

Section 5: Management Strategies

Introduction

The management strategies for natural resources presented in this section are based on an adaptive natural resources management approach. Adaptive management is the process of simultaneous managing and learning about natural resources, and it is used in situations where you have resources that are responsive to management activities, but acknowledges that outcomes have some uncertainty. The process follows a sequence of application, outcome measurement, adjustment based on what has been learned, and modified reapplication. This dynamic approach allows for greater flexibility, and over time, a focused approach that will provide results in a more efficient and effective manner.

Management Strategies

Management strategies are typically employed for the resource that is desired to be maintained or improved, and tend to be specific for each resource. The following sections outline specific management strategies for the resources present within Golden Valley.

Water Resources (Streams, Lakes, Ponds and Wetlands)

The City of Golden Valley has an abundance of water resources, and has placed an emphasis on protecting and enhancing water quality while also managing water quantity. Existing plans provide these protections, including the Comprehensive Plan, Storm Water Pollution Prevention Plan, the requirements of the Bassett Creek Watershed Management Commission and Minnehaha Creek Watershed District, and their respective watershed management plans.

Bassett Creek is the primary waterway through the City, and includes the Main Stem, which originates at the outlet of Medicine Lake, and the Sweeney Branch, which is located within the southern portion of the City and flows through Sweeney Lake. The two streams have a combined length of approximately nine miles within Golden Valley. Other waterways and ditches are also present within the City but tend to be small, unnamed, drainageways, overflows, or ditches. While some of these waterways have naturalized, they are not recognized as traditional aquatic resources.

Primary lakes within the City include Sweeney, Twin, and Wirth Lake. Sweeney and Twin are recreational lakes, and have partially developed shorelines. Most of the undeveloped shorelines lie within Theodore Wirth Park which is owned by the Minneapolis Park and Recreation Board. Wirth Lake is a natural environment lake, and is within Theodore Wirth Park. In addition to the lakes, there are numerous wetlands, ponds, and smaller water features. Constructed storm water ponds are also numerous aquatic features, and many have been naturalized to provide a wide range of functions beyond storm water treatment.

Management Strategies

1. Maintain shoreland zone and setbacks for aquatic resources. When possible, establish native vegetation buffers to further protect the resources.
2. Manage Bassett Creek as a natural watercourse, which includes allowance of flooding where no damage would occur, allow stream meander where no harm is present, and allow instream habitat in the form of hard substrate and woody vegetation to persist as long as it does not aggravate flooding potential.
3. Naturalize storm water ponds through use of native vegetation buffers, planting of trees and shrubs, and use of multi-cell designs to provide habitat diversity.
4. Complete wetland replacement within the City limits, when feasible.

Native Forests

Historically, land cover in Golden Valley was dominated by woodlands and native prairie. While the majority of the prairies are gone, remnants of those old forests, or similar communities to what was historically present, remain in some of the nature areas and preserves. In general, three types of forests were historically present within Golden Valley.

Oak savanna: Oak savannas are fire dependent communities dominated by few, but mature, bur oak trees with a native prairie understory. As fires would naturally occur, young trees and shrubs would not survive, while the older, fire resistant, trees and grasses would persist. In the absence of fires, these communities have grown to include these older mature trees, but have been become overgrown with pioneer species such as aspen and box elder. With the increased canopy, the forest floor becomes densely shaded, and the prairie grasses no longer persist. Many of the wooded portions of the city, including those now used for residential development, contain some very old bur oak trees, which were likely part of a historic oak savanna.

Big woods: Where fire was less likely to occur, forests dominated by sugar maple, basswood, and elm dominated. These woods tended to be closed canopy, but allowed openings for oaks, ash, ironwood, and bitternut hickory to co-exist. The heavily shaded forest floor supported a diverse assemblage of spring ephemeral wildflowers and ferns. Buckthorn invasion has taken a heavy toll on these communities, and has changed the ecology of the big woods ecosystem. Remnant big woods communities are rare, and no longer remain in Golden Valley, although portions of Pennsylvania Woods and some privately owned properties have similar communities, and are a close representation.

Floodplain forest: Although not nearly as extensive as what is present along major rivers and waterways, Bassett Creek has an associated floodplain community, which provides a transitional habitat from wetland to upland. Historically, the floodplain forests were dominated by flood tolerant species such as silver maple and cottonwood. These species remain today, but lesser quality species such as box elder and black willow have increased in abundance. These species grow fast, tend to be weaker, and have shallow root systems, which makes them prone to storm damage and becoming uprooted.

Management Strategies

1. Protect high quality areas, and communities indicative of pre-settlement conditions
2. Manage forest health to maintain representative oak savanna, big woods, and floodplain forest communities.
3. Restore and re-establish oak savanna, big woods, and floodplain forest communities.
4. Where hazardous to human health and safety or property, remove fallen trees, otherwise allow natural processes to occur uninterrupted. An exception to this may be tree removal following large storm events, where widespread cleanup may be required.
5. Encourage private property owners to diversify tree plantings, use native species, and monitor for invasive species.

Cultivated and Landscaped Vegetation

Through development, much of the native vegetation that was historically present has been modified. These modifications include removal of native habitats, encroachment into natural areas, and replacement of native species with lawns, gardens, boulevards, and ornamental or non-native species. While native species can be found, concentrated areas are less common, and intact natural communities are particularly rare. Although not indicative of historic

conditions, a modified landscape can continue to provide ecological value. Vegetation on private property is managed by property owners, consistent with City Code, but can utilize an approach to allow a naturalized habitat to persist, and provide ecological functions and values to be enhanced, while maintaining the desired aesthetic and functional components.

Management Strategies

1. No vegetation identified by the State of Minnesota as a noxious weed or invasive species shall be allowed to be intentionally planted within the City. Ornamental plantings are allowed, but it is encouraged to use native species to the extent practicable.
2. When possible, planted communities should mimic what was historically present prior to settlement.
3. Existing plant communities that may not be representative of pre-settlement communities, but still provide ecological value (e.g. pine plantation in Golden Ridge) are allowed.
4. Diversification of species is encouraged.
5. Specialized vegetation plots for pollinators (birds, bees and butterflies) are also encouraged as they provide a specific ecological function, and can be used for educational purposes to highlight contemporary environmental concerns.

Wildlife

The City of Golden Valley provides great opportunity for watching wildlife. Common animals that can be seen in Golden Valley are typical urban species, including numerous songbirds, small mammals, and deer. Species such as deer, Canada geese, raccoon, turkey, and skunks have increased in population since these animals do well around moderate human development. Species that are less tolerant of humans have declined in abundance, or are no longer present within the City. Management recommendations for wildlife in the city are provided below. In general, appropriate management of the nature areas will help improve populations of desirable native animals, and improve citizen relationships with wildlife in general.

Preservation of high quality natural areas will provide spaces for wildlife, which in turn provides opportunities for residents to observe wildlife. A positive correlation exists between the size and quality of the habitat, and the populations and quality of the associated wildlife. In general desirable wildlife will benefit from other recommendations in this plan. Diverse forests, prairies,

and wetlands will improve habitat for many native animals. Provision of larger areas will support a greater number of wildlife species, and a larger population in general.

Nuisance Wildlife

Wildlife can become nuisance, when they are overpopulated, degrade the natural areas, or damage public and private property. Education on wildlife and wildlife management is essential to understanding the cause of these interactions, and how to manage the resources to minimize negative interactions.

Deer: Deer are numerous within the City of Golden Valley, as abundant habitat is present, and there are few threats to them to naturally control the population. Deer are viewed both positively and negatively, depending on experience and relationship with the animals. When overly abundant, deer can be detrimental to both native and planted vegetation, and can damage private property. Deer are currently managed in accordance with the City's Deer Management Plan. In addition, feeding of deer is prohibited by City Code.

Coyote: Coyote populations are increasing rapidly in metropolitan areas. As scavengers, coyote will eat anything they can find, which can include pets. Management of coyote may require professional trapping or relocation if populations are sufficient to provide a human health hazard. Effective measures for reducing populations in residential areas can also include hazing and avoiding feeding animals in general. It is anticipated that coyote will be an increasingly important species to manage as populations continue to increase, and negative interactions also increase.

Turkey: Wild turkey were extirpated (no longer present) in Minnesota following settlement. In the early 1970's, wild turkey were relocated to southeast Minnesota, and have become one of the most successful projects the MNDNR has developed. Currently, wild turkey are widespread, throughout the state, including populations within urban areas. With the lack of predators, the urban turkey has few threats, and behaviorally differs from the more elusive rural cousins. Turkeys that have acclimated to living around humans can be problematic. The primary means of avoiding conflict with turkeys is to avoid feeding them and establishing areas where they become comfortable around humans. Long-term management of wild turkeys within urban areas is to provide a less inviting habitat. If populations remain too large, a permit can be obtained from the State of Minnesota to physically remove turkeys.

Canada geese: Geese are a nuisance on manicured lawns and when fed regularly will become permanent features. Direct population impact measures such as physical removal may be effective, although relocation can be difficult, and humane disposal is generally not accepted. Hazing, physical barriers, and chemical irritants can be effective for a time, but geese may acclimate to it. The best means for control are to discourage them by removing or reducing their preferred habitat.

Buffering water bodies with native vegetation barriers is perhaps the best technique for managing geese. It also provides habitat for other birds and helps water quality in lakes and streams. Maintaining native vegetation around all open water and creating buffers greater than 25 feet wide will be most effective. Establishing these may be difficult if geese are already using the area, though temporary wildlife fencing (snow fences) will help. This practice will deter geese from congregating and using the site.

Raccoons: Raccoons are present within the City, but because they are nocturnal (active at night) they may be rarely seen. Raccoons have adapted to living in urban areas and around people, and can become a nuisance. Raccoon damage is a common occurrence to structures, particularly as females search for nesting areas. Gardens and plantings can also be damaged, as raccoons will raid them for food. Raccoon management is primarily focused on habitat modification where attractants such as food and habitat are denied, and there is less incentive for raccoon to persist within an area. Exclusions like screening off potential dens, such as chimneys and under porches can be effective, but have to be maintained. Fencing is generally not effective, as they can climb and are nimble enough to even undo latches. Live trapping and relocation is also effective, but is best done by professionals as a trapped raccoon can be dangerous to handle.

Skunks: Skunks are nocturnal and hunt for food during the night. Food for skunks includes insects, small mammals, worms, vegetation, and where humans are present, pet food, bird food, and garbage. Skunks are undesirable in large numbers due to their protective scent, and the potential to carry rabies. Habitat modification and exclusions are the preferred method of control. Professional pest management may be required if skunks are problematic around a residence.

Musk rats: In general, muskrats are aquatic and have little interaction with humans. These small animals, however, can become problematic when they overpopulate storm water ponds, where they can block outlet structures, and interfere with vegetation management to construct their lodges. The primary problem of muskrats is their tendency to burrow into the banks of ponds and streams, which can cause erosion, destabilize the banks, and cause the systems to leak if they damage the perimeter walls. They can be a serious problem on golf courses, where they can cause significant economic damages. Occasionally, trapping to maintain smaller populations may be required, and is generally not harmful to the muskrat populations.

Human Encroachment

Living next to a Nature Area or a City-owned open space can provide the resident a unique opportunity to access and enjoy the natural resources that are in close proximity to them. Because there often is no fence, markers, or indication that the property is owned by the City, it is often difficult to know where private property ends and public property begins. When homeowners expand their yards into nature areas, parks, or publicly owned open space, it becomes an encroachment. One encroachment may seem trivial, but multiple encroachments can have significant impacts on the natural resources. The most common encroachment activities include:

- Removal of vegetation
- Planting vegetation of any type
- Mowing
- Dumping of trash, yard waste, other debris
- Constructing various types of structures, including sheds, fire pits, and play structures
- Composting
- Collection and storage of firewood

These type of activities can seriously impact a nature area or open space by:

- Destroying or damaging wetlands, mature trees, and native vegetation
- Spreading invasive plant species
- Threatening wildlife and/or their habitats
- Negatively impacting aesthetics and user experience within the nature area

Management Strategies

Encroachment may be intentional or unintentional, therefore management should start with education and identification of where property boundaries are located. This may include providing information to adjacent property owners, identification of boundaries with placards or other indicators, or placement of permanent monuments.

The following are potential management strategies that may be employed to deter encroachment.

1. Provide mapping of nature areas, open spaces, and city parcels on the City website so residents can research their property limits, and ownership of adjacent parcels.
2. Initiate an educational campaign through website, media, fliers, etc to inform residents of the extent of the problem and seek voluntary compliance.
3. Direct contact with property owners through mailing or site visits.
4. The City may identify the property lines, and place markers to indicate their locations.
5. If compliance is not achieved, the City may consider means of enforcement, such as fines.

Invasive Pests and Species

Invasive pests and species are already present in Golden Valley and the threat of new and emerging species will undoubtedly always be a concern. While it is not possible to predict and prepare for every threat, the City must be willing to adapt its strategies, policies, and financial resources to address the future threats that the City feels are deserving of being addressed. The City will work with the Minnesota Department of Agriculture, DNR, and other entities to verify these threats and ensure that its response is appropriate.

Specific Nature Area and Open Space Management Strategies/Recommendations

Nature Areas

Management Priorities

Within each nature area, specific natural resource improvement opportunities have been identified. These are unique to each area, and identify which priority actions could be considered for that particular area. The priority is based on the following descriptions.

High Priority: Opportunities for projects that are required to protect critical resources that are in imminent harm if improvements are not made in a timely manner.

Medium Priority: Opportunities that are important to protect a resource, but provide less benefit than high priority, or opportunities to protect a resource that is under no imminent threat.

Low Priority: Opportunities that are still valuable, but would primarily enhance existing resources that are already of good quality, and are not under imminent threat.

Open Spaces (City-owned open space parcels)

Management Priorities

It is understood that each of these parcels is unique and may need to be further assessed based on previous and current use of the parcel. Generally, Open Space parcels are intended to be left in a natural state, but exceptions may be made where the parcels have been historically managed or maintained in a more manicured state. Management priority is generally less than Nature Areas, although goals of invasive species management, establishment of native vegetation, and enhancement of natural resources remain for all natural areas within the City.

High Priority: Opportunities for open space parcels that are being considered for inclusion as future nature areas, or adjacent to nature areas, and include areas required to protect or buffer a critical resource.

Medium Priority: Opportunities that are of direct benefit to the open space parcel, but also provide enhancement of adjacent areas. These provide less benefit than high priority, or opportunities to protect a resource that is under no imminent threat.

Low Priority: Opportunities that are still valuable, but would primarily enhance existing resources.

Amenities

While healthy and beautiful native vegetation communities may be seen as natural amenities within a nature area, other amenities or structural elements are typically provided to enhance the user experience. These amenities may include trails; bridges; entrance signage, wayfinding, educational or interpretive and enforcement signage; boardwalks, observation decks; waste and recycling receptacles, pet waste systems, benches, gates, bollards or fencing; duck, bird or butterfly houses, etc. All of these amenities provide an opportunity for visitors to be part of the natural experience, not just viewing it from the perimeter.

Entrance signage can add to the overall aesthetics of a nature area or a park by providing information on the area, and to confirm that the area is intended to be publically used. The general design theme of a nature area entrance may range from one that reflects a more “rustic” or “earthy” appearance similar to those constructed by the National Park Service during the 1930’s to a more contemporary theme that balances the contemporary urban context with the natural landscape. Materials may include wood, recycled wood, plastic or composite products, stone, granite boulders, metal, iron, etc. but still should reflect the idea of a “natural landscape” and not an urban plaza or streetscape.

Most importantly, whatever design and materials are agreed upon by a community should be used throughout the Nature Area system. To celebrate the unique identity of a nature area, preserve, or greenbelt, the key structural elements (particularly benches and signs) should be of a different, yet complementary, design palette (different objects that fit well together) than those used in the active park settings. Establishment of consistent themes for parks, Nature Areas, and Open Space signage and amenities will allow users to visually distinguish between the types of recreational places.

Nature Area Signs and Amenity Design Guidelines

Although not necessarily site specific, general wayfinding signs can also be provided throughout the City. These signs will orient and navigate the visitors to each of the nature area sites, and will serve as points that tie all of the nature areas together as one system. The City may want to develop and adopt design guidelines for general entrance and wayfinding signs and specific nature area signs and amenities.

Nature Area Amenity Management Priorities

In order to determine the importance of amenity improvements or installations within the Nature Areas, three priority categories have been created and are defined as follows:

High Priority: Projects that will improve visibility, safety, cleanliness and the use of the nature area. They include, entry signage and benches where none exists, interpretive and/or wayfinding signage at key areas within the nature area, pet waste disposal stations, and recycling receptacles. It may also include constructing or relocating hard or natural surface trails for better access, safety, or accessibility.

Medium Priority: Projects that will improve the aesthetics of the nature area and improve the use and understanding of the nature area.

Low Priority: Projects that will enhance the beauty and functionality of the nature area but are not of immediate concern. They include installing new entry signs and benches in nature areas or replacing existing signs and benches that need replacement. As these amenities reach their life expectancy, the City should replace with amenities approved in an adopted *Nature Area & Open Space Wayfinding and Amenity Design Guidelines*.

Nature Areas and Open Space Plan

Not only does the Natural Resources Management Plan provide strategies and recommendations on how to manage and maintain the existing natural resources within the City, but it is also a forward planning document that guides the expansion of existing nature areas and development of potential future nature areas.

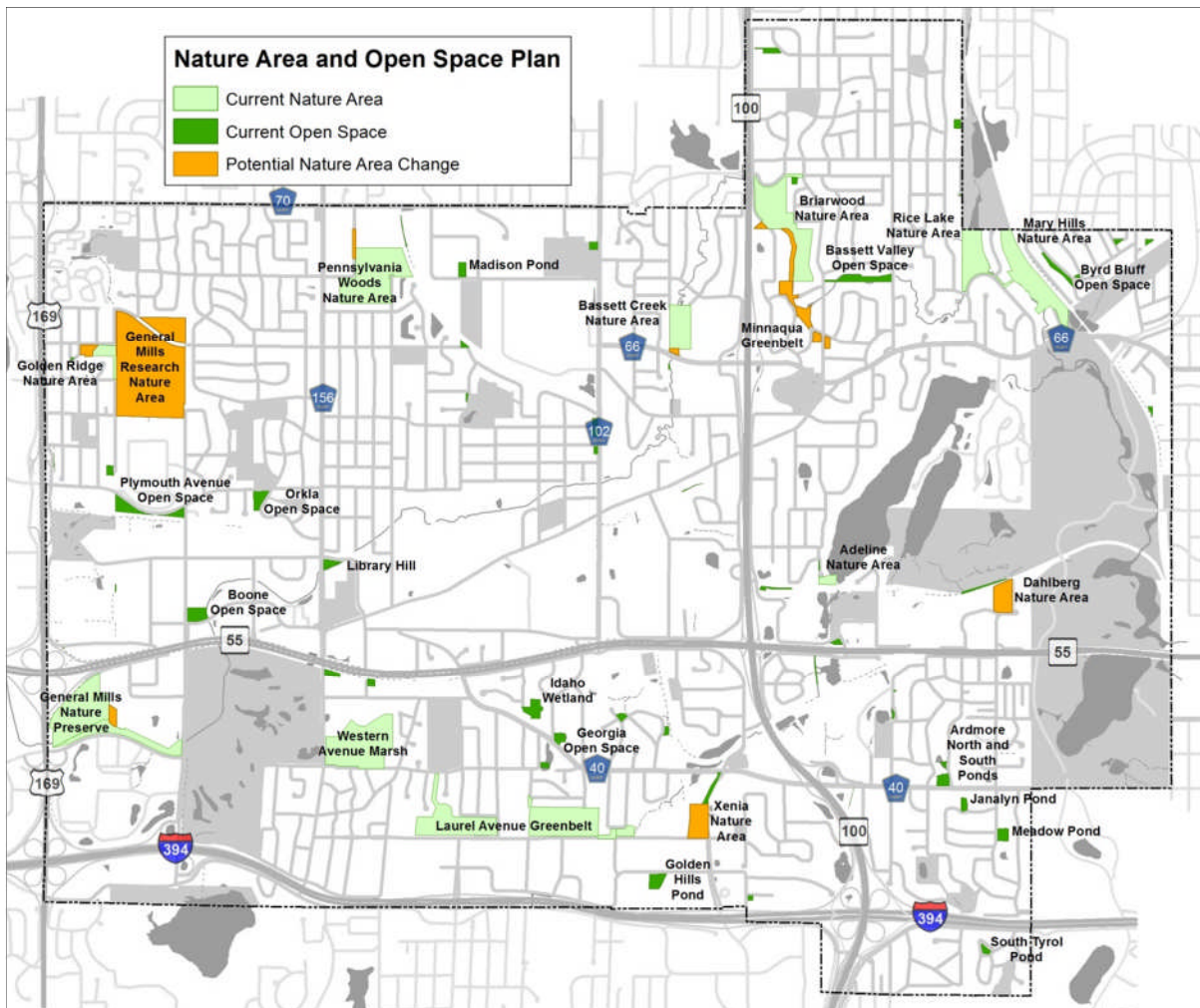
The Nature Areas and Open Space Plan (Figure 5.1) builds upon the existing nature areas and open spaces within the City. It also reflects the community vision, goals and objectives that were developed during the development of this plan. It draws upon previous and related planning studies as described in Section 1 and community input discussed in Section 4 relating to “increasing the size of existing nature areas”, and to “protecting natural resources by acquiring land or easements”.

Nature Areas

The following nature areas could be expanded in size in the future, through partnership, agreement, easement, or acquisition, as opportunities arise:

- **Bassett Creek Nature Area** – The existing trail on the south side of the Bassett Creek Nature Area near Duluth Street is accessed through property owned by a public consortium of local governments (LOGIS). Formalizing an agreement or easement with the property owner could provide assurance that the trail access will remain publically available into perpetuity.
- **Briarwood Nature Area**
 - Consider potential expansion as floodprone properties become available in the future.
 - Adjacent lands to the west are privately owned and social trails are used by the public to access Briarwood Nature Area and to connect to public trails in the area. Agreements or easements could be established to provide more formal trail access and connections to nearby public trails.
- **General Mills Research Nature Area** – The City currently maintains a network of paved trails in this area made possible by an easement agreement with General Mills. In the future, if there is an opportunity to facilitate dedicating portions of this property to the public for permanent open space, it would be a beneficial addition to the City's nature area system.
- **General Mills Nature Preserve** – Existing trails currently pass through privately owned property east of the nature preserve. Working with the property owner to formalize the current arrangement by agreement or easement could provide permanent public access and use of the trails and a clear understanding of future maintenance responsibilities.
- **Golden Ridge Nature Area** – The natural area to the west is currently owned by Hennepin County, and natural area to the east is currently owned by General Mills. Explore partnership or other arrangements with these entities to ensure these areas will remain undeveloped, in a natural state, and as part of the City's natural resource system.
- **Pennsylvania Woods Nature Area** – In the future, if additional flood storage can be created west and north of this nature area through redevelopment or construction of public improvement projects, there may be opportunities to expand the nature area with additional water resources, trails, open space, and native vegetation.

Figure 5.1 Nature Area and Open Space Plan



Open Spaces

High Priority (Conversion to Nature Area)

The following Open Space Parcels have the potential to be elevated to a Nature Area status based on size/scale, use, and the amenities and public investment present:

- Minnaqua Greenbelt (4.81 acres)**
 The Minnaqua Greenbelt is located south of Briarwood Nature Area, and is similar to the Laurel Avenue Greenbelt, in that it is several parcels connected by trails and green space. The four parcels in the greenbelt include the Minnaqua Wetland parcel (a wetland bank under conservation easement), the Minnaqua Pond parcel (a pond constructed along Basset Creek), and the Regent and Westbend Parcels (which contain wet

meadow and wet prairie habitats). The vegetation within these parcels is professionally managed to maintain a high quality native environment.

The four parcels and public rights-of-way have trails, benches, entrance and educational signage, and other amenities to provide a positive user experience. In many ways, the Minnaqua Greenbelt is functionally a Nature Area, and formal inclusion may assist in providing additional resources to ensure it continues to be a high quality asset. There is potential to expand this nature area if floodprone properties adjacent to the greenbelt become available in the future.

- **Xenia Nature Area (5.24 acres)**

The Xenia Nature Area is a parcel that contains a regional storm water treatment pond, bench, educational signage, chimney swift house (by permit/maintenance agreement), sidewalks and trails, a wetland mitigation area, median plantings/streetscape, and professional native vegetation management. Inclusion as a Nature Area would reflect the existing public investment and usage and help to ensure sustained management in the future.

- **Dahlberg Nature Area (4.51 acres)**

The Dahlberg nature area is adjacent to Wirth Park and contains a regional stormwater treatment pond, woods and wetlands, and is used to host occasional public events in the southern area along Meadow Lane. It is immediately west of the Animal Humane Society facility. There is potential to add benches, signage, formal trails, and provide vegetation management. Resources for amenities and future enhancements could be better leveraged if this area were identified and managed as a Nature Area.

Medium Priority (Continue to Manage as Open Space)

The following open space parcels have some public investments present, but fewer amenities than the Nature Areas or the Open Space parcels proposed to be Nature Areas described above, and are generally smaller in size. Therefore, it is recommended to keep these categorized as Open Space Parcels, and assign names to reflect the public investment present in these spaces. Signage could be used to designate these areas, and encourage public education and awareness.

- **Boone Open Space (710 Boone Avenue):** The Boone Open Space is adjacent to Bassett Creek and contains a flood storage pond, flood levee & lift station, professional native vegetation management, adjacent sidewalks, and a paved maintenance access to lift station. There is an opportunity for educational signage describing the City's flood mitigation efforts.
- **Golden Hills Pond (6075 Golden Hills Drive):** The Golden Hills parcel contains a regional stormwater treatment pond, adjacent sidewalk, receives professional native vegetation management, and has a significant retaining wall. There is an opportunity for educational signage.

- **Madison Pond (7100 Sandburg Road):** Madison Pond is a small water quality and rate control pond, which receives professional native vegetation management.
- **Library Hill (950 Winnetka Avenue North):** The Library Hill parcel is located near the City Hall campus and the Library adjacent to Bassett Creek. This site was included in a recent streambank stabilization project. It receives native vegetation management, contains a boulder plaque for the Golden Valley Federated Women’s Club, has a sidewalk on the north, streetscape on the west, and provides the opportunity for a scenic overlook with bench and educational signage.
- **South Tyrol Pond (1345 Tyrol Trail):** South Tyrol Pond is a small property that receives professional native vegetation management, and contains educational signs, plantings, and landscaping with boulders.

Low Priority (Consider Maintaining and Investing in Open Spaces)

The following open space parcels have generally not received significant investment or amenities, but may provide significant ecological and water resource value, and have the potential for enhanced vegetation management, and possibly amenities such as benches, signage, natural surface trails, etc. should the opportunities arise in the future. Therefore, it is recommended to keep these categorized as Open Space Parcels, and reflect their ecological and water resource importance by assigning names, and consider additional improvements as resources allow.

- **Ardmore North and South Ponds** (Ardmore & Glenwood)
- **Bassett Valley** – (Outlot along Bassett Creek between Regent and Noble)
- **Byrd Bluff** – (Steep wooded bluff along Byrd Avenue, platted as park land)
- **Georgia Open Space** (Georgia & Glenwood)
- **Idaho Wetland** (Idaho Avenue between Highway 55 & Glenwood)
- **Janalyn Pond** (Janalyn Circle)
- **Meadow Pond** (Meadow & Glencrest)
- **Orkla Open Space** (1250 Orkla Drive, former “tree farm” property)
- **Plymouth Avenue Open Space** (west of Boone, between Luce Line Trail and Railroad)