioned for this facility, although the master plan does leave open the option to expand in order to accommodate larger groups or new types of activities over time. The architectural style will be in keeping with the natural setting.

In addition to the building, an outdoor plaza and gathering area is envisioned to expand the function of this facility. This includes amenities such as sitting areas, firepit, arbor structure, and picnic tables. Figure 6.14 illustrates the siting of the multi-use facility relative to other proposed uses in this area.

FIGURE 6.14 – CHARACTER SKETCH OF MULTI-USE FACILITY AND SURROUNDING USES



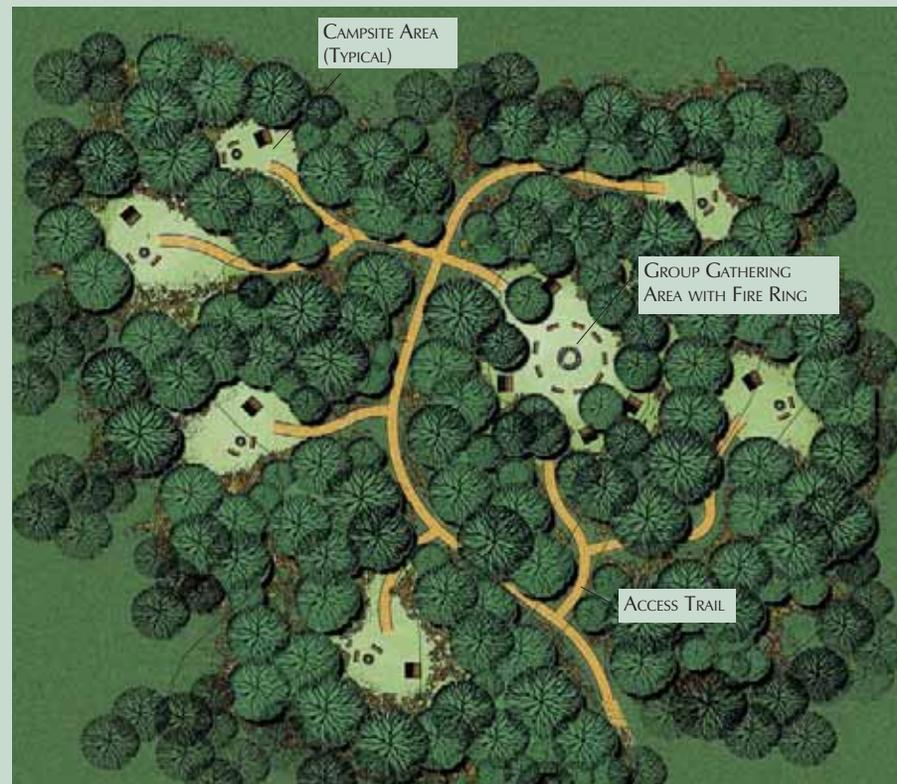
As illustrated in figure 6.14, the multi-use facility is sited in an old field area on the periphery of the maple-basswood forest to limit impacts to this more sensitive area. This building is sited to take advantage of views across what will be a restored savanna system, as well as vistas across the lake.

## DAY CAMP/GROUP CAMP AREA AND OUTDOOR CLASSROOM/PERFORMANCE AREA AND OUTDOOR SKILLS AREA

As illustrated on the master plan (figure 6.1) and in figure 6.14, a day camp/group camp area is proposed in the wooded area to the north of the multi-use facility. The facility will support activities ranging from youth day camps to overnight group camping and other group uses, which will be determined by Scott County as demands evolve over time. Scheduled group picnics could also be accommodated at this location under a permit system, if demand warrants.

In total, the camp area will be designed to accommodate 50 to 60 people. Each of six sites will accommodate up to 10 to 15 campers. Each site will be set into the woods, creating a very appealing outdoor setting. In addition to a cleared turfed area for tent setup, each site includes a fire ring, bench seating, and picnic tables under a small structure. Vault-style toilets will be provided adjacent to the group camps, which will be in an enclosure to improve their aesthetic qualities. Figure 6.15 illustrates a typical layout for the group camp area common in regional parks.

FIGURE 6.15 – CHARACTER SKETCH OF DAY CAMP/GROUP CAMP AREA



### OUTDOOR CLASSROOM AND PERFORMANCE AREA

As illustrated on the master plan (figure 6.1) and in figure 6.14, an outdoor classroom and performance area will be provided to support the multi-use facility and group camp. The outdoor classroom typically consists of a three-sided structure that can be used during the summer months for educational and social activities, even during inclement weather. The structure will have a capacity of approximately 20 people.

The adjoining performance area augments the outdoor classroom by providing a larger space for group lectures and performances. With a capacity of 50 or 60, the performance area will be large enough for simple events that are appropriate for a regional park setting, yet not so large as to be too dominant of a site feature. Wooden bench-style seating on a compacted aggregate type surface is envisioned for spectators. The performance area will be integrated with the outdoor classroom to limit the built footprint and expand the function of this use area. This facility will also serve as a group gathering area for the group camp facility. The overall character of the performance area will complement that used for the multi-use facility.

### OUTDOOR SKILLS AREA

As illustrated in the master plan (figure 6.1), an outdoor skills area is provided to enhance the group camp area and multi-use facility. This area is shown adjacent to the group camp area and multi-use facility to ensure convenient access. The actual design features of this use area will be based on the specific outdoor program facility needs that evolve prior to the master plan's implementation. Although this area will be developed to support specific programs, potential activities include an orienteering training area and a ropes course. For planning purposes, an area of up to two acres is provided for this type of use, although that could change based on specific program needs.

### ADDITIONAL SUPPORT FACILITIES

The proximity of the group camp to the City of Prior Lake park is beneficial in terms of shared use of facilities, especially an open space for field games. Through this type of cooperative relationship, more of the park can remain as natural open space, rather than being developed for a programmed need that can be reasonably accommodated nearby and connected directly to the group camp area by trail.

## FAMILY AND SMALL GROUP PICNICKING

As illustrated in the master plan (figure 6.1), several small group and family picnic shelters and picnicking areas are provided along the park drive at designated trailheads. Each of these coincide with the trailhead locations to limit the locations for parking lots and to take advantage of desirable settings, ranging from the intimacy of a wooded area to open views of wetlands and Spring Lake.

Each of the small group shelters will accommodate up to 25 people, which is large enough for a group gathering but not so large as to detract from the setting. Along with picnic tables, a grill, trash receptacles, and small green space will be provided. Note that the master plans allows for a larger picnic shelter to be provided if demand warrants. The most likely location for this would be near the trailhead overlooking the wetland at the end of the park drive.

Individual picnic table locations will also be provided in select locations along the park drive and some of the trails, especially where there is a particularly nice view. In these instances, a couple of parallel parking spaces will be provided when these areas are away from trailhead parking lots. Maintained green space around these picnic areas will be very limited.

## OFF-LEASH PET AREA

### *An important note!*

*Outside of the off-leash pet area, all pets will have to be on a leash as required by local park ordinance.*

As illustrated in the master plan (figure 6.1), an off-leash pet area is provided within the park in response to the growing region-wide demand for this type of facility. At 10 acres, this would be a mid-sized facility as compared with a cross-section of off-leash pet areas provided in other community and regional parks. (A typical range for this type of facility is from less than an acre to as much as 20 acres. Given the smaller size of this park relative to many other regional parks, the proposed size is justifiable and helps limit the size of the developed area within the park.)

The area for this facility was selected based on the following key criteria:

- Ability to isolate this use to avoid conflict with other park uses. Careful siting of this facility will limit the extent to which a higher use area with free-running pets will impact other park visitors seeking a more quiet and passive park experience.
- Ability to share parking provided in the city park property, which reduces the built footprint within the regional park and minimizes development of redundant facilities.
- Ability to locate the use in an area that has been previously disturbed (i.e., an old field) to avoid impacts to higher quality and more sensitive natural areas and ecological systems.

At 10 acres, this location should provide adequate space to accommodate the typical amenities commonly provided within off-leash pet areas, which include:

- Perimeter fence – simple woven wire “farm” fence to define the limits of the pet area
- Parking lot – as noted, the primary parking area for this use area will be in the city park, which will have ample parking to support the athletic fields programmed for this site
- Internal trails – some formalized with natural soils, woodchips, or aggregate surface and others simple grass paths through the area
- Benches and a small shelter for sun protection
- Access to drinking water
- Access to restroom facilities (within the city park)
- Waste containers and dog-bag dispensers
- Pay box (if user fees are charged), signage, and information kiosk

The actual design layout for the off-leash pet area will be determined when the master plan is implemented. Additional review of other off-leash pet areas at that time along with input from pet advocacy groups will ensure that the highest design standard will be used for this facility.

## ARCHERY PRACTICE RANGE

As illustrated on the master plan (figure 6.1), a small archery practice range is provided in a well-defined and isolated area of the park. The range will consist of a target placement area with an earthen backdrop to prevent errant arrows from traveling outside a defined safety zone, where no other park uses are proposed or will be allowed. In addition to the target placement area, a defined area will be periodically mowed to delineate the shooting lanes. Other than markers defining distance stations and a couple of benches, no other amenities will be provided for this facility.

## PRIOR LAKE ACCESS

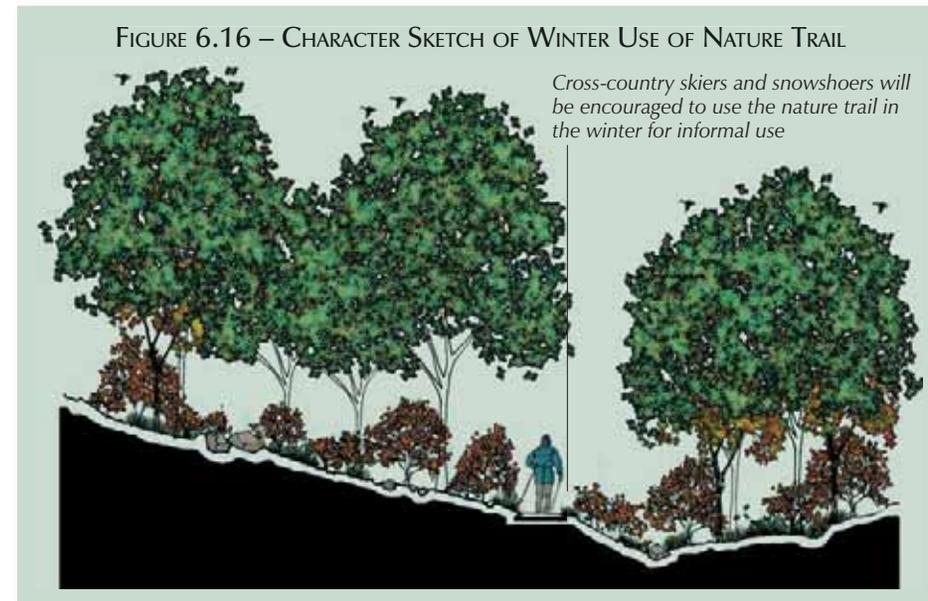
As illustrated on the master plan (figure 6.1), a fishing pier and several observation platforms are provided on the shores of Prior Lake. Access to these amenities will be via paved trail and an accessible nature trail. The fishing pier will be consistent with MN DNR standards and the observation platforms made of larger pieces of flat stone or wood decking sized to accommodate a bench or lawn chairs. 3 to 5 parking stalls are also provided along the road, with additional parking available to the south near a local neighborhood park.

## WINTER USES OF PARK FACILITIES

Year-round use of the park will be encouraged by Scott County. Specific examples include:

- Designing and constructing the 4-season pavilion and multi-use facilities for year round use
- Plowing of the paved trail loop for winter hiking and jogging
- Encouraging informal cross-country skiing and snowshoeing of the nature trails, which will provide an appealing contrast to groomed ski trails at other regional park venues.

Figure 6.16 illustrates a character sketch of winter use of the nature trail for informal cross-country skiing.



The existing snowmobile trail that traverses through the park from Prior Lake over to Spring Lake will continue to be provided as long as the demand remains and snowmobiles continue to be allowed in the city or county by ordinance, which is the case as of 2006. Otherwise, the snowmobile trail will not be expanded within the park.

## CONTROL OF BORDERS AND BUFFERING ADJACENT PROPERTIES

With respect to control of the park boundary, Scott County does not currently fence park boundaries to prevent encroachment or unauthorized access, although that option is available should it be required. Signage will, however, be provided in select locations to identify the park boundary and inform adjoining property owners of park ordinances related to encroachment onto public property. The County will also rely on enforcement of park ordinances to control park borders.

In some areas, informal footpaths already exist from private property into the park. Although some of these may remain in select locations, these are the exceptions rather than the rule. For the vast majority of the park, informal footpaths will not be allowed in order to maintain control of the park boundary and avoid conflicts between private and public property from occurring. Where unauthorized footpaths occur over time, Scott County staff will work directly with property owners to review the situation and determine the best course of action to avoid or resolve conflicts. This also holds true in instances where adjacent property owners are encroaching into the park property illegally.

With respect to formal pedestrian-level access, the trail access points defined under the park master plan will be the established points of entry into the park. These represent the locations that either currently exist or are planned. Beyond these, no additional defined entry points are envisioned unless expressly approved by Scott County through formal County Board action.

The one issue that remains a challenge for regional parks is free-roaming domestic animals. Enforcement of animal control laws is the most reasonable approach in spite of its inherent limitations. Consistency in applying ordinances and public education about the County's policies to take action where abuses are found will be important to controlling this often unnoticed, but often destructive, occurrence from becoming a problem.

With respect to buffering of adjacent properties, Scott County will work directly with property owners on an as-needed basis to address detail concerns about maintaining natural buffers that are mutually beneficial. Whereas the intent is to maintain reasonable distance and physical screening between properties, Scott County will on occasion have to make decisions that are in the best interest of the park. As an example, the upland area on the east side of the park where the paved trail is proposed is fairly limited. In this type of situation, there may be instances where the trail will have to be closer to a property than otherwise desired. Scott County will still remain committed to working with property owners in these instances to find a successful solution that buffers private properties while still meeting facility needs.

## PARK AND TRAIL SIGNAGE

One of the more important communication tools is a comprehensive signage program that is carried uniformly throughout the park. The signage program in the park will provide a consistent message to park and trail users and provide information related to facility locations, trail routes, park rules and regulations, and other pertinent information.

The signage program is of particular value with respect to the ecological stewardship programs, where providing interpretive information to park and trail users at the point of contact has proven to be one of the most effective forms of education. The main benefit is that the park user can apply new knowledge immediately and begin to internalize its significance based on first hand experience.

### KEY COMPONENTS OF A COMPREHENSIVE SIGNAGE PROGRAM

The park signage program consists of a hierarchy of signs that give the park visitor needed information in an unobtrusive manner. From a design standpoint, a strong overall theme that is consistent with the natural qualities of the park is important.

Key components of the signage program include:

- **Park identification sign** – located at the main point of entry. This sign sets the design theme for the entire signage program.
- **Park directional signage** – located along the entrance drive and provides basic directional information.
- **Main information signs/kiosks** – located at the major use areas. This sign provides a park map, general information and rules, and an overview of the ecological stewardship program.
- **Trailhead sign** – located at the start of a trail and provides a trail map and ecological stewardship program overview.
- **Trailside exhibit sign** – located along trails and provides information on ecological restoration and management activities and plant identifications. Also focuses on cultural resources.
- **Trail intersection sign** – located at trail intersections and provides a map of the trail system and “you are here” designation. Given the size of the park, intersection signs will be most advantageous where the park trails interlink with the local and regional trails outside of the park.

The signage program will be consistent with the signage program used by Scott County throughout its park system in order to ensure a consistent image between all parks and trails. Other commonly used signage standards and the best practices of other regional park agencies will be incorporated as appropriate as the signage program is implemented.

# SECTION VII IMPLEMENTATION AND MANAGEMENT PLAN

## OVERVIEW

Implementing the master plan for Spring Lake Regional Park will require significant initial and long-term capital investments for development, ecological stewardship, operations, and maintenance. Realistically, implementation will occur over a number of years as funding and other resources are made available. This section considers an overall strategy for implementing the plan that takes these factors into consideration. An overview of Scott County's operational and management practices as it pertains to this park is also included.

## IMPLEMENTATION COST PROJECTIONS

The following provides an overview of the potential costs to implement each aspect of the master plan.

### SITE DEVELOPMENT-RELATED COST PROJECTIONS

The cost analysis defines the potential costs associated with each development component of the master plan. It is based on a combination of site-specific development requirements and projects of similar size and complexity. The costs are also based on having the work completed by private contractors and specialists. It does not take into consideration work that could be performed by County staff, volunteer groups, or by other means.

The cost figures are based on master plan level evaluation, which brings with it inherent limitations. The cost figures are meant for general budgeting purposes, project phasing, and comparing the relative cost of one item to that of another. The costs are in 2006 dollars. Although intended to be conservative, actual costs will vary depending on the year that each aspect of the master plan is implemented, implementation parameters, economic conditions affecting bidding, and the actual site conditions found in the field during construction

## SITE DEVELOPMENT RELATED COST ESTIMATE (PAGE 1 OF 3)

**Prioritization note!**

This table defines estimated costs for site development. It is not in priority order. Refer to page 7.8 for a listing of priorities and associated costs.

MASTER PLAN COMPONENT	GENERAL DESCRIPTION OF COST ITEMS INCLUDED IN ESTIMATE	COST ESTIMATE (IN DOLLARS)
General Park Removals and Site Preparation	<ul style="list-style-type: none"> <li>• General site removals and cleanup of debris piles, miscellaneous junk piles within the park, existing fencing and gates, signage, and the existing gravel road within the park. (Note: Removal of existing roadway does not include road section within city park property.)</li> </ul>	\$100,000
Main Park Drive and Parking Lots	<ul style="list-style-type: none"> <li>• Rural-section asphalt park drive</li> <li>• Three 20 car parking lots along drive at trailhead locations</li> <li>• One 50 car parking lot for multi-use facility</li> <li>• Stormwater systems - culverts, storm sewer, etc.</li> <li>• General roadway signage</li> <li>• Miscellaneous roadway-related site amenities and improvements</li> <li>• Park entrance identification sign(s)</li> <li>• Restoration and landscape enhancements</li> </ul>	\$610,000
Paved Trail Loop	<ul style="list-style-type: none"> <li>• Trail development - 3.5 miles at 10' wide</li> <li>• Trailhead and trailside amenities (benches, etc.)</li> <li>• Signage program</li> <li>• Stormwater systems (culverts, diversions).</li> <li>• Misc. improvements (retaining walls, etc.)</li> <li>• Boardwalk across wetlands in select locations</li> </ul>	\$600,000
Pedestrian Bridge over County Road 12	<ul style="list-style-type: none"> <li>• Bridge structure</li> <li>• Accompanying retaining walls at touchdown points</li> <li>• Architectural enhancements (consistent with master plan imagery)</li> </ul>	\$500,000
Nature Trail Loop	<ul style="list-style-type: none"> <li>• Trail development - 3.1 miles of soft-surfaced trail at 4' wide</li> <li>• Trailhead and trailside amenities (overlooks, benches, etc.)</li> <li>• Signage program</li> <li>• Footbridges</li> <li>• Stormwater systems (culverts, diversions).</li> </ul>	\$130,000
Multi-Use Facility	<ul style="list-style-type: none"> <li>• Multi-use building structure (based on 1,200 s.f. facility)</li> <li>• Associated walkways and trails</li> <li>• Outdoor plaza area</li> <li>• Miscellaneous site amenities</li> <li>• Utilities (well, septic system , etc.)</li> </ul>	\$490,000
Outdoor Classroom and Performance Area	<ul style="list-style-type: none"> <li>• Small, three-sided structure for 20 people</li> <li>• Adjoining performance area with seating for 50 to 60 people</li> </ul>	\$95,000

## SITE DEVELOPMENT RELATED COST ESTIMATE (PAGE 2 OF 3)

**Prioritization note!**

This table defines estimated costs for site development. It is not in priority order. Refer to page 7.8 for a listing of priorities and associated costs.

MASTER PLAN COMPONENT	GENERAL DESCRIPTION OF COST ITEMS INCLUDED IN ESTIMATE	COST ESTIMATE (IN DOLLARS)
Group Camping Area	<ul style="list-style-type: none"> <li>• Camp area sized for 50-60 people (6 sites)</li> <li>• Camp site amenities (grills, picnic tables, fire pit, tent pads, small roofed structure, etc.)</li> <li>• Group gathering area</li> <li>• Natural-surfaced walking paths</li> <li>• Vault toilets</li> <li>• Restoration and landscape enhancements</li> </ul>	\$90,000
Outdoor Skills Area	<ul style="list-style-type: none"> <li>• Equipment associated with outdoor skills activities (ropes course, etc.)</li> <li>• Rest Area (benches, etc.)</li> </ul>	\$20,000
Off-Leash Pet Area	<ul style="list-style-type: none"> <li>• Perimeter fence (simple 3-strand wire fence)</li> <li>• Seating area</li> <li>• Signage</li> <li>• Drinking fountain</li> <li>• Parking (provided in city park, not included this cost item)</li> </ul>	\$80,000
Trailheads and Family Picnic Areas Along Park Drive	<ul style="list-style-type: none"> <li>• (3) Picnic Shelters (20-25 people)</li> <li>• Associated site amenities (picnic tables, trash receptacles, etc.)</li> <li>• Vault Toilets</li> <li>• Trailhead kiosk</li> <li>• Restoration and landscape enhancements</li> <li>• Parking (cost included under separate line item with main park drive)</li> </ul>	\$175,000
Fishing Piers and Platforms	<ul style="list-style-type: none"> <li>• Fishing pier (Prior Lake)</li> <li>• Associated amenities (benches, trash receptacles, etc.)</li> <li>• Signage</li> <li>• Restoration and landscape enhancements</li> <li>• (2) Fishing platforms (Prior Lake)</li> </ul>	\$45,000
Archery Practice Area	<ul style="list-style-type: none"> <li>• Practice targets</li> <li>• Restoration and landscape enhancements</li> </ul>	\$7,000
Parking Entrance Drive and Parking Lot ( <i>Lakefront Development Area</i> )	<ul style="list-style-type: none"> <li>• One 125 car parking lot</li> <li>• Rural-section asphalt parking entrance drive</li> <li>• Stormwater systems - natural systems and built systems (culverts, storm sewer, etc.)</li> <li>• General roadway signage</li> <li>• Restoration and landscape enhancements</li> </ul>	\$320,000

## SITE DEVELOPMENT RELATED COST ESTIMATE (PAGE 3 OF 3)

**Prioritization note!**

This table defines estimated costs for site development. It is not in priority order. Refer to page 7.8 for a listing of priorities and associated costs.

MASTER PLAN COMPONENT	GENERAL DESCRIPTION OF COST ITEMS INCLUDED IN ESTIMATE	COST ESTIMATE (IN DOLLARS)
Four-Season Pavilion and Associated Plaza (Lakefront Development Area)	<ul style="list-style-type: none"> <li>• Building (based 3,000 s.f. facility, including restrooms, food preparation area, activity space)</li> <li>• Utilities (city sewer and water, etc.)</li> <li>• Paved plaza area</li> <li>• Arbor structure, planters, and retaining walls</li> <li>• Ornamental fountains and outdoor lighting</li> <li>• Group use area and informal green area</li> <li>• Restoration and landscape enhancements</li> </ul>	\$1,330,000
Youth Play Area (Lakefront Development Area)	<ul style="list-style-type: none"> <li>• Area based on a 10,000 s.f. play container</li> <li>• Associated amenities (benches, drinking fountain, etc.)</li> <li>• Concrete curbing and safety surfacing</li> <li>• Play equipment</li> </ul>	\$160,000
General Shoreline Development (Lakefront Development Area)	<ul style="list-style-type: none"> <li>• Observation platform/canoe and kayak launch</li> <li>• Fishing piers (1) and platforms (4) and associated amenities (benches)</li> <li>• Family picnic areas (picnic tables, grills, trash receptacles, etc.)</li> <li>• Signage</li> <li>• Restoration and landscape enhancements</li> </ul>	\$150,000
Paved Trail (Lakefront Development Area)	<ul style="list-style-type: none"> <li>• Trail development - 1.1 miles at 8' wide</li> <li>• Trailhead and trailside amenities (benches, etc.)</li> <li>• Stormwater systems (culverts, diversions)</li> </ul>	\$125,000
Snowmobile Trail	<ul style="list-style-type: none"> <li>• Trail development/improvements - 0.6 miles of soft-surfaced winter-use only trails</li> </ul>	\$5,000
	Total Master Plan Cost Estimate	\$5,032,000
	Contingency (10%) and Professional Fees and Charges (15% for surveying, design, engineering, etc.) – Totaling 25% (approx.)	\$1,258,000
	Total Master Plan Cost Estimate, Contingency, and Professional Fees and Charges	\$6,290,000

**Total master plan cost estimate note!**

The total master plan cost estimate for development as defined in this table does not include costs associated with the ecological stewardship program, which are defined on page 7.5. The total cost for implementing the master plan is a combination of development and stewardship costs.

**Adjusting for inflation!**

A 10% per-year cost estimate increase is recommended from date of plan adoption to account for inflation.

## ECOLOGICAL STEWARDSHIP PROGRAM COST PROJECTIONS

Restoration and management of the ecological resources within the park will be a significant cost factor as the master plan is implemented. Since the stewardship program is in its infancy, Scott County does not have any reliable data available for projecting costs associated with ecological restoration and management. Given the circumstances, projecting these costs offers certain practical limitations, especially given the fact that a living environment has many nuances that will take years to completely understand.

Lacking baseline data, a unit-basis cost projection was completed to define the potential cost magnitude of restoring and managing the park's ecological resources. The following provides a breakdown of potential costs for both initial restoration and long-term stewardship. The unit costs were derived from past projects in this region of a similar nature. The cover type categories are limited to those that represent a cross-section of the plant communities that would be restored within the park. The critical difference between each category is the propensity for trees versus grasses, upland versus lowland, and hydrologic and soil variables that affect restoration efforts, time frames, and costs.

POTENTIAL COSTS FOR ECOLOGICAL STEWARDSHIP PROGRAM			
Potential Initial Restoration Costs			
Cover Type	Acres*	Range of Cost/Acre	Total Cost Range
Maple-Basswood Forest	118	1,500 to 4,000	\$177,000 to \$472,000
Oak Savanna System	100	1,500 to 4,000	\$150,000 to \$400,000
Wetland Systems	90	1,500 to 3,500	\$135,000 to \$315,000
<b>Total Potential Cost – Remedial Work</b>			<b>\$462,000 to \$1,187,000</b>
Potential Yearly Long-Term Maintenance and Management Costs			
Cover Type	Acres*	Range of Cost/Acre	Total Cost Range
Maple-Basswood Forest	118	150 to 250	\$17,700 to \$29,500
Oak Savanna System	100	200 to 400	\$20,000 to \$40,000
Wetland Systems	90	150 to 250	\$13,500 to \$22,500
<b>Total Potential Cost – Yearly Maintenance and Management Work</b>			<b>\$51,200 to \$92,000</b>

\* Acreage is based on the base acreage of the park totaling 308 acres. It does not factor in additional lands that may be added. The area calculations are consistent with the overall vision for restoring the natural areas of the park as defined in Section V – Natural Resources Stewardship Plan.

### Adjusting for inflation!

A 10% per-year cost estimate increase is recommended from date of plan adoption to account for inflation.

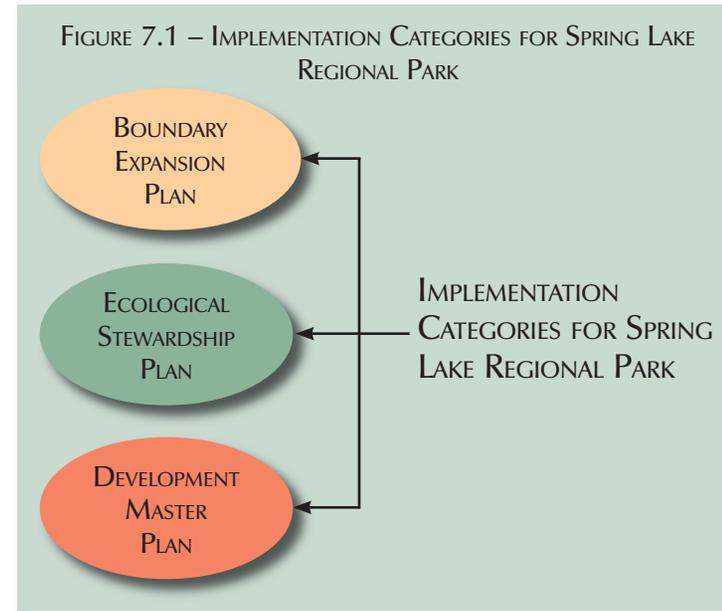
As the table defines, the range of potential costs at a master plan level is quite broad simply due to the uncertainties of what will be encountered. With the restoration needs of the park being extensive, economies of scale will also come into play. Importantly, highly degraded areas that require extensive restoration may also exceed the average per acre costs as listed. Note that these cost projections relate to the actual restoration of the native plant communities and do not include any grading and site preparation that may be necessary prior to that activity.

### PROPERTY BOUNDARY EXPANSION COST PROJECTION

As defined in *Section IV – Park Boundaries Plan*, any additional acreage added to the park will come in the form of park dedications through the City of Prior Lake as private development plats occur in areas surrounding the park or through cooperative use agreements with the Shakopee Mdewankanton Sioux Community. Therefore, no cost projections for acquisition are provided, nor anticipated. That said, adding land area to the park as defined under this master plan is a high priority given its importance in buffering future development and providing additional space for select development features, especially the looped paved trail.

## IMPLEMENTATION STRATEGY AND PRIORITIES

As illustrated in figure 7.1, the implementation plan is broken down into three categories.



The following considers the overall priorities between categories, which is followed by discussion related to the priorities within each category.

### IMPLEMENTATION PRIORITIES BETWEEN CATEGORIES

Given the nearer-term likelihood of development occurring around the park, implementing the boundary expansion plan ranks at the top of the implementation priorities. Thereafter, implementing the development plan is of equal priority to that of the ecological stewardship program. By taking a balanced approach to implementation, both development and ecological stewardship goals can be simultaneously pursued to take advantage of funding opportunities that may arise from various sources. This approach also provides greater flexibility in developing effective implementation sequences that link physical development and ecological restoration objectives together whenever it is advantageous to do so. The following table provides a strategy statement for each of the categories to establish a starting point for developing specific implementation priorities.

PRIORITIES RELATIVE TO IMPLEMENTATION CATEGORIES		
Priority	Category	Overall Strategy Statement
1	Boundary Expansion Plan	Expansion of the park boundary is time sensitive and must occur as part of the planning process associated with private development of lands directly adjacent to the park property.
2 (Equal Priority)	Development Master Plan	Phased implementation of the development plan is a priority to expand recreational and educational opportunities as defined by the master plan. Development of the lakefront development area and the trail system are top priorities.
	Ecological Stewardship Plan	On par with development of the park, moving forward on ecological stewardship is a high priority, especially addressing the top priorities as defined in <i>Section V – Natural Resources Stewardship Plan</i> .

By focusing on a balanced implementation approach, the recreational and ecological values of the park will grow in relative equilibrium. However, inherent to the implementation strategy is the need for flexibility to react to the real conditions, circumstances, and opportunities that present themselves. The greatest utility of the implementation plan is that it provides a framework for Scott County to develop funding packages and grant applications to achieve the vision for the park as defined by the master plan.

#### STRATEGY FOR PARK EXPANSION PLAN

As a top priority, Scott County will continue its collaboration with the City of Prior Lake to expand the park through park dedications as adjoining land is developed. Expansion of the park boundary will be consistent with previous agreements between the City and County, as well as taking advantage of new opportunities that may arise by working together and with the development community.

To ensure that these opportunities are taken advantage of in a timely manner, the City of Prior Lake and Scott County staff will coordinate meetings and planning agendas associated with land developments surrounding the park on an as-needed basis. As properties are added to the site, Scott County will formally adjust the park's boundary to acknowledge the transfer of the property to publicly-owned land, consistent with Scott County Board policy.

#### STRATEGY FOR IMPLEMENTING THE DEVELOPMENT PROGRAM

Future capital improvements will be funded through a combination of Metropolitan Council regional park grants, capitol improvements through Scott County (including park dedication funding), and other Sources of revenue. Scott County will follow established protocol on the securing and use of each of these funding sources.

The table on the next page lists the line items defined in the previous cost estimate in order of relative priority. Note that these priorities are not linked to specific implementation time frames since actual project phasing will be a function of funding availability. Note also that these priorities are subject to change in future years as demands continue to evolve. In addition, each priority may require more than one phase to complete.

GENERAL PROJECT PRIORITIES			
Priority	Development Component	Comment/Rationale	Cost Estimate
1	Nature Trail Loop	Limited costs and high use value make this a relatively cost effective priority.	\$130,000
2	General Park Removals and Site Preparation	Focuses on removal of existing public road, which can occur anytime after the collector street to the west is developed. Removal of the road unifies the park and sets the stage for development and ecological stewardship.	\$100,000
3	Paved Trail Loop	High use feature with a strong recreational trend. Provides link between regional trail along County Road 82 with county trail along County Road 12, and also takes advantage of any paved trails that would be developed as part of new developments on the periphery of the park.	\$600,000
4	Off-Leash Pet Area	High demand facility with limited cost. Will have to be timed to coincide with city park development, especially development of the parking lot and restroom facility.	\$80,000
5	Lakefront Development Area	Although likely to be a popular, high demand facility, funding will realistically take a number of years to obtain through the regional park funding cycle. (* – includes all items listed on cost estimate for Lakefront Development Area)	\$2,085,000*
6	Pedestrian Bridge Over County Rd 12	Can be developed in sequence with paved trail loop and lakefront development area. Can also be developed earlier if funding is made available at an earlier date.	\$500,000
7	Main Park Drive and Parking Lots	To provide vehicular access through the north park unit and to set the stage for development of remaining park infrastructure.	\$610,000
8	Trailheads and Family Picnic Areas Along Park Drive	To add trail access opportunities and provide additional family picnic amenities.	\$175,000
9	Group Camp Area	Opportunity to add a special use feature. Lower priority due to specialized use.	\$90,000
10	Multi-Use Facility	Lower priority at this time to give County additional time to truly understand demand for this facility and determine its optimal size.	\$490,000
11	Outdoor Classroom and Performance Area	Support facility to group camp and multi-use facility, thus a lower priority.	\$95,000
12	Outdoor Skills Area	Support facility to group camp and multi-use facility, thus a lower priority.	\$20,000
13	Fishing Piers and Platforms	Specialized amenity of a lower priority than other items listed.	\$45,000
14	Archery Practice Area	Specialized amenity of a lower priority than other items listed.	\$7,000
15	Snowmobile Trail	Relocation/improvement of snowmobile trail as required.	\$5,000
Total Master Plan Cost Estimate			\$5,032,000
Contingency (10%) and Professional Fees and Charges (15% for surveying, design, engineering, etc.) – Totaling 25% (approx.)			\$1,258,000
Total Master Plan Cost Estimate, Contingency, and Professional Fees and Charges			\$6,290,000

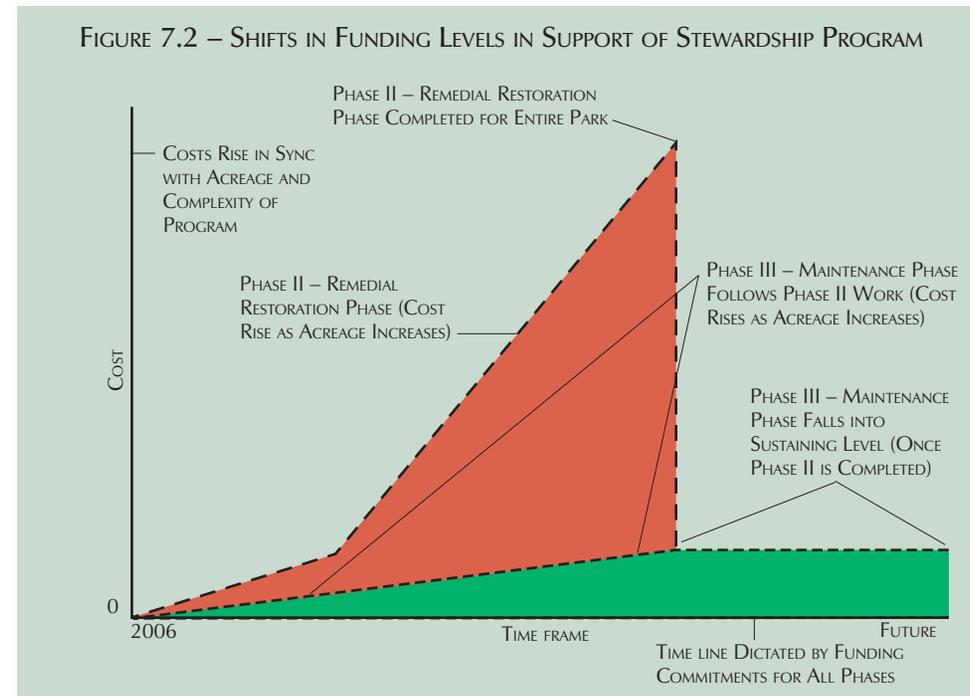
**Adjusting for inflation!** A 10% per-year cost estimate increase is recommended from date of plan adoption to account for inflation.

## STRATEGY FOR ECOLOGICAL STEWARDSHIP PROGRAM

Developing and implementing an ecological stewardship program for the park is also a top priority that emerged from the planning process. Although there are numerous acquisition and development initiatives that are high priorities, there is also a sense of urgency to move forward with the stewardship program as well. This is particularly important in that ecological stewardship is a long-term issue in which results from near-term action will be most appreciated in 10, 20, 50 years hence.

From a funding strategy perspective, the most critical factor is having a perpetual funding source in place for long-term stewardship prior to undertaking the initial restoration activities. Lacking this, gains made during initial restoration can be lost if not followed by prudent management in future years.

With respect to a specific strategy, the funding program for initial restoration needs to be lock-stepped with the other phases of the stewardship program. Figure 7.2 provides an overview of how the three phases relate to each other in terms of funding levels needed to support them.



As figure 7.2 illustrates, the cost for restoring the park's ecological systems far outpaces the costs of taking care of it once that is completed. Through proper management, the extra costs associated with restoring the park can be largely controlled in the future *as long as the maintenance phase continues indefinitely*. Also, the longer that the park's ecological systems remain in a state of decline before efforts are made to manage it, the more expensive (and scientifically challenging) it will be to restore them. The following table provides an overview of the key funding phases associated with the ecological stewardship program.

## KEY FUNDING PHASES FOR ECOLOGICAL STEWARDSHIP PROGRAM

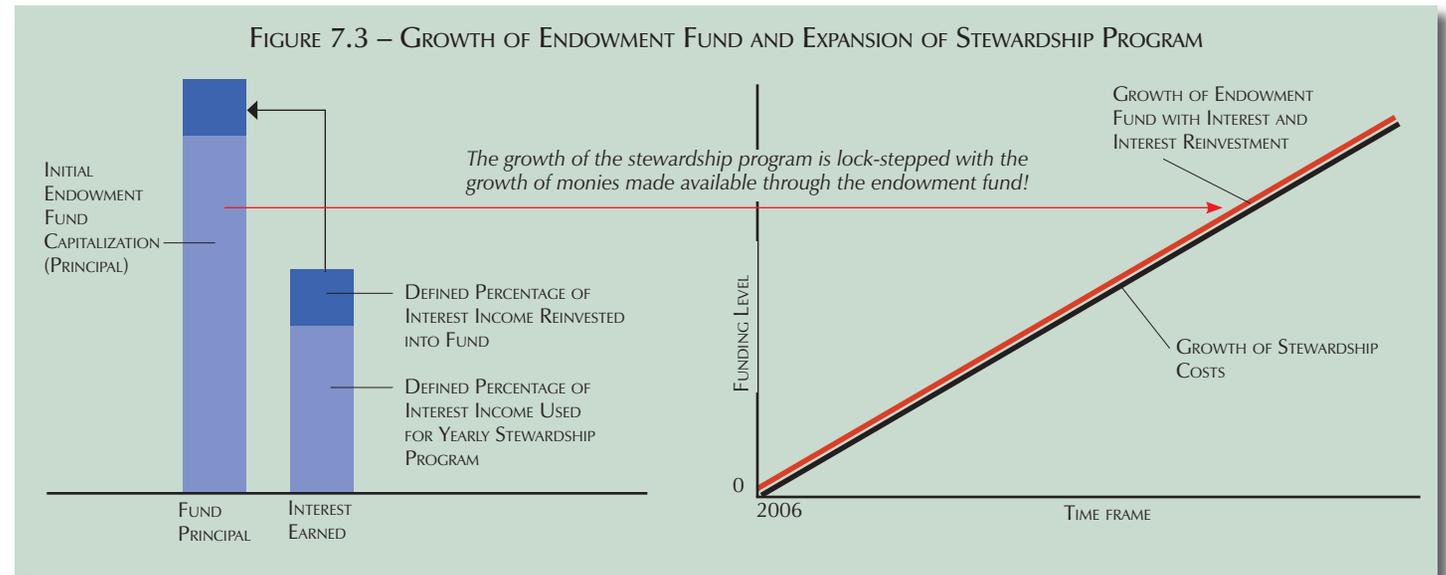
Implementation Priority	Implementation Focus Recommended Under This Phase	Total Estimated Cost
Priority 1 – Preparation of Technically-Based Stewardship Program	Focus is on building upon the framework presented in the master plan to prepare a detailed stewardship program defining each phase of implementation. This includes a more detailed land cover inventory, refining prototypes, and developing restoration and management strategies for each condition that is found.	\$ 50,000 - \$75,000
Priority 2 – Phased Implementation of Stewardship Program	Focus is on implementing the program in a controlled, predictable manner that is supported by funding and scientific know-how.	Increases year-to-year as more acreage is restored

From a funding strategy standpoint, a typical capital improvement fund is an appropriate approach for funding the restoration phase of the stewardship program. With respect to the long-term management phase, consideration of other approaches may be necessary to ensure a reasonably consistent stream of funds is available to support the program. Two examples of approaches that can serve this need are defined in the following table.

## FUNDING APPROACHES FOR IMPLEMENTING THE ECOLOGICAL STEWARDSHIP PROGRAM

Funding Option	Overview	Advantages	Disadvantages
<b>Ecological Management Fund</b>	Consider the establishment of a fund similar to a building upkeep or maintenance fund that is used for ongoing maintenance of buildings, trails, and so forth within the park. Funding is typically on a year to year appropriation basis as directed by the County Board in concert with the Metropolitan Council.	Establishes a stand-alone fund for this purpose.	Only as secure as the commitment to contribute to the fund. Leaner economic times or other political directions can create uncertainty in the ability to maintain funding levels from year to year, which makes this approach somewhat vulnerable. (Whereas future development initiatives and even building upkeep can be put off in many cases, stewardship of resources requires a sustained commitment to avoid losing ground.)
<b>Ecological Stewardship Endowment Fund</b>	Consider the establishment of an endowment fund for the perpetual maintenance of ecological systems within the park.	Principal investment that is put into the fund is “locked away” and cannot be used for any other purposes. Program is actually supported by the interest generated by the fund in a secure market as dictated by County policy. The advantage of this approach is that the stream of funding available is more assured and predictable. Also, seed money is a one-time investment that keeps on working for the County	Current enabling laws governing the Metropolitan Council may preclude the use of grant dollars for creating an endowment fund. County may also have governing policies that could affect the use of this approach. Reconsideration of any current limitations would require state-level legislative action.
<b>Private-Non-Profit Foundation/Land Trust</b>	Consider the establishment of a private/ non-profit foundation/land trust that supports stewardship initiatives.	Works similar to the ecological endowment fund, only held by a private/non-profit group instead of Scott County. Private groups often have more latitude than a governmental agency to collect and direct funds.	Requires a working relationship with a private entity, where philosophical differences can occur. The overall capacity of a foundation to garner enough funds to make a significant contribution is often very uncertain.

As the table indicates, the endowment fund offers significant long-term security in ensuring a consistent level of funding from one year to the next. In addition, the endowment could be structured so that a certain percentage of the interest earned each year would be used to build principal, resulting in a larger pot of money to support expansion of the program. Figure 7.3 illustrates this relationship and how the growth of the stewardship fund is linked to the expansion of the stewardship program.



Under the framework of the endowment fund as presented, the long-term capital costs for the stewardship program could be substantially reduced over a pay-as-you-go approach since the fund generates interest income to support the program, as well as income to reinvestment back into the fund itself.

To be successful in implementing the stewardship program, Scott County will continue to pursue traditional funding sources. At the same time, Scott County will actively pursue other options, such as the endowment fund, in order to improve the prospects for long-term stewardship of the park's ecological resources.

## OPERATIONS AND MANAGEMENT PLAN

Scott County is charged with the planning, acquisition, operation, and maintenance of county and regional parks, trails, and open spaces within the county. The exceptions to this are Murphy-Hanrehan Regional Park Reserve and Cleary Lake Regional Park, which are owned and operated by the Three Rivers Park District and operate under a memorandum of understanding with Scott County.

Currently, two regional parks and one regional trail facility are under the sole jurisdiction of the County. This includes Spring Lake Regional Park, Doyle-Kennefick Regional Park, and the Scott Regional Trail. Both parks are undeveloped and are not open to the public. Six miles of the 12-mile Scott Regional Trail is developed and open to the public.

The Scott County Board of Commissioners establishes policies and goals for the County's parks, trails, and open space system and provides capital and operating funds through an annual budgeting process. A recently formed Parks Advisory Commission (PAC), appointed by the County Board of Commissioners serves as a citizens advisory committee for the development and operation of the regional system, making recommendations to the County Board on policy and budget. The specific responsibilities of the PAC include:

- Reviewing and making recommendations concerning the development of the County's parks, trails and open space policies
- Providing input to the County's *Parks, Trails and Open Space Policy Plan* and park and trail development master plans
- Recommending the annual budget
- Providing leadership and direction to staff and elected officials in the area of parks, trails and open space planning and implementation
- Representing the citizens of Scott County

Being in the early stage of building a parks, trails and open space system, the primary focus of the County is on system planning and land acquisition. The County's Community Development Division is responsible for planning, administration, and operation of the regional park and trail system. Through a resource sharing partnership between three County departments (e.g., Community Development Division, Highway Department, and Facilities Department), maintenance and natural resource stewardship is conducted on approximately 765 acres of park land currently owned by the County. The Community Development Division serves as the lead and coordinating body in these efforts.

### ORDINANCES

Scott County currently does not have ordinances specific to use of parkland and park facilities. Public use and enjoyment of the county park system, including Spring Lake Regional Park, will be controlled by future county ordinance. The Ordinance will be consistent with pertinent Minnesota statutes and address pertinent issues, including regulation of:

- Public use and recreational activity
- General conduct
- General parkland operation
- Protection of property, structures, and natural resources
- Use of motorized Vehicles, traffic control, and parking

Currently, City of Prior Lake ordinances apply to Spring Lake Regional Park, which is located within the city limits. As this and other regional parks and park facilities are developed by the County, a set of specific park rules and regulations will be prepared and approved. In the nearer-term, the County is considering developing interim policies and supporting ordinances related to the use of park land by the public.

## ENFORCEMENT

The Prior Lake Police Department patrols the park and enforces city ordinances. Local law enforcement agencies and the Sheriff's Department respond to emergencies and criminal complaints. Future plans will include discussion with the Scott County Sheriffs Office related to security and enforcement issues. As this and other parks are developed, park visitors will be informed of park rules and regulations. For example, kiosks will be strategically located to provide information about park hours, trails, permitted and prohibited activities, fees, and directions. County Sheriff's Department patrols will educate visitors, and enforce park rules and laws.

## MAINTENANCE

Maintenance of facilities and lands is essential to protect public investment, enhance natural resource qualities and to protect the landscape for future development as regional parks or trails. An annual work plan documents maintenance needs for various agricultural and natural lands and facilities within the County's 765 or so acres of parkland. The plan outlines the work to be completed and establishes responsibilities among the three departments. Currently, predominant categories of maintenance tasks include:

- Grounds maintenance (grass mowing, snow plowing, trash removal, etc.) and other miscellaneous/unique duties
- Facility monitoring and repair (out buildings, aging homestead)
- Property stewardship (boundary signs, encroachment monitoring, fencing)
- Natural resource and wildlife management
- Agricultural land management

## FUTURE PROGRAMMING

Specific programming offered at Spring Lake Regional Park will be determined through future planning efforts.

## OUTREACH AND MARKETING

Scott County is building its outreach effort each year to increase public awareness of its parks and trails. The County is also encouraging public involvement in its planning efforts. As the system grows, the County is committed to expanding its outreach and marketing efforts through the use of a variety of communication tools, as the following considers.

**Printed Materials:** In the future, the County will prepare targeted marketing materials for park programs and other recreational opportunities. By statute, the County prepares an 'Annual Report' brochure for distribution to township officials defining park dedication expenditures. This includes an update on the current status and future plans for parks, trails, and open space. The 'Annual Report' is distributed to County and Township officials and is available to the general public at the Community Development Service Center.

**Electronic Communications:** Scott County is expanding the use of its web page to inform citizens about the County's functions and services (e.g., Parks Advisory Commission meetings and the master planning process). The County is also using new methods of electronic communication as they emerge, including "push lists" in which interested citizens are on an automatic e-mail list.

**Other Outreach:** Other forms of outreach and marketing include displays at the County Fair, flyers and brochures, and information displays at service centers. Each year, a map and accompanying program information is published in The Scene, the County's newsletter, detailing recreation opportunities throughout the county. Official public notification of

meetings appear in the Belle Plaine Herald, the County's official newspaper. News releases and advertisements are also published in local community and metropolitan newspapers highlighting planning efforts and open houses. The County also promotes the parks, trails and open space program and facilities through radio and television interviews, feature articles, and presentations to other County departments and local agencies.

**Marketing Initiatives:** Scott County will be developing a marketing plan to increase public awareness, understanding and use of park facilities, services and programs (as they are developed) and to increase public involvement in park and trail planning efforts. In addition, the marketing plan will identify the need to expand and diversify marketing and communication efforts to advance park facility use and involvement by minority populations and special needs groups.

## PUBLIC INVOLVEMENT IN IMPLEMENTING THE MASTER PLAN

Scott County is committed to continuing public involvement through the implementation of the master plan. The degree to which this will occur will vary depending on what aspect of the plan is being implemented. For larger scale projects, such as the lakefront development area, public involvement in the actual design process for the facility will be fairly extensive and involve representation from key stakeholders. In addition, forums for broader public input (e.g., open houses and presentations) would also be used as needed to communicate and exchange ideas with interested citizens. For smaller scale projects, notifications of interested parties would be a more appropriate approach.

The objectives associated with involving citizens in the implementation process include:

- Determine who the stakeholders are and their interest in a particular development initiative
- Understand their needs and unique perspectives
- Identify and understand concerns and problems
- Develop alternatives and find appropriate solutions with input from stakeholders

In addition to formalized processes for particular projects, Scott County has an established Parks Advisory Commission (PAC) that advises the County Board on development initiatives within the park. The public is welcome to attend its regularly scheduled meetings. Also, Scott County is continuing to develop numerous tools to provide a consistent level of communication with interested citizens.

## MASTER PLAN REVISIONS AND UPDATES

As noted on page 6.1, the master plan is a dynamic planning tool that will evolve and be fine-tuned as it moves through implementation steps. Over time, there may be justification for revisions and updates to the master plan in response to new information, trends, and general demands. Among the issues that could prompt review of the master plan are the following:

- Recreation trend information uncovers a need that has not been adequately addressed by the master plan
- Changed circumstances pertaining to existing uses warrants review of the master plan
- Existing built facilities have proven inadequate to meet demand or require design changes to improve their capacity to meet recreational needs or address maintenance and safety concerns
- Requests from citizens and special interest groups to review a particular aspect of the plan, which would only be accepted if the Parks Advisory Commission (PAC) or County Board has determined that an issue has enough justification to warrant review prior to scheduled master plan updates

If a review is found to be warranted, Scott County will undertake an appropriate public process that includes input from PAC and groups that are directly impacted by a given concern, as well as other groups that have a general interest in the park. This approach to reviewing a given situation ensures that conclusions drawn are ones that can be supported by the broader community. It also ensures that a balance between recreational uses and ecological preservation is maintained.