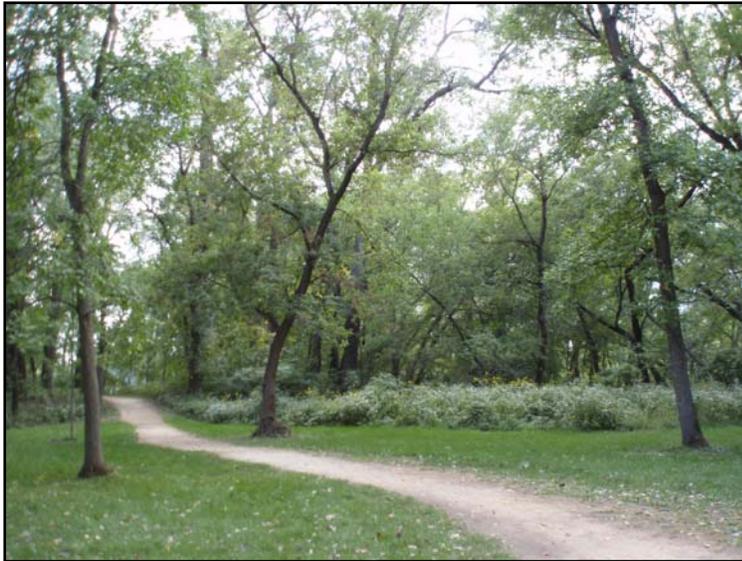


Chapter 8

Natural Resource Management and Sustainability

8.0 Natural Resources

Natural resources provide valuable amenities for Fridley residents. The scenic value of natural resources contributes to the livability of a community and offers opportunities for natural resource based recreation, such as hiking, bird-watching and nature study. Natural resources cool the City by breaking up pavement and providing shade, and improve well-being of residents through the simple pleasures of listening to



birdsong, watching leaves turn color, or spotting animal tracks in the snow.

Natural resources are vital **community** and **regional assets**. Wetlands filter water before returning it to the aquifers that, either directly or indirectly, provide Fridley with its drinking water. Shorelands, upland forests and grasslands stabilize the earth, reducing erosion and increasing local water quality and clarity. Connected natural resources allow for the movement of seeds and the increase of genetic diversity, giving the ecosystem better resistance to diseases and pests.

Community Assets - Natural resource areas are community assets. These areas are currently undeveloped and used for passive recreation. Fridley's natural resource areas are contained on many types of land, including the following land types.

Lands protected by shoreland, floodplain and wetland ordinances are located adjacent to natural water features like the Mississippi River, Rice Creek, and Moore Lake.

City-owned land, including undesignated and undeveloped land consists of storm water management ponds, tax-forfeited land and other City owned property which may or may not contain high quality natural ecosystems. These properties may also be used by the City for other purposes, such as well tower easements or roadway construction, if the need arises.

Green spaces set aside by developments include the northern portion of the BAE Systems property on East River Road and a portion of the Medtronic World Headquarters campus located on Medtronic Parkway.

Privately owned natural areas, such as stands of woods on private property, are protected by ordinance and watershed regulations. An example of a privately owned natural area is the wetland and wooded area south of 73rd Ave NE at the Target Distribution Center.

Trail corridors are city or county bikeways and walkways linked together. Often, these trail corridors are adjacent to park land.

Regional Assets – The Metropolitan Council has worked in conjunction with the Minnesota Department of Natural Resources to determine regionally significant recreational areas, aquatic (water) resources, and terrestrial (land) resources. The regional assets found in Fridley include the Rice Creek bluffs, Banfill Island, and Springbrook Nature Center. Banfill Island is located in the Mississippi River corridor which is part of the Critical Area Plan found in Chapter 9. (Refer to **Figure 8.1** for a map of the Regionally Significant Natural Resources.)

Preservation - Fridley has made a strong commitment to the preservation of natural resources through both acquisition and regulation of our natural resources.

Natural Resource Inventory - A natural resource inventory and assessment identifies and prioritizes the natural resources that Fridley needs to manage through its comprehensive plan and operational strategies. This assessment should address the following resources:

- Wetlands, lakes, rivers, streams, watersheds, and floodplains
- Water quality and supply
- Urban forests and plant communities
- Rare, endangered, and threatened species
- Wildlife and wildlife habitat
- Soils, landforms, and geological features
- Air quality and noise

Equipped with an understanding of the existing natural resources within the community and the means of protecting and managing them, Fridley can ensure that it will continue to benefit from high quality natural resources such as clean water, diverse wildlife, and native plant life.

8.1 Sustainability

A sustainable community can persist over generations, enjoying a healthy environment, prosperous economy and vibrant civic life. It does not undermine its social or physical systems of support. Rather, it develops in harmony with the ecological patterns it thrives in.

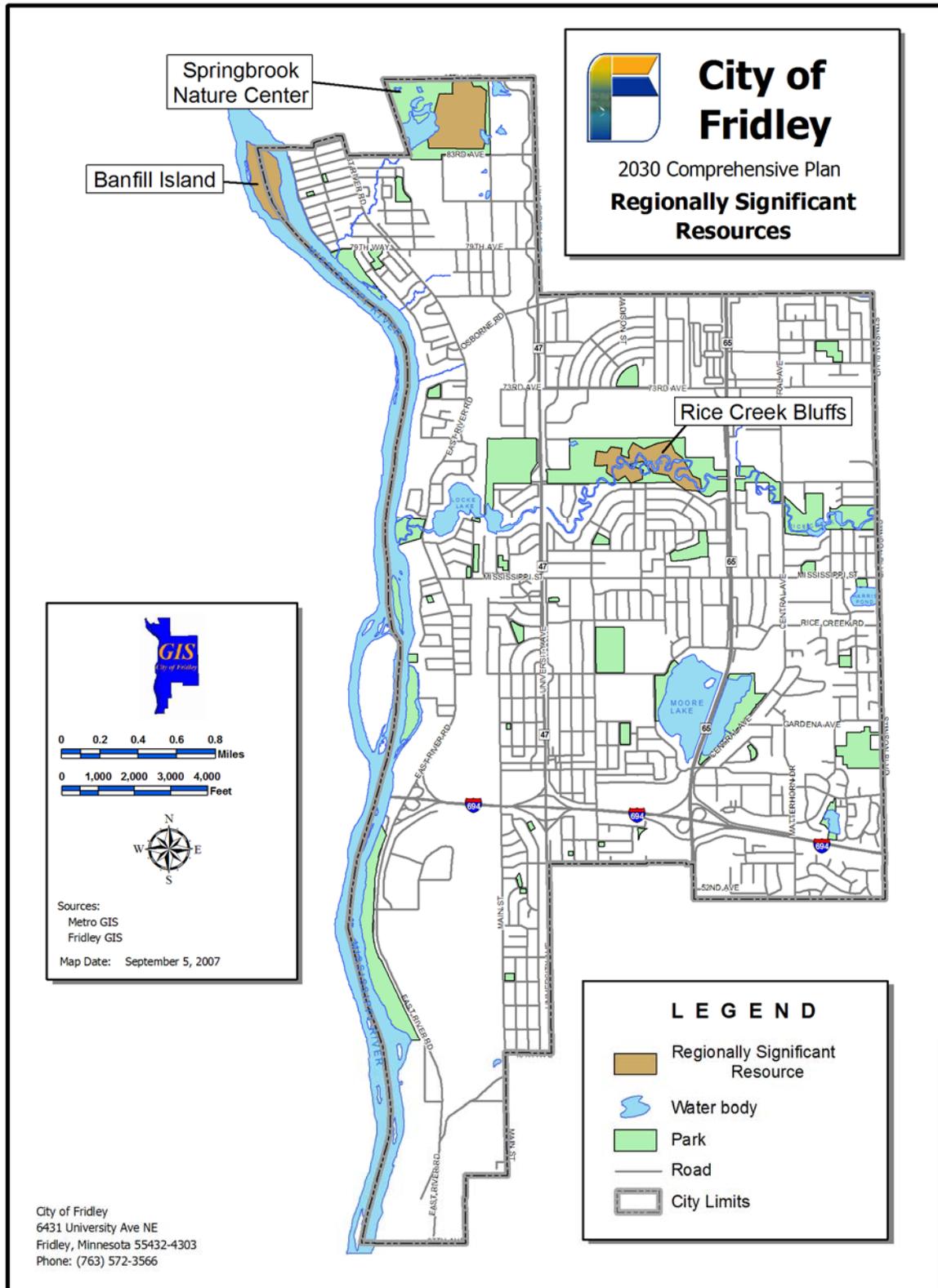
A sustainable community is one that:

- Acknowledges that economic, environmental and social issues are interrelated and that these issues should be addressed holistically so as to consider all the physical, emotional and social impacts.
- Recognizes the sensitive interface between the natural and built environments.
- Understands and begins to shift away from polluting and wasteful practices.
- Considers the full environmental, economic and social impacts/costs of development and community operations.
- Understands its natural, cultural, historical and human assets and resources and acts to protect and enhance them.
- Fosters multi-stakeholder collaboration and citizen participation.

- Promotes resource conservation and pollution prevention.
- Focuses on improving community health and quality of life.
- Acts to create value-added products and services in the local economy.

Sustainable development is a process in which a community develops ongoing actions that strengthen its natural environment, economy and social well-being. Benefits include more livable communities, lower costs and an environment safe for future generations.

Figure 8.1 Regionally Significant Resources



A growing number of communities across America have begun this process, gathering a number of local initiatives under the umbrella of sustainability. They are bringing preventive, integrative strategies to bear on crime, health, jobs, land use and community values.

Sustainable development means development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.

8.2 Resource Management

Management Plan

In order to ensure the preservation and restoration of high quality natural resource areas and to economize maintenance efforts, the City will develop and apply a management plan for each existing and future City-owned natural resource parcel. (Non City-owned lands are protected through ordinances and watershed districts.)

These management plans are intended to –

- Ensure preservation of rare and high quality ecosystems
- Protect the ecosystem from intrusion by exotic species
- Determine appropriate level of maintenance for each City-owned natural resource parcel
- Increase species and ecosystem diversity within the City through managed enhancement and restoration efforts.

An appropriate management philosophy will be determined for each City-owned natural resource area that will integrate the following approaches:

Preservation – Resources of high quality and stability that should be left alone to flourish. Least maintenance.

Protection – Highly sensitive resources, which require monitoring. No maintenance required unless the resource is threatened by development impacts or exotic species.

Maintenance – Parcels where no resource exists and none is desired. Maintenance may include mowing, weeding, or other routine tasks.

Enhancement – Resources that are near their ideal species diversity, but may require minimal infill of appropriate plants and possible removal of non-natives. Ongoing maintenance and monitoring.

Restoration – Most intensive management type. Recreation of a resource nearly from scratch or from a few remnant species. Reserved for native ecosystems that have become locally extinct. Requires the highest maintenance.



Design A Resource Management Plan

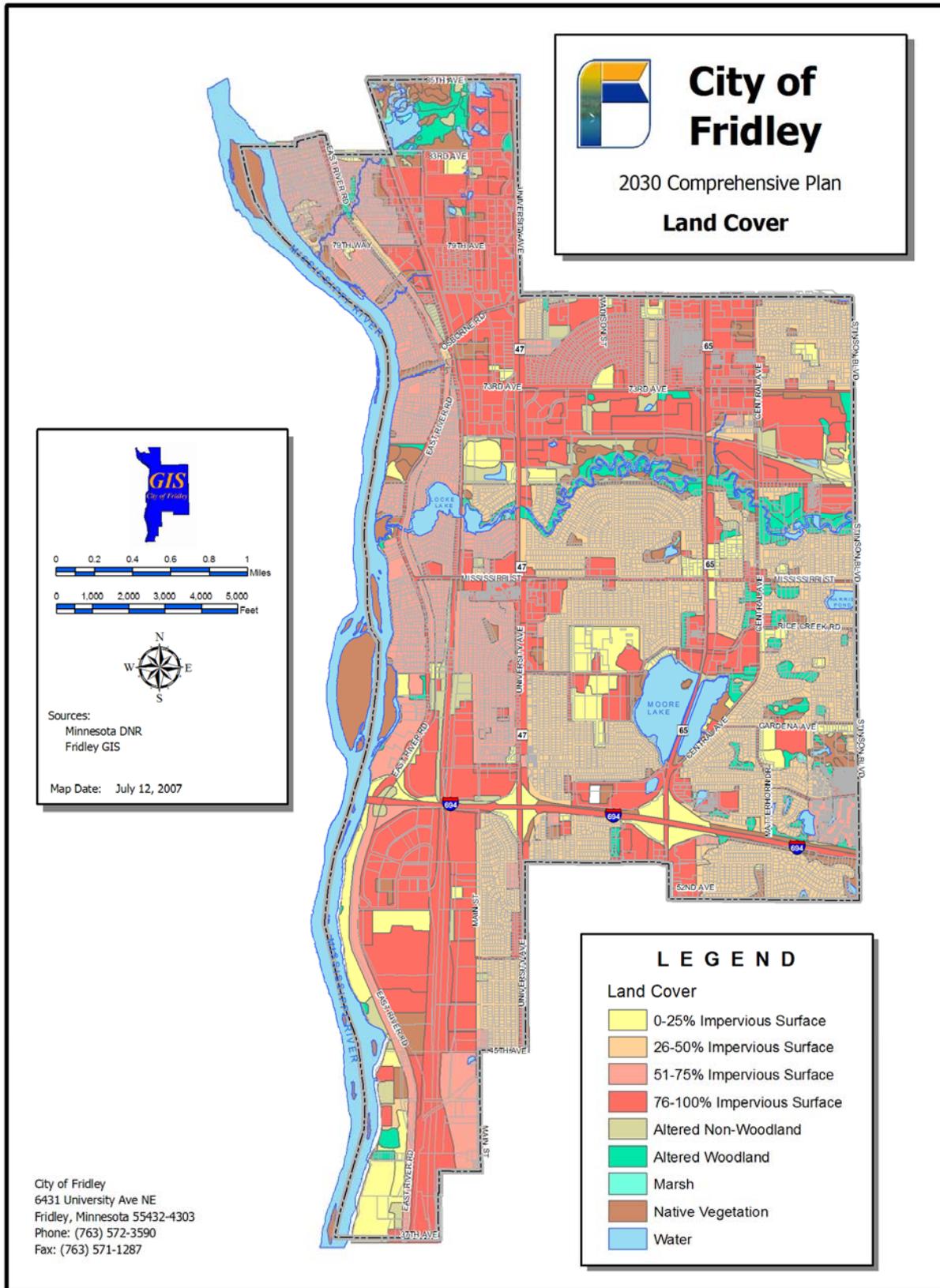
Each management plan will include a detailed description of the land and its ecological characteristics. The plan will also include a detailed description of planned management philosophy and maintenance practices and a description of the intended level of public access.

By accurately describing an existing resource and by effectively applying appropriate management strategies, the City can continue to safeguard its current resources, even as these resources are gradually changing over time. For example, oak forests cycle into other hardwood forest types and emergent wetlands become boggy.

Resource management should not stall or interrupt these natural changes, but should ensure that diversity and quality is maintained, and that threatened or endangered species are protected. Where appropriate, however, the management plan may call for complete restoration of an ecosystem, or replacement of an existing ecosystem with one that is more appropriate to site conditions. Resource management is a very specialized undertaking and any enhancement or restoration may require the utilization of outside resources, such as an ecologist or other natural scientist.

Figure 8.2 shows the geographic distribution of **land cover** types, including impervious surface, marsh, native vegetation and woodland for all privately and publicly held land in Fridley.

Figure 8.2 Land Cover



8.3 Protection of Natural Resources

The City uses two basic methods for preservation of natural resources: acquisition and regulation. By acquiring or otherwise protecting high quality resource parcels, and then by connecting those using natural corridors, Fridley can assure an overall system that meets its preservation goals. The selection of natural resource parcels to be preserved and appropriate preservation methods is a complex process that must consider other needs that may compete with preservation, such as housing development, active recreation and sports facilities and roadway expansion.

Acquisition can be accomplished through purchasing, conservation easement or purchasing development rights. Fridley already owns a system of parks and high quality natural resource areas.

Regulation is the act of adopting and enforcing ordinances and regulations that protect natural resources on privately owned land. Regulation is usually less expensive than acquisition, but has the possibility of meeting with public opposition and legal implications. Ordinances must be carefully written in order to protect the resource without resulting in a takings lawsuit.

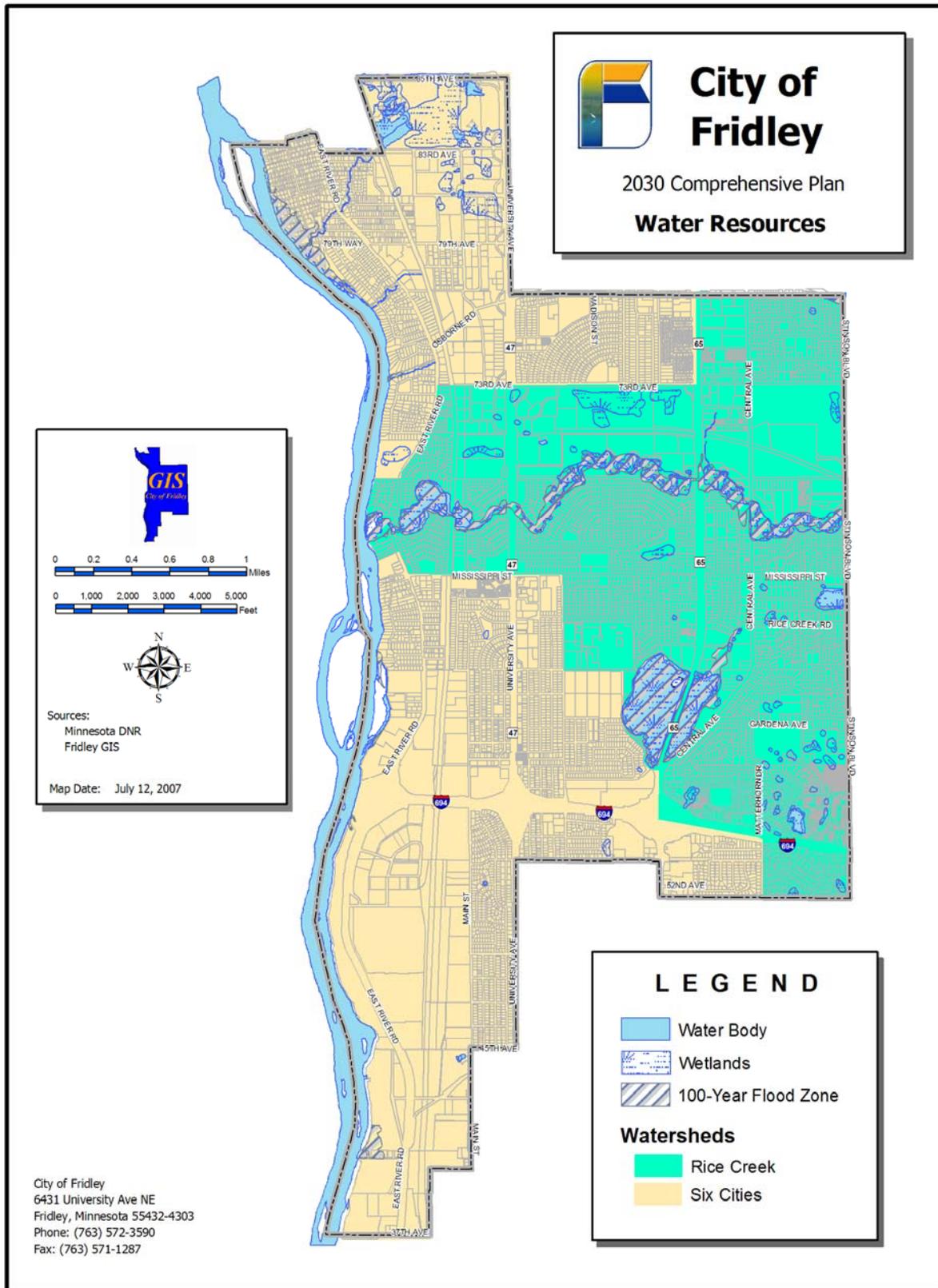
Fridley has several ordinances that protect natural areas on private land. The City's shoreland, floodplain and wetland ordinances protect water resources from development, working in concert with state and federal regulations. They also establish a buffer around these ecosystems, protecting a transition area between wetland and upland resource types. Upland resources are not currently protected by City ordinance, state or federal legislation.

The City has the power to plan and regulate development through its land use planning authority and adoption of zoning and subdivision regulations. The City strives to work with developers as they design projects to protect the unique natural features of each site. Encouraging creative and environmentally sensitive site design can help protect resources that may be difficult to protect with regulations.

The City can encourage protection of natural areas within private developments through conservation easements or through ownership by homeowners' associations or other appropriate parties. In some circumstances, developers may find it advantageous to voluntarily transfer ownership to a public entity, such as the City. While such transfers will not substitute for City and neighborhood park dedication requirements, the City will consider each situation on a case-by-case basis.

Figure 8.3 identifies the **water resources** for all privately and publicly held land in Fridley.

Figure 8.3 Water Resources



8.4 Natural Resource Management Policies

In addition to the following action steps, many policy statements were developed during the analysis and review of the contents of this chapter. The policies related to natural resource protection are:

- Continue deer and fowl removal program, because the over-population of deer in Fridley's Springbrook Nature Center forage on underbrush thereby removing new saplings. This impacts a forest's ability to regenerate. The goose population on the shores of East Moore Lake contributes E.Coli bacteria to the environment that then negatively impacts water quality.
- To maintain and eventually improve Fridley's air quality, the City will work to minimize conflicts between different modes of transportation, (e.g. bicycles and cars) and improve transportation biking access.
- To balance the need to protect our natural environment with the need to continually improve the transportation network.
- Fridley's water supply system includes aquifers, the Mississippi River, Six Cities Watershed, and Rice Creek Watershed. The Mississippi River also provides drinking water for the City of Minneapolis, St. Paul, and many other suburban communities. Furthermore, the Mississippi River is a prominent feature of Fridley and the River's health is important to Fridley's vitality. Pursue clean water initiatives, including storm water public education and using plants in rain gardens and on lakeshores to filter storm water run-off.
- The City of Fridley has a network of natural areas and natural resource-based open space that is primarily intended as wildlife habitat corridors. These wildlife corridors allow movement of animals to and from habitat and food sources. Continue preservation of wildlife corridors along Rice Creek, Burlington Northern Sante Fe railway, Riverfront County Park, and the Target Distribution Preservation Area along 73rd Ave NE.



8.5 Natural Resources Goals and Objectives

Goals have been assembled related to natural resources management and sustainability. The term goal is used throughout this plan to define the City's desired outcome relative to key community issues. As a result of the 2007 neighborhood planning meetings, four overriding goals emerged. Three of those four goals pertain to the purpose of this chapter:

Goals

1. Maintain Fridley as a desirable place to live.
2. Maintain Fridley as a desirable place to work.
3. Protect Fridley's natural environment.

The following objectives will help protect the Mississippi River, trees, open space, air quality, and the peacefulness of residential areas, which were goals listed by the public in the neighborhood planning meetings:

Objectives

1. Develop and support natural resource management plans
2. Document and inventory land cover, land cover changes, and natural corridors to conserve

3. Educate residents, business employees and visitors about land uses on property adjacent to natural corridors
4. Inform residents, business employees and visitors of the value of natural corridors
5. Use public education to reveal the impacts of impervious areas on water resources
6. Further the community's sustainability with action from community members

8.6 Conclusions and Action Steps

Several general conclusions can be drawn from the analysis of the existing natural resources management and sustainability practices. The following statements have been discussed and debated and related action steps have been developed. Action steps reflect the city's general intentions and will guide the community in the attainment of goals.

1. During the storm of September 2005, many trees were lost on public and private property. Trees provide beauty, shade, wildlife habitat, and clean air to the community. The City has tree preservation requirements in code for park land and multi-unit residential and commercial/industrial lands. There are no protections for the replacement of trees on single family residential property, however.



Action Step. Develop a tree preservation ordinance that covers all residential property types.

2. Fridley has a variety of natural resources, but the City lacks a management plan. Natural resource inventories and analyses are the basis for natural resource planning in any comprehensive plan. A natural resource inventory and assessment identifies and prioritizes the natural resources that Fridley needs to manage through its comprehensive plan and operational strategies.

Action Step. Develop a natural resources management plan.

Action Step. Develop a removal plan for invasive plant species, such as buckthorn, on public lands.

Action Step. Designate a staff member to coordinate natural resources management.

8.7 Summary

Conserving and restoring natural resources of regional or local importance contributes to a healthy natural environment and enhances our quality of life. Connecting regional and local features by natural-resource corridors helps sustain wildlife and plant habitat and shapes how development looks on the ground.

Fridley's role as a developed community is to manage development by approving and permitting projects designed to reclaim any contaminated lands and restore natural resources where appropriate. One way this can happen is by implementing best management practices to control and treat stormwater as redevelopment opportunities arise.

Resource management should ensure that diversity and quality are maintained, and that threatened or endangered species are protected. The City can continue to safeguard its current resources by documenting natural resources, even as these resources are gradually changing over time. Natural resources inventories and analyses are the basis for natural resource planning in any comprehensive plan.