

City of Fitchburg McGaw Park Master Plan



Prepared By Fitchburg Planning and Parks Departments

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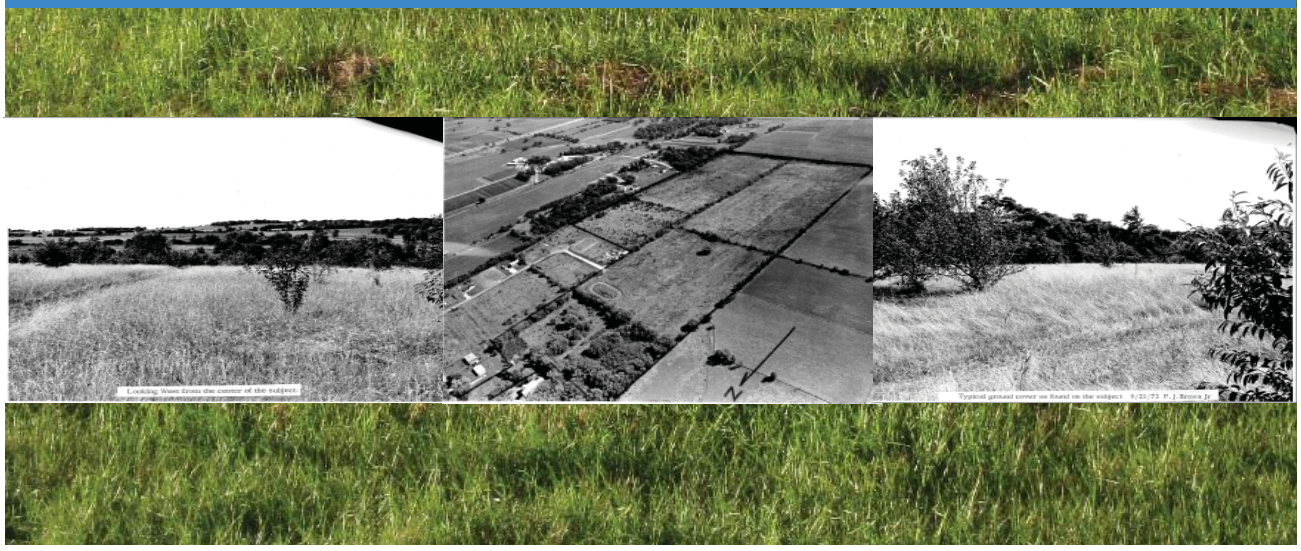
Chapter 1: Introduction



Introduction

Plan Purpose

This document represents a Master Plan for McGaw Park, one of Fitchburg's two community parks. This plan will be used by policy makers and city staff to help direct and guide facility, use, and recreation improvements to McGaw Park. As growth in the City moves east, as directed by the Fitchburg Comprehensive Plan, changes will come to McGaw Park. The plan is intended to be flexible and resilient so that uses can adapt to changing needs and circumstances. In this sense, the plan is an organic document intended to provide adaptability, and is developed in a manner to avoid a focus on "present-time" thinking that may limit opportunity, creativity, and future uses, features or amenities. Recreational needs, desires, and use patterns change or are altered by a variety of ever changing factors—demographics, economic, and cultural. Geo-caching, community gardens, and disc golf are relatively new public demands in the history of outdoor recreation, while others, such as softball, baseball, and in-line skating have seen a peak in their participation. Of greater importance is the overall active nature of a park use and how the activity level works within the constraints imposed by the natural and cultural situations present in the park and its surrounding area. The Goals, Objectives and Policies (Chapter 2) have been formed to reflect flexibility and adaptability, yet at the same time recognize community recreation needs.

Park Location and Facilities

McGaw Park, which comprises 63.7 acres, is located in east central Fitchburg, just south of Lacy Road, and about halfway between Fish Hatchery Road and County Hwy MM. Figure 1-1 provides the location of McGaw Park within the region.

The park was developed to accommodate large groups and allow recreation with four softball fields and a shelter. These main features are served by parking lots that provide 265 stalls. Four volleyball courts and two tennis courts, soccer field, youth ball field, play equipment, half-court basketball, almost 900 feet of paved trail, round out the primary park facilities (Figure 1-2).

Even though McGaw Park is now in the urban service area, it lacks public water and sanitary sewer service to its shelter. The septic system and private well provide some limitations to the shelter and overall service capabilities.

While park facilities are often static, outdoor recreation is not and some level of adaptation may be required to address changing circumstances. The *2011—2016 Wisconsin Outdoor Recreation Demand Report,* (WIDNR, 2011) reports on activity levels in the state. The most popular outdoor activity in the state is walking for pleasure, with 87.7% of the persons participating in that activity. Gardening and landscaping, view/photograph natural scenery, outdoor family gatherings, and visits to nature centers are also popular, all having participation levels of 60-70% of state residents. However, once popular activities, such as softball and baseball have declined 43% and 60%, respectively, between 1994 and 2009. Soccer, on the other hand has increased 715%, and football increased 202% in the same time period. The shape of the sporting field is changing from a diamond to a rectangle.

Figure 1-1: McGaw Park Location

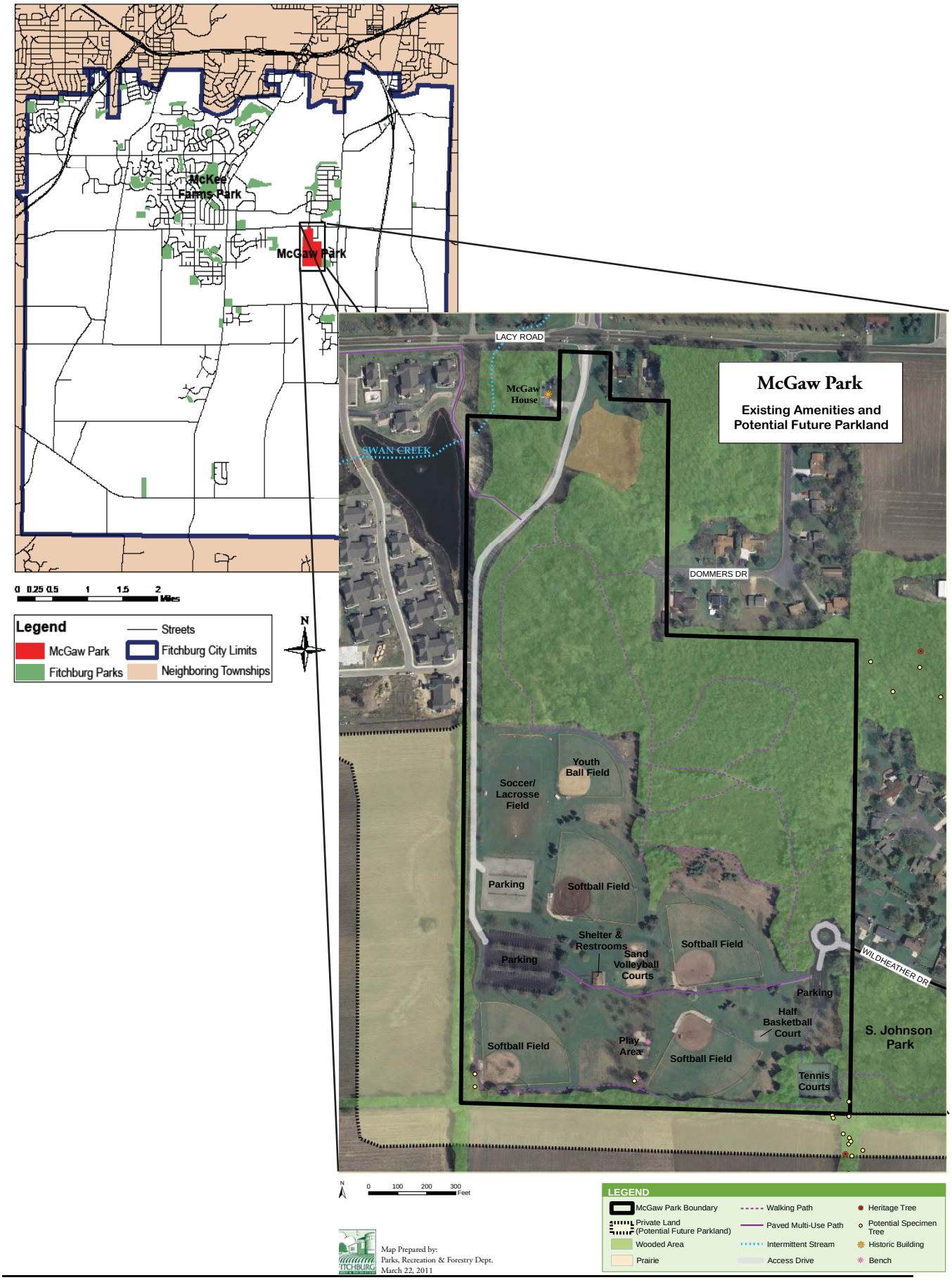


Figure 1 - 2: Facilities and Improvements at McGaw Park as of April 2011

Facility / Improvement	Number or capacity
Park shelter with restrooms	100 person gathering
Softball fields (lighted)	4
Youth ball (baseball) field	1
Lacrosse/football, soccer field	1
Sand volleyball courts	4
Basketball	1 half-court
Parking areas	3 areas, 265 stalls
Tennis courts	2
Play equipment	1 unit
Paved Trail	893 feet
Unimproved surface trails	1.5 miles
Prairie/tall grass	Various locations, 3.5 ac
Landscaping	243 significant and mature
Park Identification signs	2

Source: 2010 Comprehensive Park, Open Space, and Recreation Plan

Handball has seen an increase as well, and is popular with the growing Hispanic population. While Wisconsin had a modest 6% population increase between 2000 and 2010, the state's Hispanic population increased 74% in the same time period, driving the state's overall population growth. Fitchburg's Hispanic population increased over 200% in the same period of time. Certain activities saw a large increase in first time participants in 2009. Traditional and non-traditional triathlon's (80%), and climbing walls (24%) are just two of those activities (WIDNR, 2011).

Figures also show a changing recreation scene. For example, the *2011--2016 Wisconsin Outdoor Recreation Report* notes that snowshoeing declined over 26% in the state between 1994 and 2009 (WIDNR, 2011). However, a national report indicated that snowshoeing saw a 17.4% increase from 2008 to 2009 (2010, Outdoor Foundation). Therefore, the activity may be on an upswing after a long downward spiral, with the upswing not reflected in the fifteen year term state figures, or the state does not currently mirror the national activity trend.

The point of this brief discussion is to show that recreation use demand changes over time, and that flexibility and adaptability is important. While softball may be in decline, football and soccer have increased. Both demand open turf space, and often the outfield of a softball field can be used for a soccer field. The key to park planning is to recognize the alterations in activities, realize change occurs, and that static facilities can lead to a decline in park activity. State and national trends are one factor to consider. The use and demand figures show state or national trends, not local. A discussion on some basic local trends will occur later in this chapter. Another factor is how the park will be affected by City growth.

The following information provides an understanding of the role of McGaw Park within the City through current and planned growth; its role within the recreation system; and the historical development of the park.

Role within the City

The City of Fitchburg currently comprises 35.16 square miles. By 2022, part of the Town of Madison will become part of Fitchburg, increasing the City area to 35.43 square miles. The predominant area of the Town to be added to the City of Fitchburg is the Southdale Neighborhood, which is east of USH 14 and south of the beltline. The 2011 United States census provided a Fitchburg population of 25, 260 persons, which is close to the *Comprehensive Plan* estimate of 25,477. Thus, the estimates of population growth for the community completed in 2003 are quite accurate. This is a 23.2% increase from the 2000 population. As noted in Figure 1-3, City population growth is anticipated to grow by about 5,000 persons each decade. The Town of Madison area which will become part of Fitchburg had a 2010 population of 1,368.

Figure 1-3: Population Forecasts (2020 - 2030)

Year	Population
2000 Census	20,501
2010 Projections	25,477
2010 Census	25,260
2020 Projections	30,431
2030 Projections	35,386

Source: 2009 City of Fitchburg Comprehensive Plan
Note: these population estimates were prepared in 2003
and do not reflect the Town of Madison area to become part of Fitchburg.

The geographic distribution of the expected population growth is also important. The *City Comprehensive Plan* sets forth a long-term (50+ year) growth boundary for the community. The approved boundary focused on several key principles outlined by the Common Council. Many of these principles focus growth along key transportation corridors in eastern Fitchburg—principally the east rail corridor. Of the future urban growth neighborhoods identified in the Comprehensive Plan, (Figure 1-4) all but two are east of Fish Hatchery Road, and of the total growth area of 3,286 acres, 2,703 acres are in the possible six growth areas east of Fish Hatchery Road. This includes the McGaw Park Neighborhood which will surround McGaw Park.

The northern portion, or about 398 acres, of the McGaw Park Neighborhood was added to the urban service area in August 2010. The McGaw Neighborhood Plan was undertaken as a resource based plan. The plan provides significant measures to protect wetlands and to provide suitable water infiltration to mitigate runoff, maintain base stream flow, and recharge groundwater to offset the affects of well water withdrawal. Figure 1-5 is the McGaw Park Neighborhood plan map indicating proposed park expansion, landuse and transportation corridors.

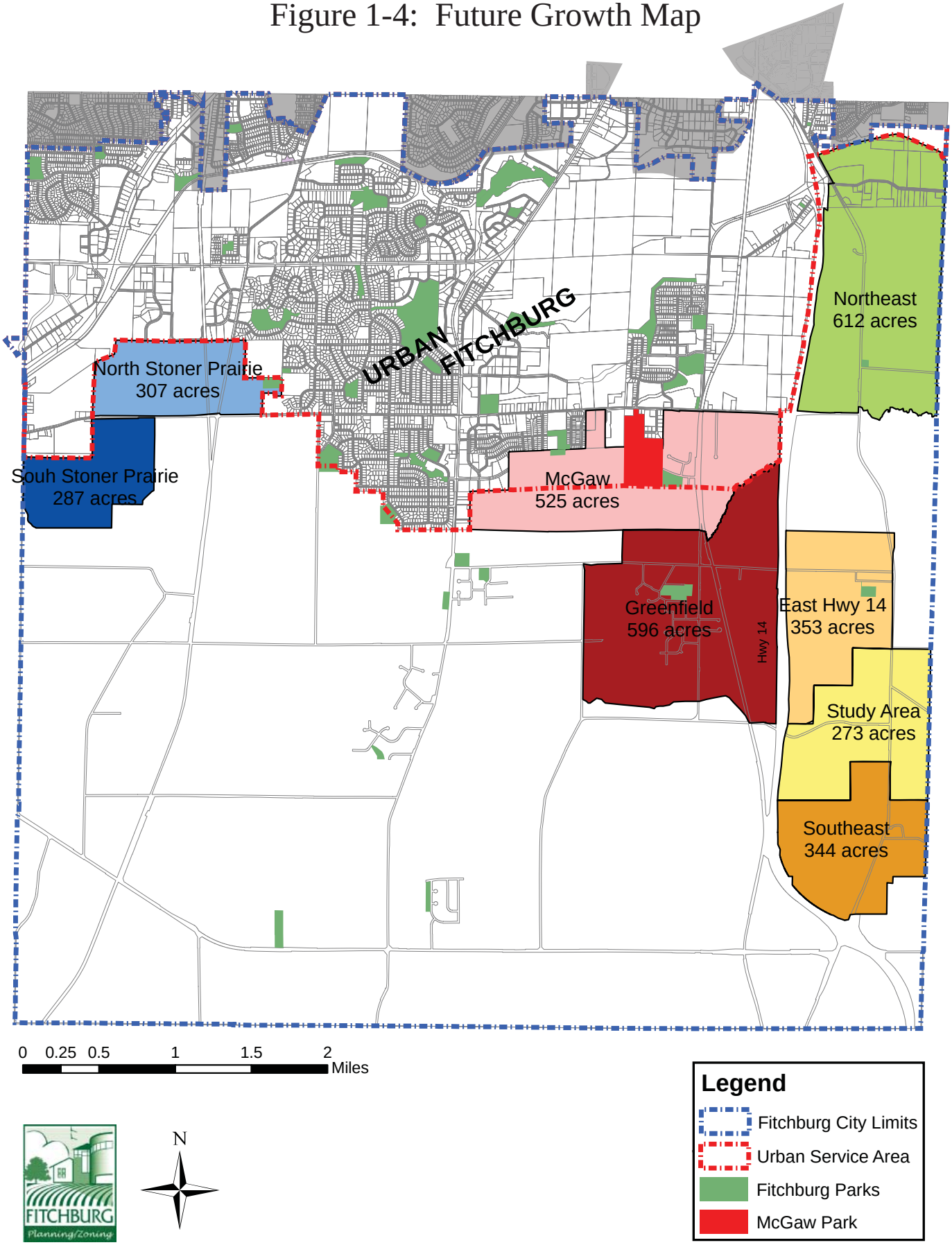
Introduction

The *McGaw Neighborhood Plan* served as the basis for an urban service request for the 2010 urban service amendment, which was approved in 2010. The south boundary of the amendment area follows the quarter section line for sections 13, 14 and 15. All of McGaw Park is now in the urban service area. The amendment area also includes the rural residential Tarpleywick area to the east of McGaw Park, which is 22 acres in size and accommodates 29 rural residential dwellings, although there are 33 lots. The overall urban service area adjustment includes an anticipated 119 acres of park, open space and environmental corridor area. Of the 119 acres, approximately 17 acres is proposed as an effective addition to the west and south sides of McGaw Park. Land is also proposed to be attached to the south edge of Johnson Park, which will provide some benefit to McGaw Park. Additionally, 5 acres of environmentally sensitive land is noted in the *McGaw Neighborhood Plan*; this area is at the southeast corner of the park. The plan notes a total of 32 acres added to McGaw, but this includes trail and linear connections that are not part of the effective land area for McGaw Park, but rather form connections between McGaw Park and other existing or planned public spaces.

The northern 23 acres of McGaw Park were added to the urban service area in October 2002 as part of the Dommers View urban service area request which brought in the NW1/4 of the NW1/4 of section 14. As discussed above, the southern 40 acres of McGaw Park and all of Johnson Park were added to the urban service area in August 2010. While McGaw Park is in the urban service area, the park shelter is currently served by its own well and a private sewage disposal system (septic system).

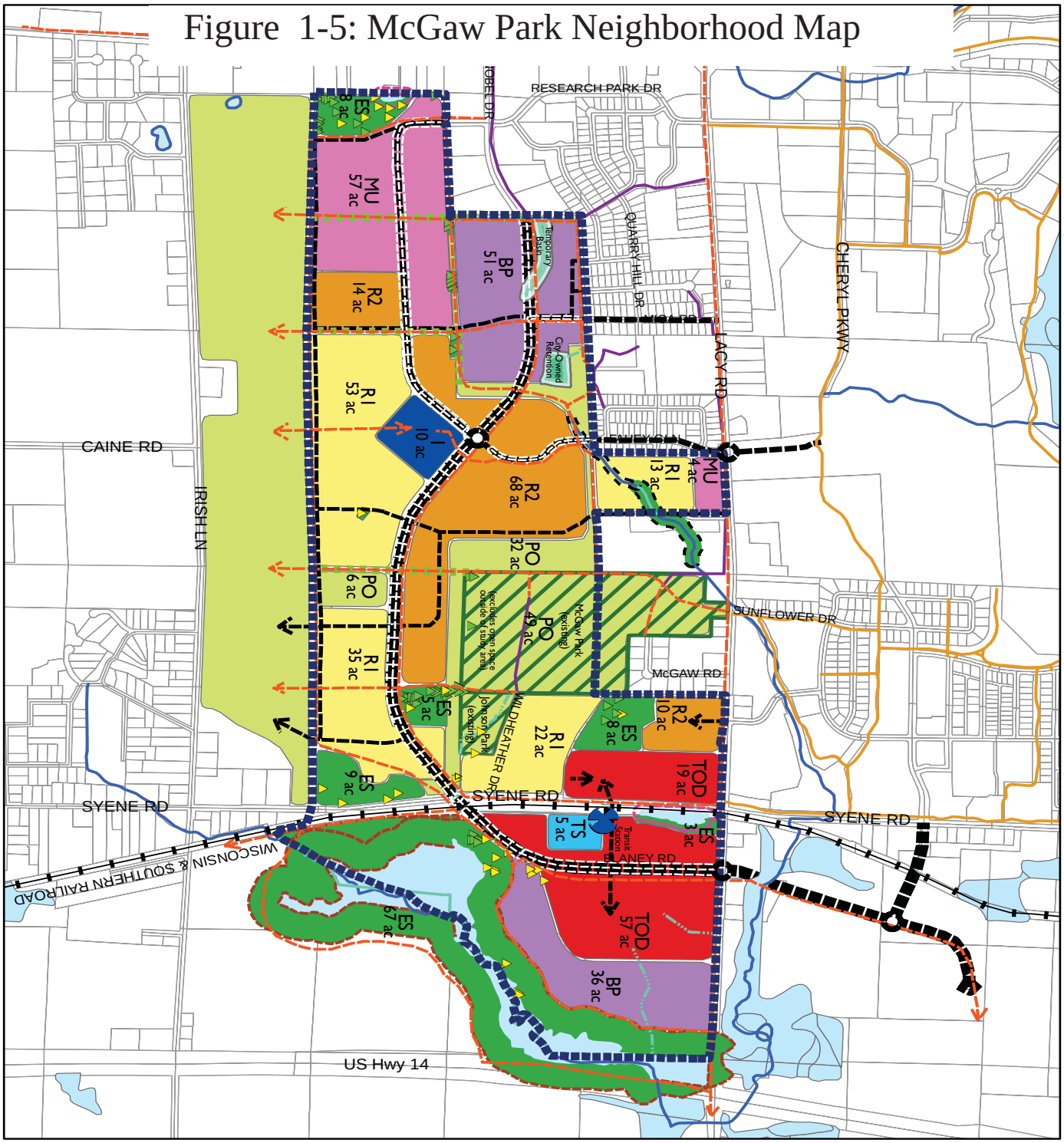
Urban growth in the City is being directed to the City's east side and consequently, this growth will create recreation demands for McGaw Park. The recreation and service facilities of the park will need to adjust and change in order to better adapt to a growing community. While McGaw was the first established community park in the City, its role over the past twenty years has become secondary to the establishment and development of McKee Farms Park, which is in an urbanized area of the community and is more visible due to its location near the main travel corridors of McKee Road (CTH PD) and Fish Hatchery Road (CTH D). As City growth moves east, it is imperative to recognize the changing situation that will face McGaw Park and the new opportunities and challenges that will arise.

Figure 1-4: Future Growth Map



Source: Fitchburg Comprehensive Plan

Figure 1-5: McGaw Park Neighborhood Map



Source: McGaw Park Neighborhood Plan p. 8-2

Role within the Park and Recreation System

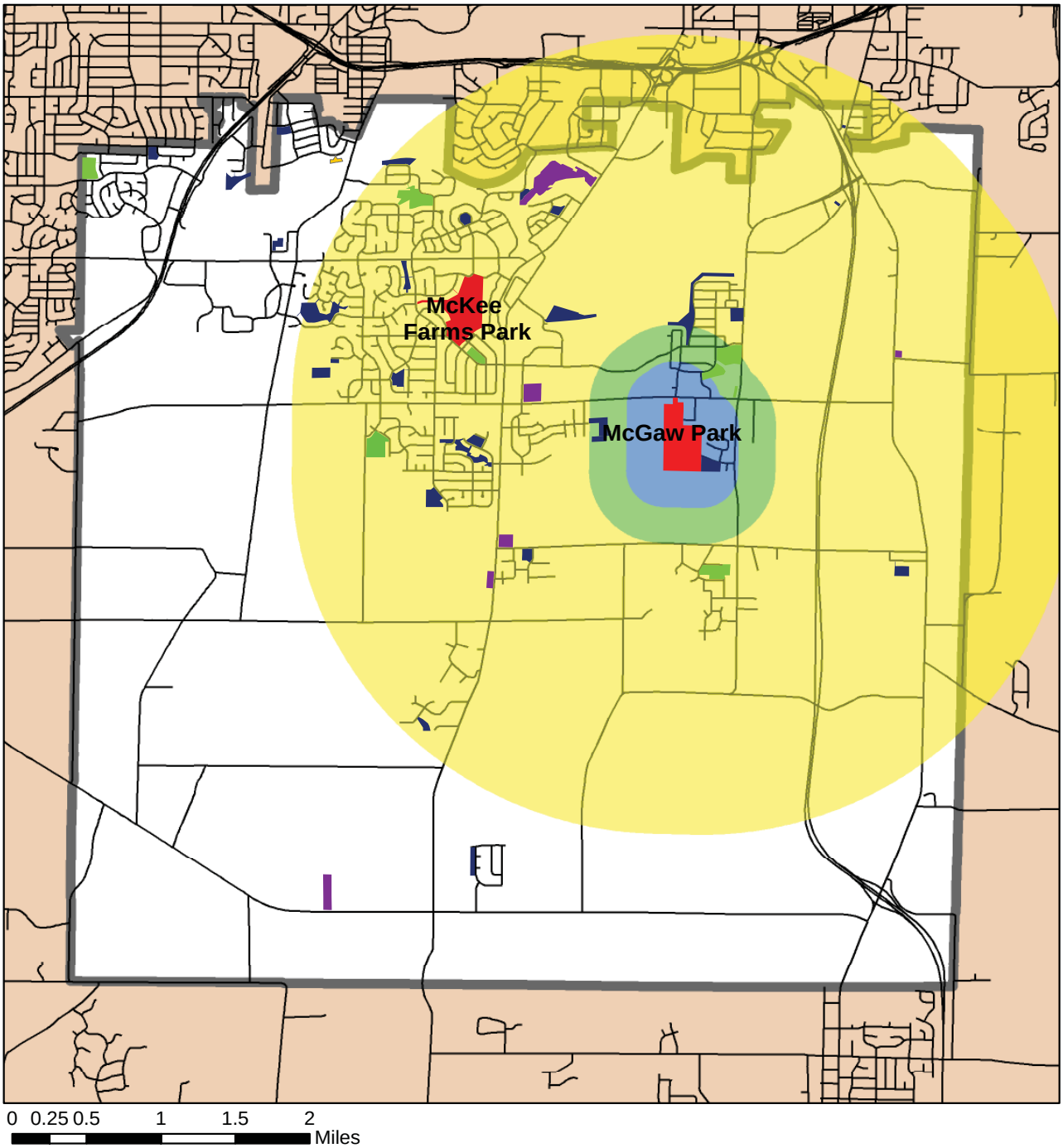
Following commonly accepted park planning procedures, the City's park and recreation system follows a hierarchical arrangement. Most parks are classified according to community, area and neighborhood park hierarchy, and each level below is provided in the higher classification. The park classification system is based on the area and population a park is intended to serve, with a ¼ mile radius for neighborhood parks, ½ mile for area parks, and a 2 ½ mile for community parks. Facilities become more varied as the service area increases. Figure 1-6 maps the service area for McGaw Park.

McGaw Park is a community park, and has a service radius of 2 ½ miles. The 2 ½ mile service radius is not a recent development in planning for McGaw Park. A 1974 study evaluating the feasibility of McGaw Park commented that "Since the proposed park was to be used to meet the needs for a town-wide facility, a 2 ½ mile service radius was envisioned" (Goldin and Rubin, 1974, p. 3). The 2 ½ mile service radius for community parks is a standard long recognized in planning for parks in Fitchburg.

McGaw also serves as an area park for persons within a ½ mile radius and as a neighborhood park for those within a ¼ mile radius. Johnson Park, which borders the southeast edge of McGaw Park, is the neighborhood park for some nearby residents to the east of McGaw Park. McGaw will also need to function as a neighborhood park for some development to the west. Park planning service radii also have to consider man-made or natural impediments. For example, a major drainageway or storm water pond can effectively make a neighborhood park within a ¼ mile radius a much longer distance away, reducing its capability to serve as a neighborhood park. A ¼ mile radius is not only a neighborhood park service territory, but is the commonly accepted walking distance, or pedestrian shed. Community parks, however, have such a large territory that certain impediments are not as important since driving or biking is a common method of travel to attend a function in a community park.

As Fitchburg's first community park, McGaw also serves as a major playfield for softball due to its four lighted softball diamonds. Its service as a softball complex should be no surprise, since Goldin and Rubin (1974, p. 3) report that one of the two main reasons Fitchburg was selective in a size (desiring over 40 acres) and location (desired in the north ½ of the Town) of a community park was due to a "decision of Madison to allow only city residents to participate in summer softball leagues." (Madison adult recreation is, and was, organized by the Madison School Community Recreation program, which is operated by the Madison Metropolitan School District. Thus only Fitchburg residents in the Madison School District would be allowed to participate in Madison leagues.)

Figure 1-6: McGaw Park Service Area



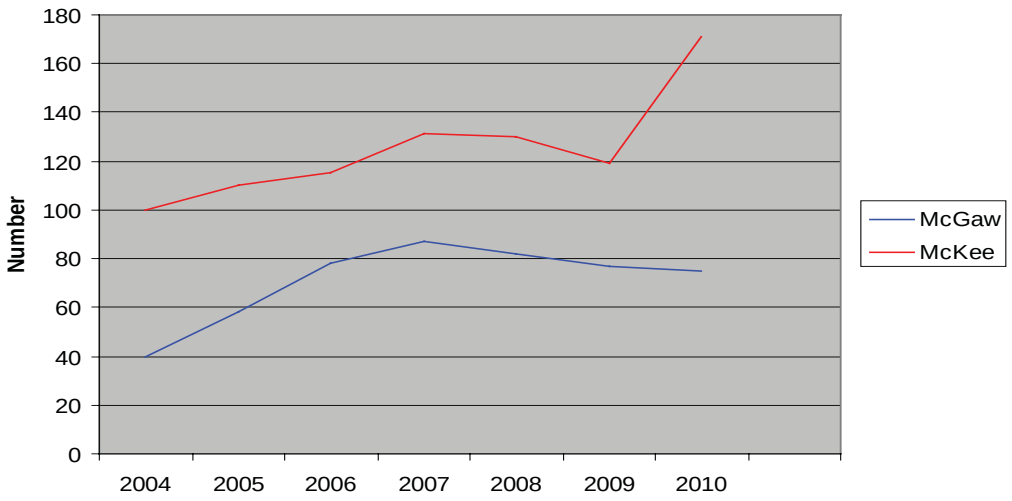
Source: City of Fitchburg Planning Department. 2011

Complimenting McGaw Park's playfield and major recreation facilities is McKee Farms Park, which provides a major soccer facility, community playground (Kid's Crossing), ice skating, and six lighted tennis courts. In developing its community parks, the Park Commission has taken an approach of complimentary, rather than fully competing major facilities. However, there are overlaps to be expected since each park also serves as a neighborhood or area park, as well as provides basic community park facilities. For example, the main community tennis courts (six lighted) are at McKee Farms Park, while McGaw provides two non-lighted tennis courts in its role as an area park. Similarly, McKee provides two softball fields, to serve some area and community recreation need, but the main lighted fields are located in McGaw Park. As population and recreation facility demand increases, there may be more overlap than presently occurs. Up to this point growth and demand has allowed for some complimentary development. McGaw Park's softball fields are recognized in the region as some of the better facilities, as they are or have been used by Edgewood College, Badger State Games, and (ironically) Madison West High School.

Park shelters are often the primary focal point for a community park. Unlike a neighborhood park, where the use is by neighbors, community parks draw from a large radius and thus need to provide ample rest, bathroom, and water availability, but also protection from precipitation, sun, and other elements. A shelter adds organization to a park, and provides rental and use opportunities to a variety of groups (e.g. families, churches, scout groups, civic organizations, and businesses to accommodate social and recreational gatherings). Beyond community events, the shelter provides basic services to those who rent or use the fields, play areas, and other facilities in the park. These persons could be participating in organized recreational or non-recreational programming, or be just a few individuals who gather to play and socialize.

One way to understand McGaw Park's role in the city recreational system is to offer a few comparisons with the other community park, McKee Farms. As noted earlier, uses in the parks often compliment each other so the data while not fully comparable, will nonetheless provide an indication of the park's use and activity. The following figures indicate shelter and diamond use for each of the community parks between 2004 and 2010.

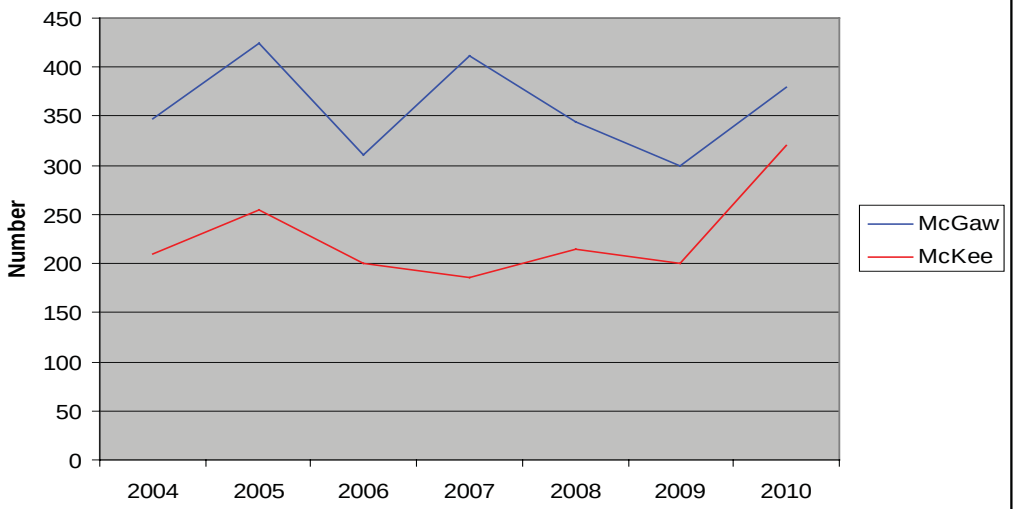
Figure 1-7: Shelter Reservations



Source: Fitchburg Parks Department

The above Figure 1-7 indicates that reserved shelter use at McGaw Park has leveled off, while it is seeing growth at McKee Farms Park. Reservations for both parks decreased in 2008 and 2009, possibly due to the national recession. McGaw shelter use has continued to see annual declines, although slight, since 2007; McKee Farms saw a major increase in use for 2010. Insufficient data is present to set forth a long term trend, but the quality of the McGaw shelter may be affecting rental rates. Recognizing the higher demand of the McKee Farms Park shelter, the rental rate of its shelter is higher than that for McGaw. One would expect that as development occurs around McGaw Park, that shelter reservations will increase. But, shelter use may also relate to other amenities in the park. As home of Kid's Crossing, McKee Farms Park has a built in attraction for young children. Shelter rental cannot necessarily be divorced from park facilities and amenities.

Figure 1-8 Baseball Diamond Use



Source: Fitchburg Parks Department

McGaw Park continues to lead in use of diamonds, likely due to having more and lighted diamonds than McKee Farms Park. Usage has been variable but overall it does not show a major decrease in trends at this point. Use by girls softball is likely offsetting a potential decline in use by organized adult leagues. The McKee Farms Park figure also includes flag football reservations when that activity used the outfield area for flag football. As noted earlier, football has seen an increase in participation statewide, and this may account for part of the large increase between 2009 and 2010 in McKee Farms Park. McGaw outfields have been used as overflow for flag football, but as city population and development around the park grows, demand for overlapping use may increase. Field fencing of softball diamonds, however, may limit multi-use options.

McKee Farms Park has significantly more use of tennis courts, soccer fields, and other uses on non-softball fields compared to McGaw. McGaw has seen an increase in this type of activity, but it underperforms compared to McKee. This is due to a few reasons. First, McKee has more soccer fields; it was created at a time of soccer popularity, whereas McGaw was created at a time of softball popularity. Second, McKee Farms Park has six tennis courts, compared to two at McGaw, so it is better positioned for tournaments. Finally, McKee Farms Park is more active due to its location in the urban service area and it has become a preferred park.

Each park serves a particular purpose, and to a degree that purpose is tied to the development of each park. McKee was a farm field with little topographic variation, where McGaw has topographic variation and the non use areas have been left to transform to woods, affecting amenity and facility development in each. Another aspect of use of the parks is recreational programming and community desires.

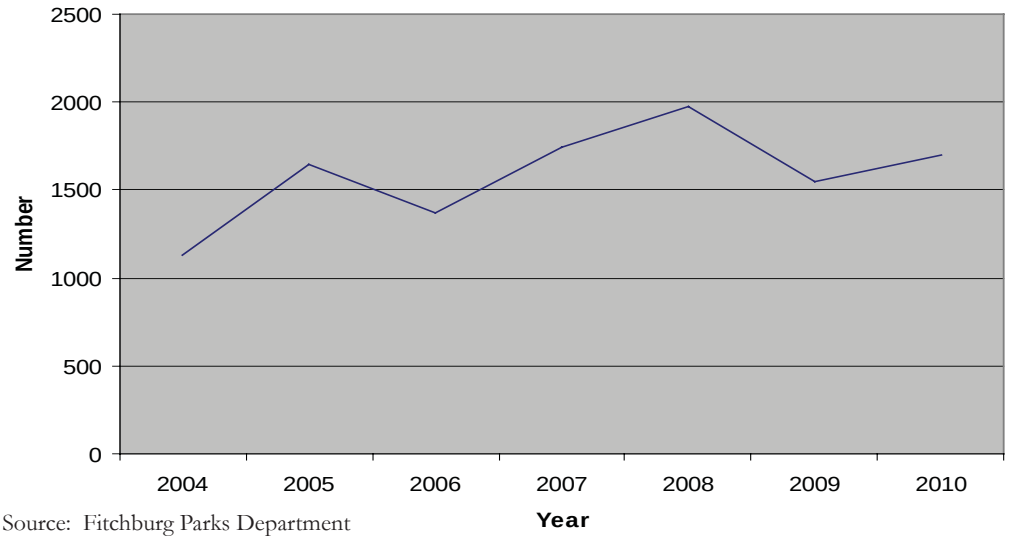
As shown in figure 1-9, the overall field and shelter use within the City park system has seen a major increase in activity. Overall, field use increased by 50% between 2004 and 2010, while shelter use increased 56% for the same time period. Figures 1-10 and 1-11 graph the information in figure 1-9 to indicate overall trends. Meanwhile the City population increased 14.7% from its estimated 2004 population of 22,032 to its 2010 population of 25,260. Therefore, park use is increasing at a higher rate than for the City population as a whole. Even if one sport or activity is not increasing at a high rate, or is in decline, that is offset by an increase in another sport or activity. The key is to recognize what change is occurring in a sport or activity and the need to be responsive to that change. One major issue is that McKee Farms Park, at least according to shelter and diamond reservations, has had to bear an increasingly heavier load in activity over the past few years than has McGaw Park. Additionally, conflicts emerge when neighborhood or area parks are called on to serve a larger role in the park system. As City growth moves east, McGaw will see pressure for an increase in its facilities and amenities.

Figure 1-9: Total City Reservations

Year	Fields	Shelters
2004	1134	199
2005	1644	239
2006	1374	260
2007	1742	318
2008	1971	281
2009	1546	250
2010	1703	312

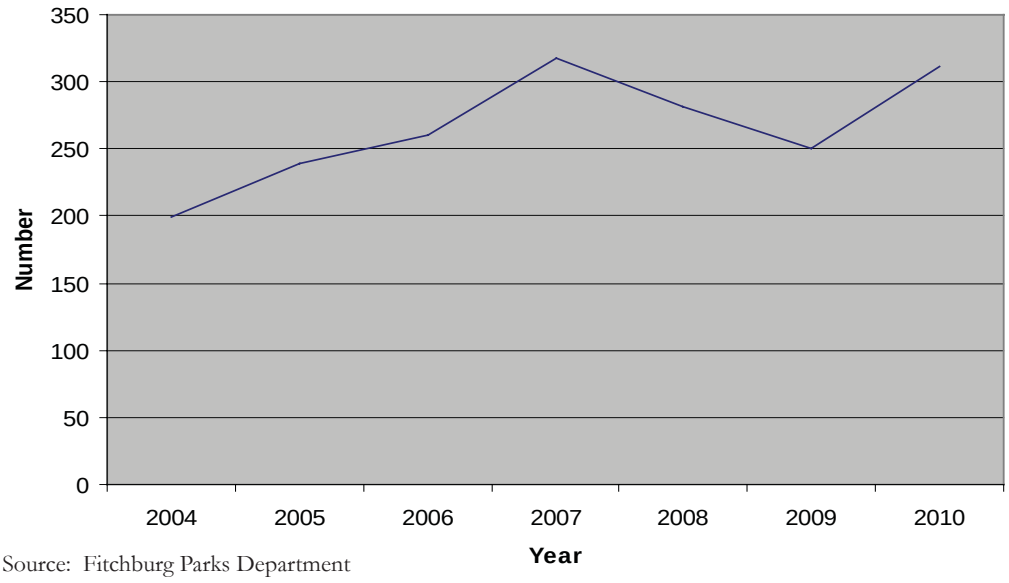
Source: Fitchburg Parks Department

Figure 1-10: Citywide Field Reservations



Source: Fitchburg Parks Department

Figure 1-11: Citywide Shelter Reservations



Source: Fitchburg Parks Department

In 2005, a community survey incorporating five park and recreation activity questions was completed. A survey report was prepared for the Fitchburg Planning Department by David Trechter, Denise Parks, and Shelly Hadley of the UW River Falls and UW Extension Survey Research Center in early 2006 and provides some significant information on park and recreation use in the community. Some findings important to this plan will be reviewed here, but readers are encouraged to view the full report available on the internet (http://www.city.fitchburg.wi.us/departments/cityHall/planning/index.php). The report notes that there were nine facilities or features for which 50% or more of the respondents either strongly agreed or agreed that it is something they would like to see. These features were: nature paths (85%); natural area preserve (81%); skating rink (66%); cross-country ski trails (62%); botanical gardens (57%); dog park and indoor recreation center (each at 56%); and a swimming pool and a large centralized multi-use public open space (each at 50%) (Trechter et al, 2006 p. 16) Trechter notes that the results are interesting in that dog parks and botanical gardens have a narrower, but passionate base of support (Trechter et al, 2006, p. 16). In other words, the persons who rated these uses, rated them very high.

When asked to prioritize expansion of amenities or facilities, the highest priority was placed on multi-use trails which link parks, neighborhoods and provide connectivity to state trails. Next came landscaping of certain parks, and third was golf, with many commenting that they favor expansion of the Nine Springs Golf Course (Trechter, 2006 p. 19). Multi-use trails correspond well to results from an on-line survey in 2011, the March 2011 McGaw Park vision session, and state trends where walking is the top recreation activity.

The 2005 survey also noted that recreational programs are well accepted with most finding the status quo satisfactory. The two programs with the greatest number of participants were festivals and community concerts (57 and 45%, respectively), while the next three were adult and youth athletic leagues, and then volunteer clean up day programs (22%, 19% and 19% respectively) (Trechter, 2006 p. 18). With 22% participation, adult athletic programs are important to Fitchburg residents.

The McGaw Park vision session held in March 2011 drew a group of 25 participants who were asked, as part of the exercise, to complete a survey. Added to that was a nonscientific survey residents could complete on-line. First, the residents like the wooded areas and trails, and the open space the park provides. Second, safety concerns were important with 44.6% citing it as a concern that limits park use. Third, most participants in the on-line survey see expanded trails as an opportunity to develop the park. Over one-half of the participants felt that a trail system is one of the top four items that make a park worth visiting. Finally, the condition of the shelter and its bathrooms was a major concern, second only to safety. The survey participants desire a park that supports a variety of ages, interests and seasonal activities. (Fitchburg, 2011, p. 1). At the vision session, the most important issues were safety, maintenance of natural areas, and the park shelter. Similarly, the participants also saw opportunity in multi-use trail development, updating the existing shelter and building satellite shelters, maintaining and restoring natural

areas, and providing alternative recreation activities. The 2005 community survey, the on-line survey and the vision session provide consistency in regard to multi-use trails, with trails being important for recreation. Safety of the park can be enhanced by not only physical improvements, such as lighting, but also by an increase in variety and types of activities in order to bring more persons to the park. McGaw is a community park, and enhancing that role will bring more and safe recreation opportunities to the community.

Historic Development of the Park

McGaw Park was Fitchburg's first community park. Prior to the acquisition and development of McGaw Park, Greenfield Park, a 10.8 acre area park, served as the de-facto community park. In the early 1970's, the Town of Fitchburg Park Commission set on a journey to purchase land for a community park. This journey offers a great deal in explaining McGaw Park's subsequent development.

In 1973 city leaders had reviewed alternate sites for the first community park, and engaged an appraisal of land owned by Samuel McGaw in section 14. Mr. McGaw was in his 89th year when he accompanied F.J. Brown, the appraiser engaged by the town, on the inspection of the property in 1973. Dommers View and Tarpleywick Hills had been platted but many of their lots were vacant at this point. Brown noted that in 1972 the site was assessed at $16,400 for land, and $600 in improvements. The 1973 Brown appraisal would provide a value of $95,500 for the 63.7 acre parcel (Brown, 1973). Mr. Samuel McGaw passed away the following month, and his estate would provide a date of death value of $80,000 for the property (Dane County Title co., undated)

The McGaw property had not been farmed for years. The appraisal comments that "this property has been left vacant with no production for a number of years" (Brown, 1973, p. 1). Photos of the site taken by Mr. Brown for the 1973 appraisal would also indicate that the site was in a vacant state, and that tall grasses and some shrubs were the predominant ground cover for much of the site. Pre-settlement vegetation cover in McGaw Park was prairie (Appendix A Presettlement Vegetation).

Figure 1-12: View From High Point on McGaw Property

Source:
1973, Brown

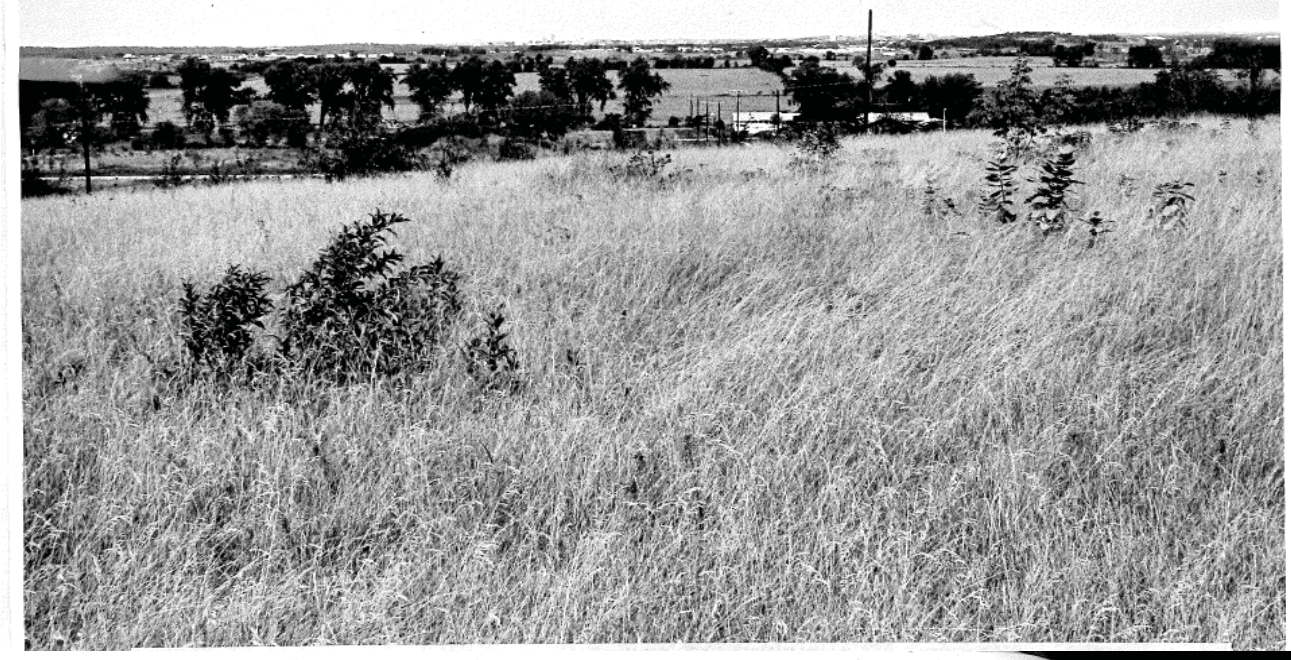


Figure 1-13: McGaw Property Vegetation and Topography

Source:
1973, Brown

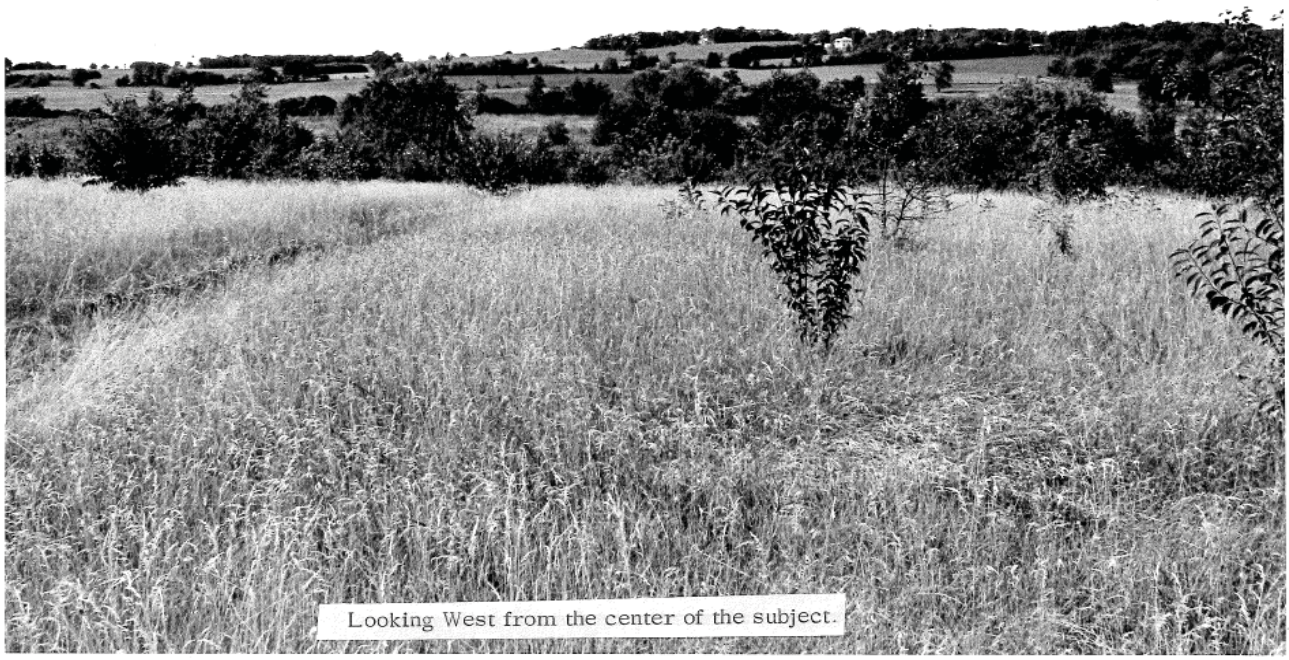


Figure 1-14: Photo showing McGaw Vegetation

Source: 1973, Brown

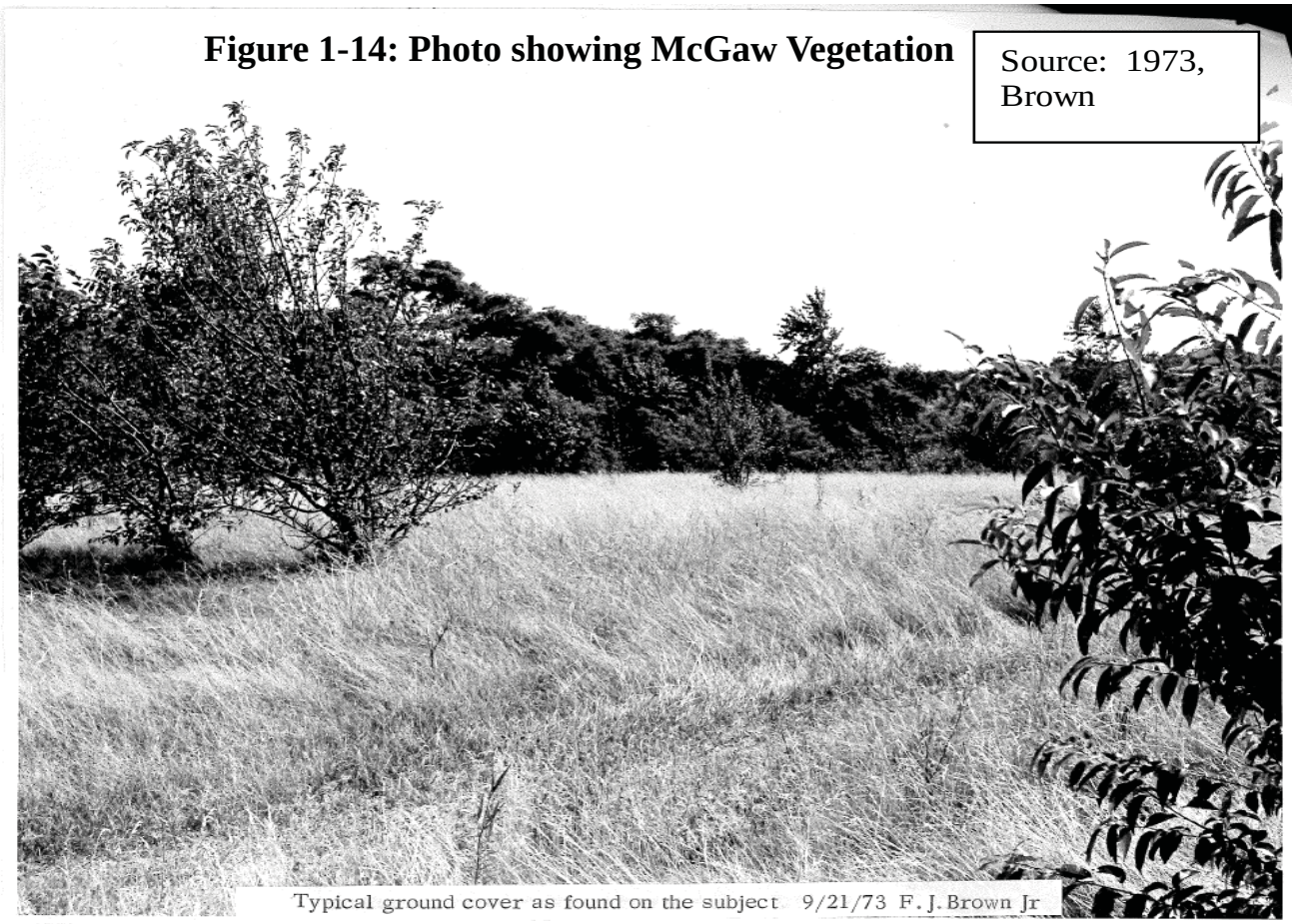
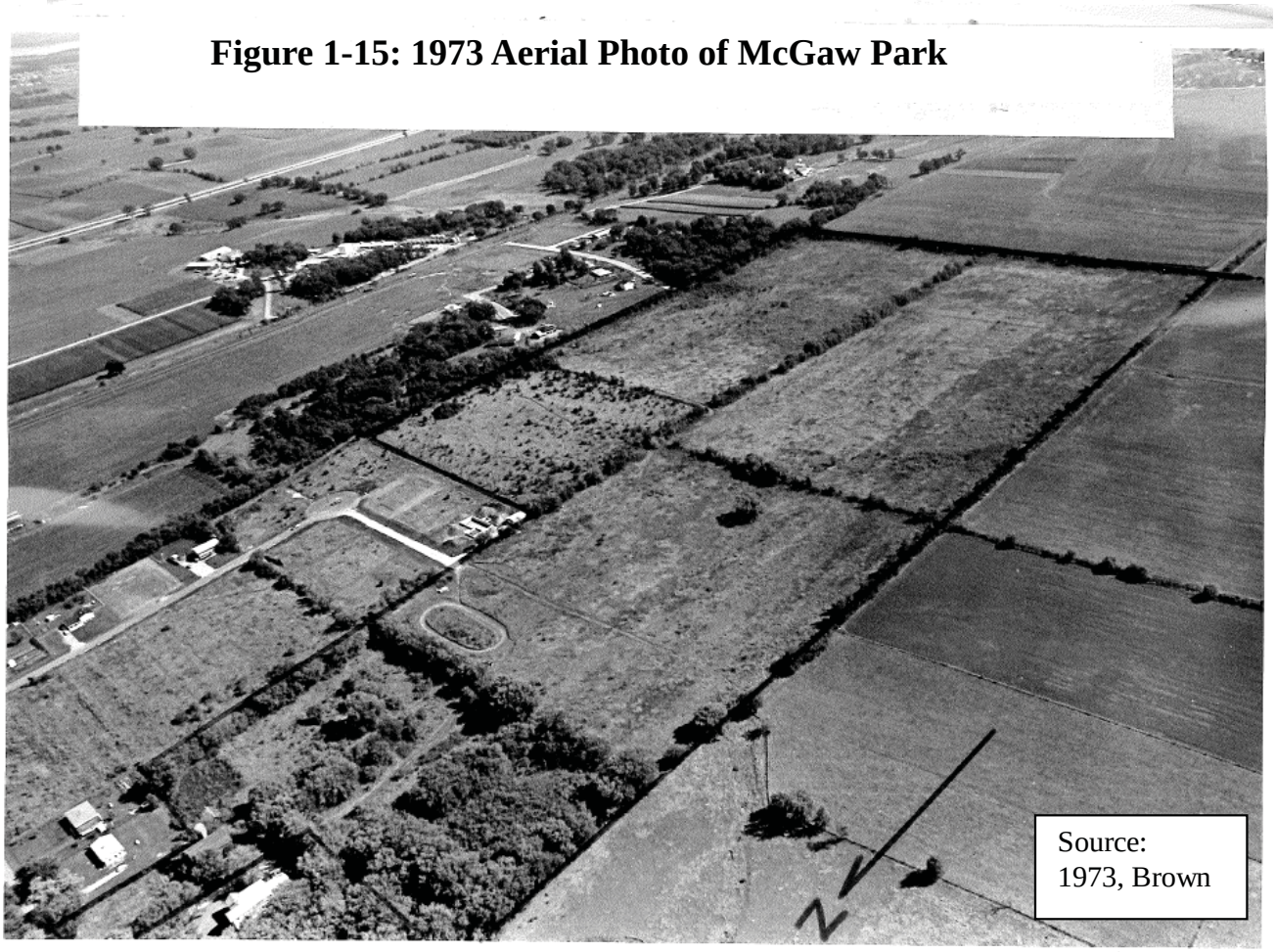


Figure 1-15: 1973 Aerial Photo of McGaw Park



Source: 1973, Brown

The photos on the previous page clearly shows little tree growth being present on much of the property. Figure 1-15 confirms the appraisal comment that the heaviest tree growth is located in the northwest portion of the 63.7 acre parcel. The appraisal notes that the north 10 acres are lightly wooded, mainly consisting of white oak, while the "balance is low brush and grassland". It further explains that the original fields at the time were clearly outlined by rundown fence lines which were then overgrown by small box elder trees. A woodlot being confined to the far northwest corner of the property is confirmed by the 1974 Town of Fitchburg Development Plan, which identifies that northwest corner near the former farm house as woodlot (Town of Fitchburg, Map #7). The land was fallow and was classified as vacant except for its use by "local youngsters for mini-bike trails and in winter snow mobile riding" (Brown, 1973). Near the dead end of Dommers Drive one can see an almost perfect oval that is likely the mini-bike trail discussed by Brown. One area resident indicates that the oval was due to auto racing and not mini-bikes. The area occupied by the high point, just south of Dommers View, has more shrub growth, which likely indicates that farming had ceased earlier than for other areas on the farm. It is interesting that Mr. McGaw did not rent the farm fields to another farmer, or a canning company. At the time of acquisition by Fitchburg, Vincent Lacy had material stored in the silo and asked to be given a chance to remove the silage prior to the town razing the structure.

While a small woodlot was present in the northwest corner of the property, its major asset may have been its topography. The appraisal provided no photos of the woodlot, but did provide photos from the high point, and its commanding view. Brown (1973) describes the site:

> "Overall topography is considered gently rolling with the maximum elevation near the center of the property and gentle slopes down hill to the north and south property lines. The property enjoys an excellent view in all directions from the top of a small hill. This view includes most of the Madison skyline."

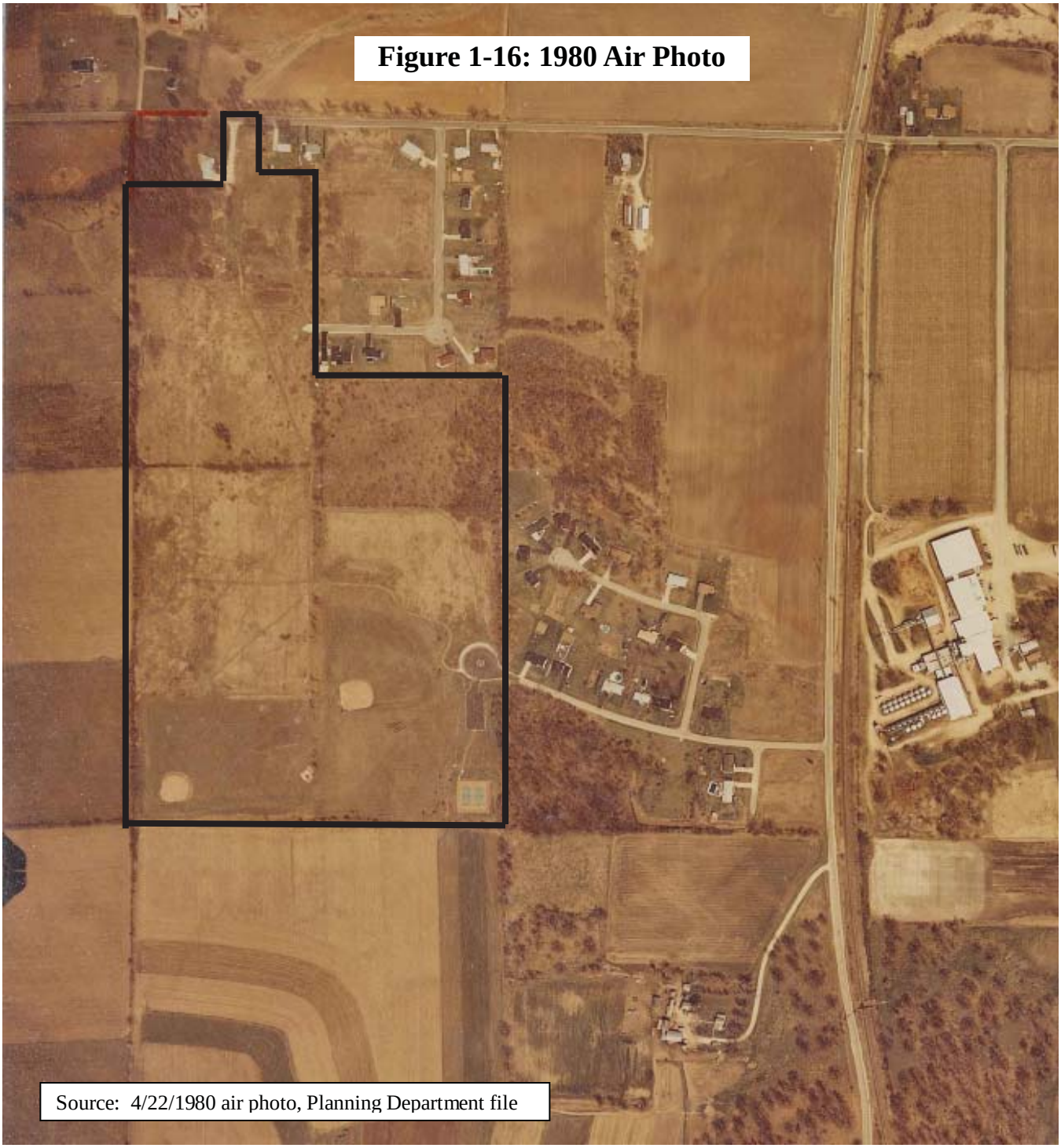
Goldin and Rubin (1974, p. 7) comment that the moderately sloping hill provides a suitable location for a large shelter overlooking the Madison skyline. Much of the site continued in its fallow state after purchase by Fitchburg; this led to the growth of brush and trees in previously farmed fields. Over the next 40 years a small woodlot would become a larger woodlot with underbrush. A Tree and Vegetation Survey completed for the City Parks Department in June 2011, indicates predominant tree cover is composed of Black Cherry, Mulberry, Black Locust, Silver Maple, and Box Elder (see chapter 4 for additional information) (Healy and Sanders, 2011, p.3). Thus, over the past forty years this expanding woodlot is now primarily composed of scrub trees creating a pioneer forest situation. Just as problematic, however, is the dense understory of honeysuckle and buckthorn producing conditions in which few species can survive. Hence, the ground is bare or moss covered. Where there are breaks in the canopy to allow ground material, the ground vegetation is composed of invasive species, those primarily being garlic mustard and reed canary grass (Healy and Sanders, 20ll).

Upon Samuel McGaw's death in October 1973, the land passed to his estate. During this time of transition, the Town engaged Goldin and Rubin to undertake an independent analysis of the site selection process and to identify design considerations for the site. As noted earlier, the purpose for the park was to accommodate gatherings of substantial size, and what was termed the decision by Madison, to only allow Madison (school district) residents into their softball leagues. The study also notes that in the early 1970's there was a 45 acre park deficiency in the Town (Goldin and Rubin, 1974 p. 6). The Park Commission had a standard of 12 acres of parkland per 1,000 population (Rubin and Golden, 1974 p.5). The 1974 Development Plan (Town of Fitchburg, p. 1) notes the town had a population of 4,700 persons in 1970, a 63% increase over the 1960 population. However it also noted a current population of 7,100 which it detailed as "a rate of 51.3% in slightly more than two years" (Town of Fitchburg, 1978, p. 1). Of the 12 acres/1,000 persons, five of those acres were to be used for town-wide parks, five for neighborhood, and two acres for subneighborhood parks (Goldin and Rubin, 1974 pp. 5-6). It is not surprising that the town would have a large deficit, as the requirement for dedication of parkland did not come about until 1971. Eventually Goldin and Rubin (1974, pp.12-13) agreed with the selection of the McGaw land as the community park site, but noted that the Park Commission should have identified desired facilities before selecting a site. However, Goldin and Rubin further commented that the varied topography of this parcel "will allow the placement of virtually any facility other than those requiring natural bodies of water" (1974, p. 13).

With confirmation of the Samuel McGaw property as the site for the park, renewed interest in acquisition arose. The town renewed its option on the property and reached agreement on a value of $80,206.32. Fifty percent of the funding ($40,103.16) for the park came from the federal government's Land and Water Conservation fund (LAWCON) for public outdoor recreation. This would inextricably link this property to its use for public outdoor recreation. The City share would come from the fee-in-lieu of land dedication requirement for new development. This fee-in-lieu of parkland dedication was created with the park land dedication requirements in 1971. Three years later Goldin and Rubin report (1974, p. 4) that the town already had $50,000 in this fund and was earmarking this money for the purchase of a community park. With price and funding now set, the land was acquired from Samuel McGaw's estate on March 18, 1975, with the deed recorded the following day. The town could now begin to improve and develop the park. It is at this juncture that aerial photographs are helpful.

Figure 1-16 shows that early park improvements consist of two ball diamonds, play equipment, tennis courts, a cul-de-sac at the end of Wildheather Drive, and a small parking lot off that cul de sac. Historical records indicate that most of these improvements received LAWCON funding as well. The tennis courts could not be more than a few years old, but a 1981 letter from the Wisconsin DNR, following a site visit to determine the maintenance level of LAWCON funded improvements, noted the need for maintenance of the tennis court surface.

Figure 1-16: 1980 Air Photo



Source: 4/22/1980 air photo, Planning Department file

In 1980 LAWCON funding was also approved for phase II construction of a shelter with restrooms, ball diamond lighting and an exercise course. The facilities have an emphasis on adult recreation, which is in keeping with the direction given by Goldin and Rubin (1973) who noted that they "were to design a town park which would emphasize more adult recreational activities and sports." Goldin and Rubin (1973) presented a park program based on what residents of the community and parks department felt was needed in the park. The list was written as:

1. bicycle paths
2. swimming areas
3. playground
4. ice-skating rink
5. hiking trails
6. small children's play area
7. tennis courts
8. baseball and softball fields
9. basketball court
10. cross country ski trails
11. football fields
12. sled or toboggan run
13. tetherball and volleyball
14. shelter
15. picnicking area
16. parking facilities

Later Goldin and Rubin (1973) would group facilities in the following arrangements:

A) Nature Center—in conjunction with Johnson Park\
   1) Trails, cross country ski trails
   2) Wooded Area Paths
   3) Nature Study

B) Playfields
   1) Baseball; Football; Softball
   2) Tennis-Iceskating (sic); Volleyball; Basketball
   3) Playground; Tetherball

C) Picnic Areas (2)
   1) Shelter; Small Children's Playspace; Fireplace; sled & Toboggan Run
   2) Tables, Small Children's Playspace; Fireplace

These use categories are instructive to current planning efforts of grouping uses by like activity level. If Goldin and Rubin prepared a specific park layout it has not been located.

Demographically, in the late 1970's the first wave of the Baby Boom generation were now in, or entering, their early thirties. As a demographic group, the Baby Boomers are large and active, and they would demand facilities to meet their recreation needs. In this period of time, softball was on a rise and yet to reach its apex due to the large number of baby boomers. Boomers currently do not play softball or organized team sports at the levels they once did, but they bike, hike, and participate in other outdoor recreation events. Hence, it was not unusual in the 1980's to have recreational facilities being constructed to meet the demand of the young adult boomers.

The shelter is an important facility to serve the needs of park users. Delay and difficulties of design and construction of the current shelter would presage the 2010-2011 efforts when the 1980 shelter came in at about twice the cost noted in the original grant application. By 1986 the phase II improvements were well established. The 1986 WIDNR inspection letter noted that the park and its improvements were in good condition, and was pleased to see the community having funded some improvements on its own. Property inspections were common for LAWCON funded projects. With federal money having been used for the purchase of the park and installation of some its improvements, the restrictions imposed by the grants manual have to be followed. One restriction of the post-completion responsibilities noted in the manual includes maintaining buildings, roads, trails and other structures and improvements in reasonable repair throughout the estimated lifetime of the facility. The grants were for outdoor recreation purposes, and therefore, park facilities have to fit that purpose. (L+WCF Manual, p.2).

Neighborhood surroundings affect park layout and design. In the 1980's, homes were ever increasing in the surrounding rural subdivisions, although it would take until 1995 for many of the present day homes to have been constructed. Additional surrounding development in the 1980's and 1990's was limited due to the area around the park being outside the urban service area. The City's 1974 plan began the City policy of directing development to the urban service area. The Nine Springs urban service adjustment of the mid 1990's would add land just west and north of Lacy into the urban service area. Swan Creek subdivision, north of Lacy, would begin to be established in the early part of the new millennium, while the Crossing, a mature adult community would establish to the west of the park after 2005. Increasing development in the area changes perceptions, use, and demand for recreation facilities.

Looking closely at Figures 1-16 and 1-17, the race track is still present; its presence would continue for decades. The 1990 air photo clearly shows the same oval. Tree growth is now appearing, as can be seen in the 1990 air photo, in unmaintained areas of the park, predominantly the northerly half. McGaw Park underwent rapid development in the 1980's. The Lacy Road entrance drive was put in place in the first half of the decade, having received approval from the WIDNR as compatible with outdoor recreation purposes (due to LAWCON funding). The drive was installed to reduce traffic and impact to the Tarpleywick area. This almost one-half mile of driveway would now serve as the park's main entry and help to dictate future development patterns. To meet the needs

of growth and the continued recreation demand for softball in the new City of Fitchburg, by 1990 the shelter with restrooms, another ball diamond, half court basketball, and two sand volleyball courts are now in place. The outline of the future youth ball diamond is also discernible. The existing two large parking areas located in the southwest portion of the park just east of the entry drive are also in place. The large parking facilities indicate the level of activity the park is expected to see.

A pedestrian and bicycle trail connect the east and west side parking lots, and it is along this trail that many of the key features of the park are located—basketball, volleyball, shelter and ease of access to two softball fields.

The park is now fifteen years old at this point in 1990. Its development pattern has been set, and only a few additional facilities will be added over the next twenty year cycle as the City begins to focus on the development of McKee Farms Park. McKee Farms Park was dedicated in portions beginning in the late 1980's. McKee Farms is in the urban service area, near major transportation corridors, and with much existing nearby development, it is on its way to becoming the premier Fitchburg Park. When it comes time to establish Kid's Crossing, Fitchburg Days or a proposed Splash Pad, the talk is about McKee Farms Park. Emphasis on McKee Farms Park was shown in the 2005 survey. When citizens were asked where they would like to see expansion of a given feature, McKee Farms Park was identified by more than 50 respondents as a place for additional amenities or facilities, while McGaw received fewer than 20 such suggestions (Trechter, 2006 p. 19). McGaw continues to play an important role in the Fitchburg Park system, having until recently held some large community recreation events (Enchanted Forest Halloween event and Pack the Park), but its primary focus remains softball. Softball is one of the reasons the park was established and thirty-five years later it continues as the focus of the park. It could be also argued that facility development in McGaw Park has been dampened by its relative isolation.

However, both McGaw and McKee Farm Parks share some common challenges. The main entry to each is at a narrow point, with a drive into the park to reach the major facilities (McGaw has a much longer driveway). The east edge of each has a feature or development that hampers access (development, and woods in the case of McGaw, development and storm ponds in the case of McKee). McKee Farms Park has secondary access at its southwest edge; McGaw is expected to have street frontage for part of the proposed 17 acre addition at its southwest edge. McKee is defined by its ponds, and drainage channels, while McGaw has come to be defined by its growing woods.

McKee Farms Park was developed at a time when the City was beginning to construct recreational trails. Trail construction in McKee Farms Park was assisted by the use of milled asphalt from the re-pavement of streets in Wildwood South. McKee Farms also benefited by the imposition of a park improvement fee. Established in 1990, this fee is in addition to the fee in lieu of dedication established in 1971. The purpose of the park improvement fee is to provide money to install park facilities to serve the development. McGaw Park could benefit from the park improvement fee as additional development occurs.

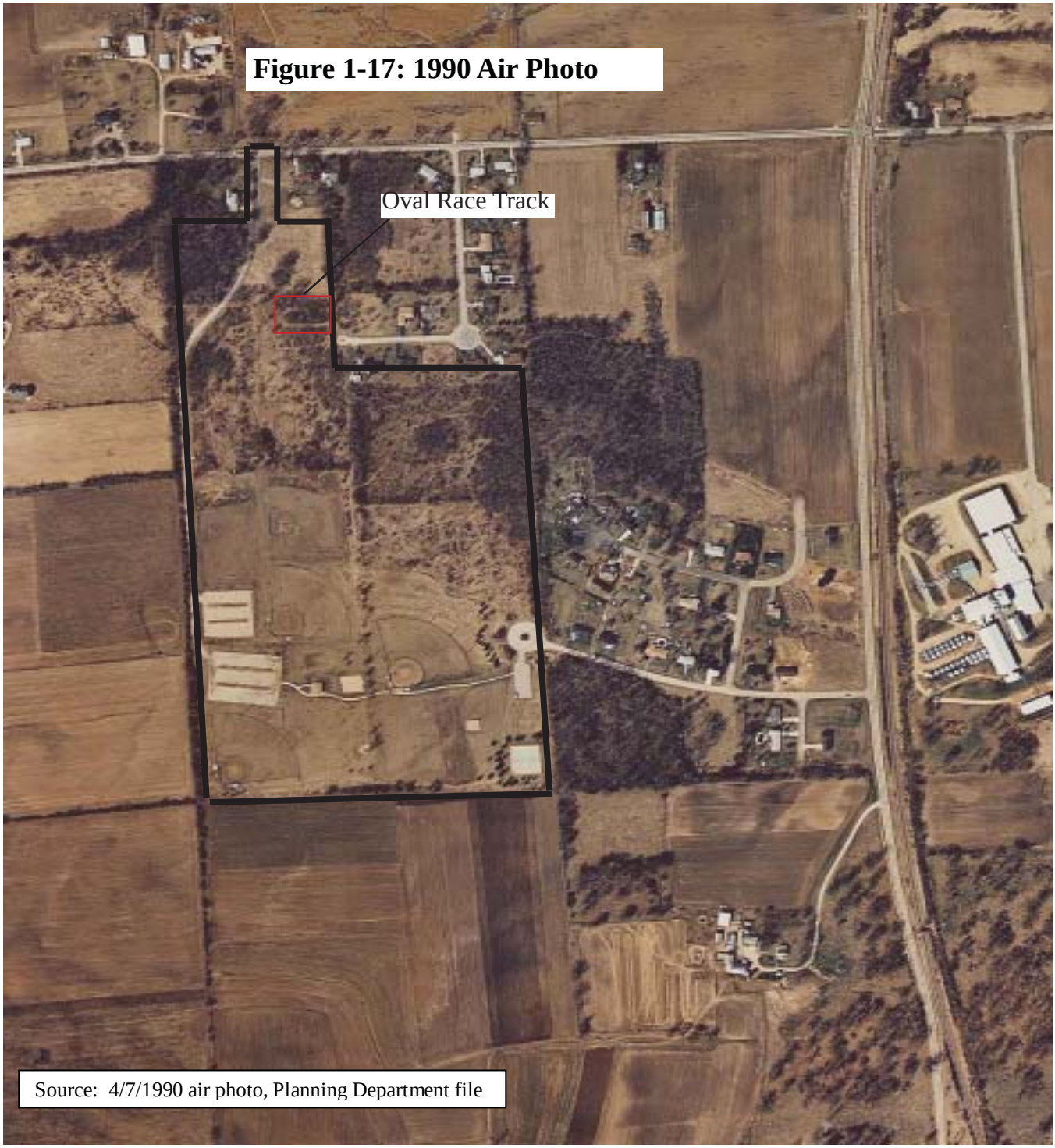
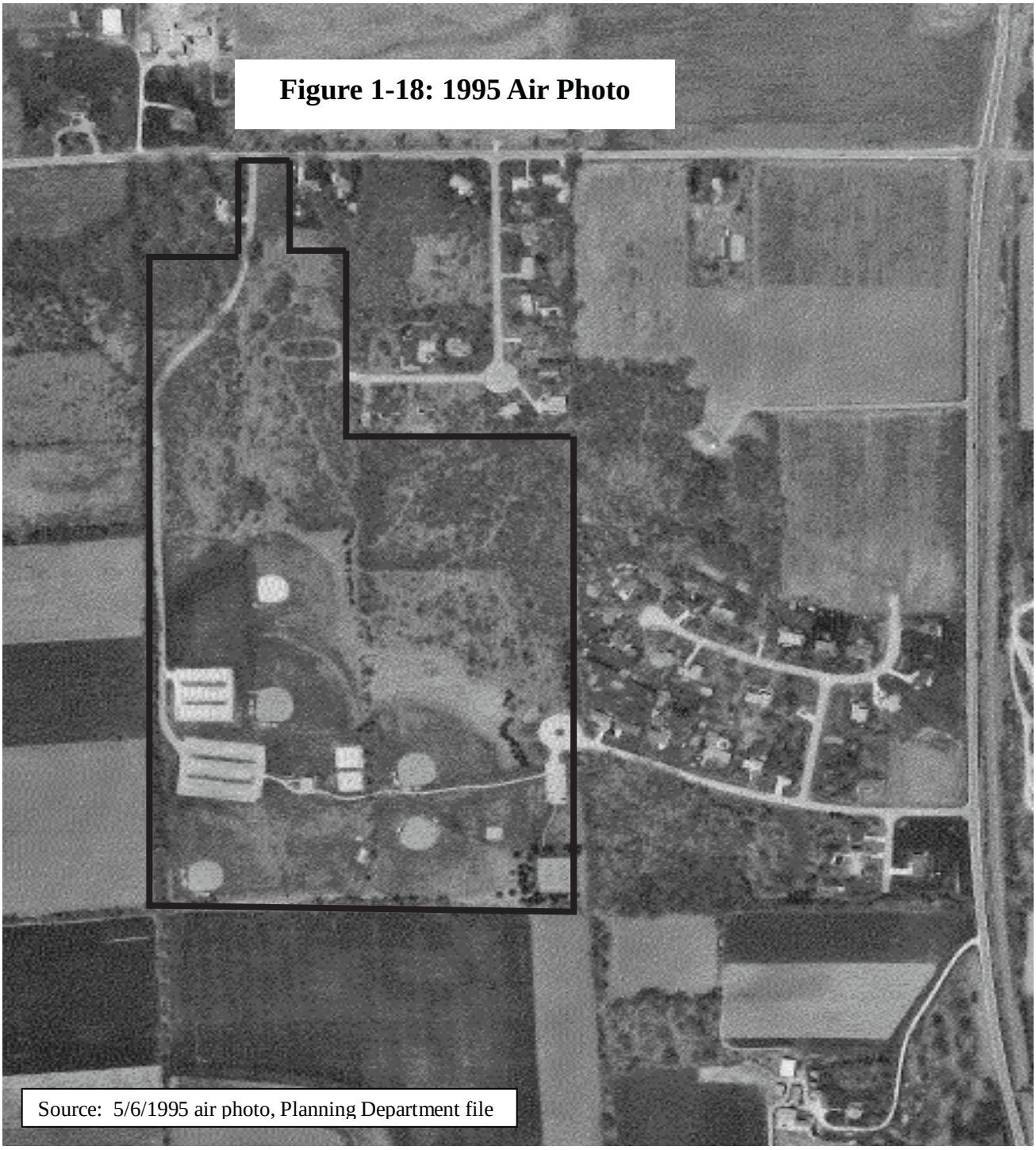
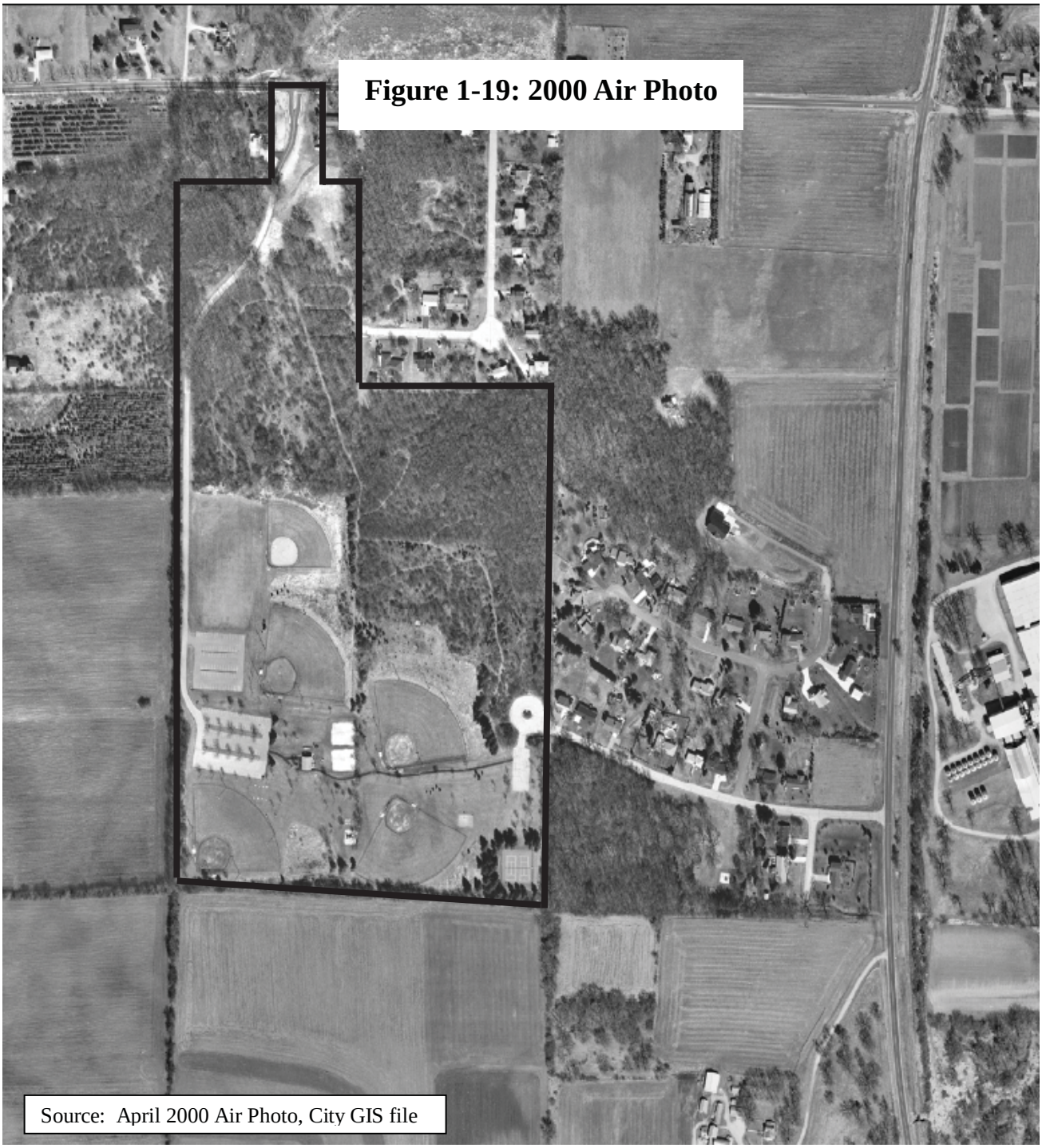


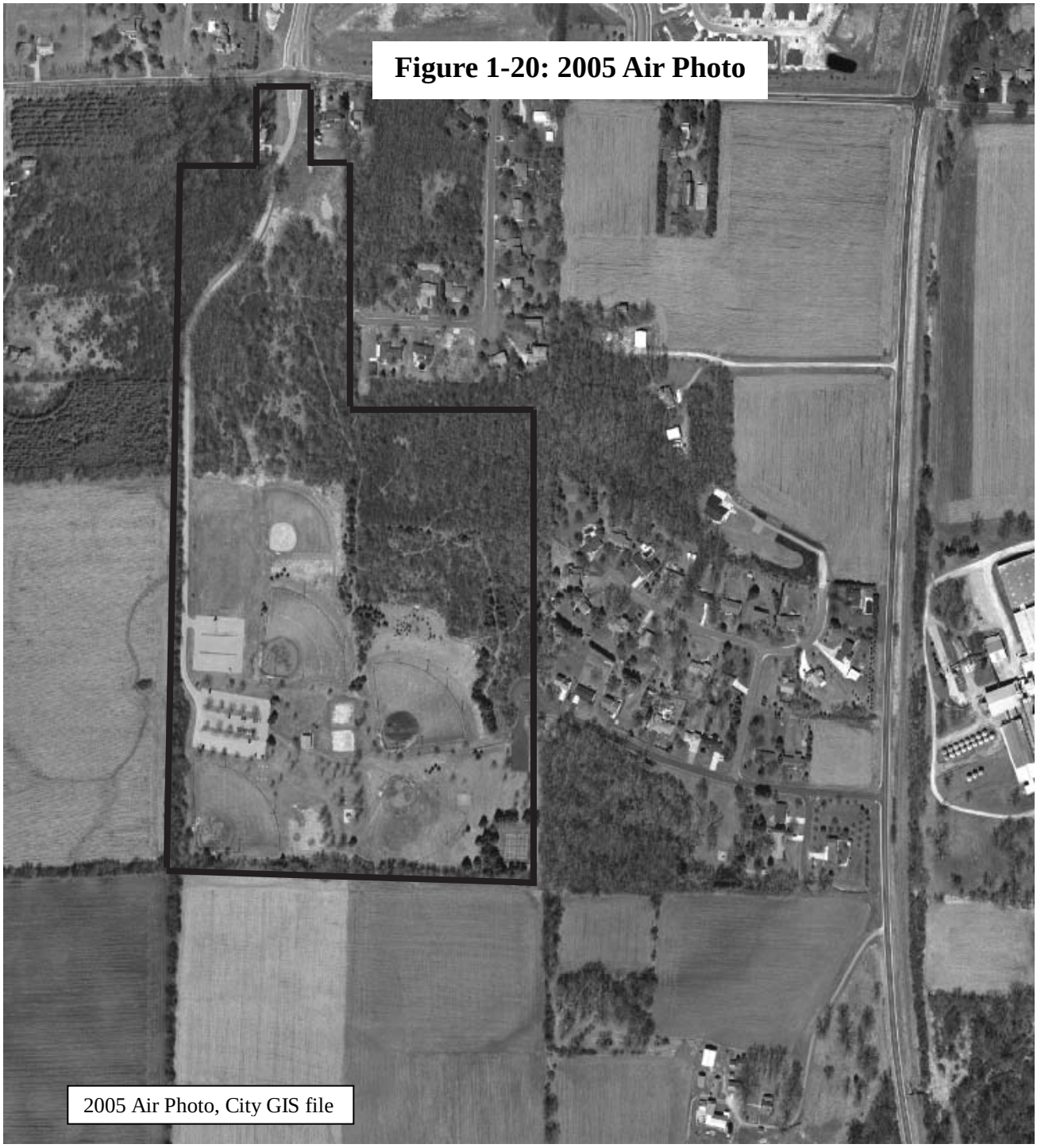
Figure 1-17: 1990 Air Photo
Oval Race Track
Source: 4/7/1990 air photo, Planning Department file



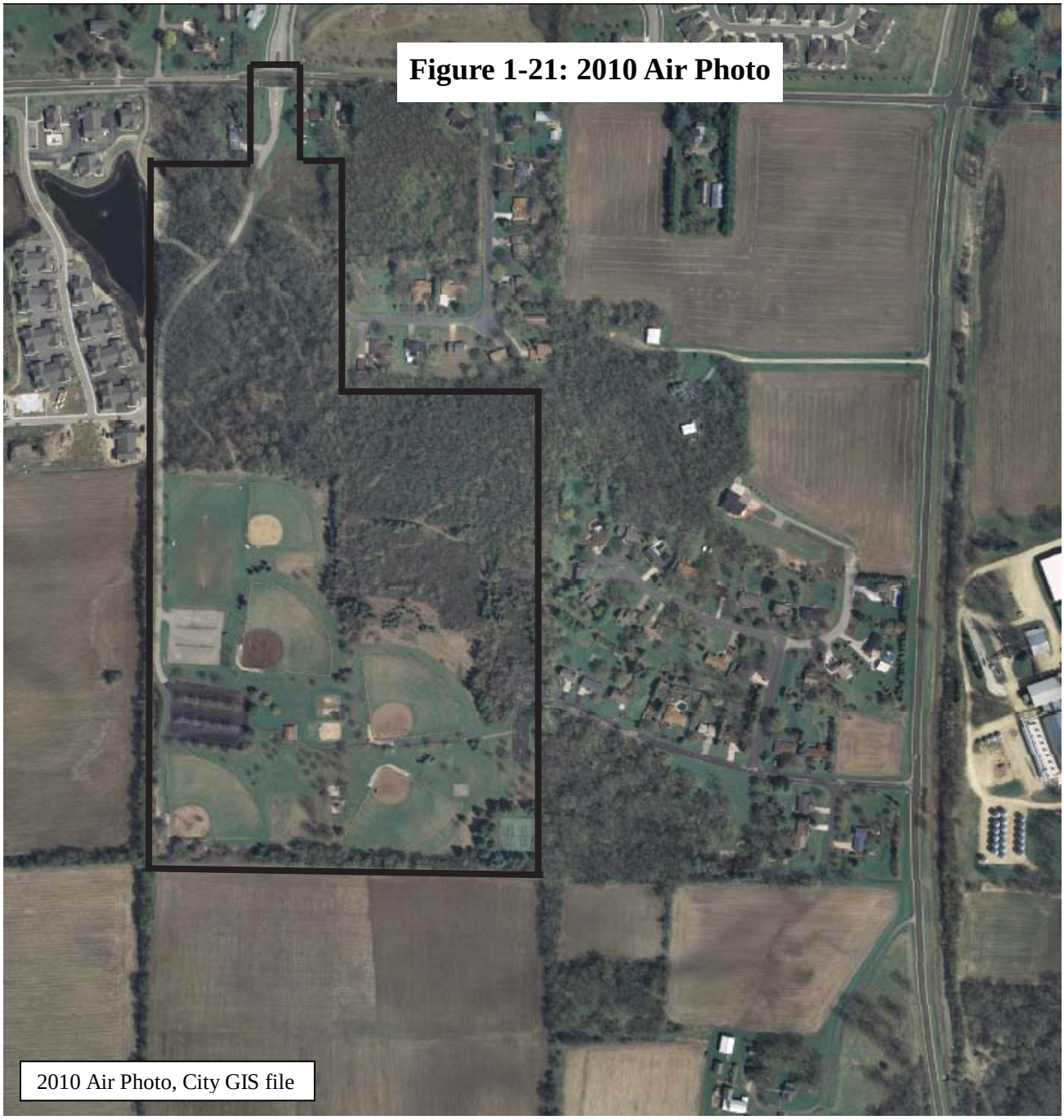
By 1995 two more volleyball courts and the youth ball diamond have been added to McGaw Park (Figure 1-18). The oval track near the west end of Dommers Drive remains a mark on the landscape. Tree and underbrush growth in the unmaintained area of the park is becoming denser. The exercise trail and some other trails are evident in the wooded area. The fourth softball diamond has now been established between the play equipment and the basketball court.



Quality of air photos has improved by 2000. The trails in the park remain visible, as does the omnipresent formal race track oval. Tree and understory growth have now filled in some areas of the former field. In a few decades nature has taken over a good part of the area directly south of Dommers View subdivision moving from an open area predominated by grass, but with a little brush, to now brush and trees. The high point, mentioned by both Brown (1973) and Goldin/Rubin (1974), is associated with this unmaintained developing brush/woodlot area. An unmaintained area has now transformed to an early successional woodlot.



In 2005, the park layout is similar to that in 2000. Established tall grass areas are now more clearly visible. Tree and underbrush growth continues and it is now somewhat more difficult to discern all of the original trails and path ways through what has become a wooded area.



By 2010, the formal race track is now fairly well obscured by tree and brush growth. Fewer of the trails are now visible through the woods. The open area north of the main parking area has now become formally established as a rectangular playfield, mainly serving la crosse and soccer, and its wear pattern is easily noticed in the color photograph. The shelter is the focal point of activity, and while it is dwarfed by skinned infields and volleyball courts, the tree plantings and path construction draw and direct or point the visitor to the shelter. The Crossing development has been substantially built out in a few years providing neighbors, with new sets of opportunities and challenges for the park environment.

Introduction

The notable high point and its associated views of the State Capitol and the pastoral view of rural Fitchburg was not optimized and integrated into a usable public space to take advantage of the view. Goldin and Rubin (1974) suggested a shelter, but other opportunities would have existed as well. It was left fallow and nature has now converted the area to scrub and trees. Rather, practical considerations to serve the parks predominant softball, and field users dictated the shelter location.

Conclusion

McGaw Park serves a major role within the community park and recreation program. But that role has been primarily due to its service for playfields, particularly for softball. Large events tend to now be located at McKee Farms Park, although McGaw has the capability for those events. The background and history of the park and its main use patterns has been reviewed. Attention can now turn to the planning of McGaw Park. The planning section begins by setting forth the goals, objectives and policies that will guide the formation of the plan.

Chapter 2: Goals, Objectives, and Policies

Goals, Objectives and Policies

The formation of the goals, objectives and policies resulted from information gathered from a visioning session held on March 24, 2011, and a 2011 on-line community survey.

Goal 1

Continue to enhance McGaw Park, one of the City's Community Parks, as a major community building resource through a safe and engaging environment, with a diversity of recreational opportunities and attractions.

Objective 1-1

Park improvements should be accomplished, in both location and design, with the safety of the park users in mind.

Policies

1-1.1 Provide for a diversity of park facilities, and events to encourage park use by a variety of user groups and individuals.

1-1.2 Provide street frontage to part of the future addition area.

1-1.3 Landscaping improvements will complement facilities, but recognize visibility and safety.

1-1.4 Consider pedestrian scale lighting for the major hard surfaced pedestrian ways.

1-1.5 Provide a separate off-drive walking path near the current north-south driveway.

1-1.6 Consider the establishment of additional destination facilities to enhance park activity and visits.

Objective 1-2

Recognize that as the McGaw Park Neighborhood develops McGaw Park will serve a larger population with more varied recreational needs.

Policies

1-2.1 Improve and enhance the pedestrian experience within McGaw Park through trail improvements and an enhanced trail system, allowing the trails to serve multiple compatible linear recreation functions.

1-2.2 Plan improvements for the future that will recognize the added neighborhood park role which will McGaw Park will bear.

1-2.3 Recognize that a diversity of park users will increase as the neighborhood develops and that park planning will need to account for changing populations and recreational demands.

1-2.4 Provide suitable pedestrian and bicycle linkages between McGaw Park and other public recreation and open space in the surrounding area.

Objective 1-3
Add to the recreational base of McGaw Park by providing additional facilities and unique attractions, befitting a community park, to support a variety of ages, interests, and seasons.

Policies
1-3.1 Increased activity will benefit park users and increase the sense of safety within the park.

1-3.2 Provide flexibility and resilience in facility design and location to allow future modifications to meet changing needs and circumstances.

1-3.3 Recreation uses of facilities added to the park will be accomplished in locations suitable for the anticipated use levels, and the natural surroundings.

1-3.4 Provide a new main shelter/pavilion suitable for the intended uses of the park; in addition provide, where necessary, ancillary shelters, possibly with restrooms.

1-3.5 Provide improvements to make McGaw Park a destination center for recreational and community building activities.

1-3.6 Balance the recreational needs of a Community Park with surrounding development patterns.

Goal 2
Balance environmental stewardship with enhanced and improved recreational opportunities.

Objective 2-1
Recognize the attraction of the existing wooded area to the McGaw Park environment.

Policies
2-1.1 Create a management plan, for approval by the Parks Commission, for control of invasive species with a desire to protect the wooded area.

2-1.2 Balance invasive species control with the attractive nature of the wooded area.

2-1.3 Improve existing wood area trails to meet a variety of recreational opportunities.

Objective 2-2

Explore environmental stewardship opportunities through recreation, education, and (where feasible) facility development.

Policies

2-2.1 Re-establish the former fitness course not only as a new fitness facility which integrates the educational benefits of fitness and the natural environment through which the course runs, but also make these areas suitable for other linear oriented recreational opportunities.

2-2.2 The woodlot management plan should work in tandem with fitness, recreational, and educational opportunities to enhance public involvement and enrich the recreation experience.

2-2.3 Consider environmental education programming and signage.

2-2.4 Explore opportunities for sustainable recreation facility development and management.

Chapter 3: The Master Plan

Planning Sequence

The McGaw Park Master Plan was developed through a series of public workshops and Park Commission meetings.

Data Collection and Review

An analysis of the existing conditions at McGaw Park was conducted to provide a baseline understanding of the park's infrastructure and needs. This process included the review of several data sources, including acquisition documents, old aerial photos, as well as a Park Commission and citizen tour of McGaw Park. The tour provided the Park Commission and attendees an opportunity to view and discuss the existing amenities, layout, and physical features of the park.

Vision Session

A public visioning session was held to help identify issues and opportunities with McGaw Park. The input received was used to draft a vision statement that describes the role, character and importance of McGaw Park.

Draft Goals, Objectives, Policies

Using the results of the visioning session, a set of goals was established that, when achieved, will help fulfill the vision and ensure a diverse, multi-purpose, and environmentally sound park that is responsive to the needs and desires of its users.

Plan Alternatives / Selection of Amenities

Plan alternatives were created around the vision, the goals, objectives and policies, and the top-ranked issues and opportunities from the visioning session. The alternatives were brought to the Park Commission for review and discussion. The Park Commission then selected what amenities it desired to see in the park. Four revised alternatives were prepared to include the preferred amenities. A public workshop and comment period were held to gather input on the draft alternative plans.

Preferred Master Plan Alternative

After reviewing the comments received on the plan alternatives, staff made revisions to the plan and presented it to the Park Commission for their direction and approval of a preferred Master Plan. Following their approval, an Open House was held to present the draft Master Plan text and map to seek any issues not previously identified.

Adoption Process

The McGaw Park Master Plan was adopted through the standard process,

including a public hearing at the Park Commission meeting, Plan Commission action and final approval by the Common Council.

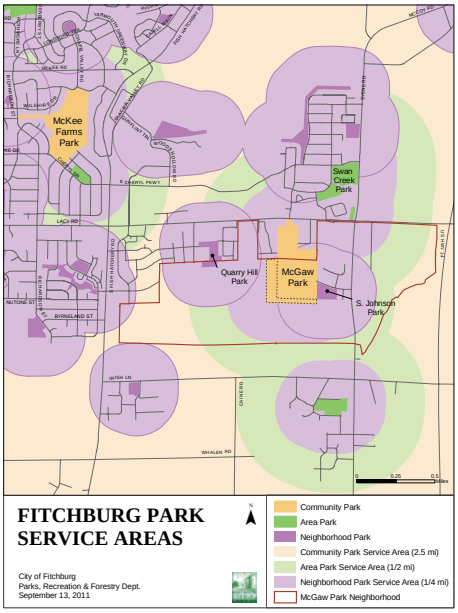
Plan Elements

The McGaw Park Master Plan builds on the existing amenities currently located in the park. As a community park, McGaw Park provides amenities for three park types – neighborhood, area and community. The plan creates two nodes for neighborhood and area park amenities. Community park amenities are concentrated in the existing park, with a few new facilities are provided. The west addition facilities place neighborhood and area park facilities closer to the existing and proposed residential development west and south of the park. Existing and proposed development to the south and east of the park will continue to use the existing neighborhood and area park facilities. A twenty car parking lot in the proposed south addition area will allow access to the park for future development south and east of the park without accessing the park via Lacy Road or Wildheather Drive. The timing and location of amenities within the plan may be amended as resources become available or after further detailed planning.

Park Service Areas

As a community park, McGaw Park functions at all levels of the hierarchical park system: community, area, neighborhood. Currently most areas in the future McGaw neighborhood are not served by a neighborhood park. With the anticipated residential development in this neighborhood, it is essential that neighborhood park amenities are provided to serve future residents. The proposed west and south additions to McGaw Park will provide the main park area for McGaw neighborhood residents west of Syene Road (see Figure 1-5 for McGaw neighborhood land use map).

Figure 3-1 Fitchburg Park Service Areas



Mutli-Purpose Recreation

In keeping with the goals, objectives and policies, the plan provides for diverse recreational activities that appeal to a wide array of preferences, and meets the needs of all age groups. The plan is also intended to be flexible to allow for adaptation to changing recreational needs and demands.

The plan calls for additions to the existing community-level park amenities. These additional amenities include a horizontal climbing wall, nature center, labyrinth and a disc golf course. The proposed disc golf course is expected to be interwoven between the hiking trails; the disc golf holes should be placed in a way that will compliment the trails and to coexist rather than conflict with trail users. Final placement of the disc golf holes will depend on the results of a woodland management plan.

With the anticipated future development west of the existing park, the plan provides for area and neighborhood facilities in the anticipated western addition, which include:

- Picnic Area
- Playground
- Great Lawn
- Shelter with restrooms
- Tennis Courts
- Half court basketball
- Open Recreation fields (2)

The shelter, picnic, playground and great lawn are provided within close proximity to each other as their uses are important to each other. These amenities, coupled together, provide a shelter with nearby amenities for all ages. The great lawn, a manicured green space with minimal slope, provides a space for yard games such as bocce ball, badminton, or croquet or just an open space for people to relax and socialize. Rather than tying in specific bocce or other lawn courts, the use of the great lawn will be able to serve a variety of functions. It could also be used for large gatherings and open air concerts.

This Plan provides flexibility in the number and location of tennis courts to be installed within the park. Depending on the demand and need, up to two tennis courts may be installed in the western addition and up to six tennis courts (4 plus existing 2) may be located near the existing tennis courts; this will be determined when the need for an additional tennis court arises. The tennis courts, with additional striping, can serve as pickle or paddle ball courts.

The anticipated southern addition contains a labyrinth, a new 20 car parking lot for access to the park and from residents south and east of the park, an open recreation area for a variety of activities such as pickup games of soccer, kickball, and other recreational games, and an oak opening/prairie restoration area on the eastern side. The oak openings and prairie restoration areas will compliment the nature center.

Infrastructure and Buildings

The existing park shelter will be renovated; a new shelter with restrooms will be placed in the anticipated western addition. With the addition of a new shelter, McGaw Park will provide two shelters available for rental.

The plan also provides for a nature center with an outdoor nature area. This center will provide educational opportunities and will serve as an additional shelter for the eastern side of the park. Restrooms may be phased in as public water and sewer is available to serve the shelter. The nature center will provide a learning environment complimentary to the woods, prairies and other natural features of the park. Interpretive signage and other educational features may be used to highlight some of the natural amenities in the park and express the natural and cultural history of the area.

Path System

The existing path system will be updated to add some new paved multi-use trails throughout the park. A new trail on the western edge of the park will extend from Lacy Road south to the existing parking lot; the exact location of this trail, whether on the east or west side of the road will be determined after more detailed planning. Additional access, consistent with the McGaw Park Neighborhood Plan, is provided from the west and also the south.

A number of residents expressed interest in lighting the pathways and the entrance road. Lighting should be designed to minimize disturbance to the existing and proposed residential areas. It needs to be accomplished at an appropriate scale and appropriate to the use. For example, pathway lighting should be at a pedestrian scale, not tall street lights.

Natural Environment

A prairie restoration/rain garden is provided south of the existing Crossings residential area to provide a buffer and a natural setting with a bike path running through the prairie. A second prairie restoration/oak opening area is provided at the south east corner of the park near S. Johnson neighborhood park.
The existing wooded area will also be managed following completion of a woodlot management plan.

Conclusion

The McGaw Park Master Plan is intended to help guide future park amenities and facilities. However, the plan is also intended to allow flexibility in decision making to adjust to changing conditions in the recreational field. Thus, the Park Commission will retain a great deal of flexibility in the type and location of amenities to best meet the park and recreation needs of the Fitchburg community. It can be expected that some facility locations may be modified, and new amenities may be placed in the park at the discretion of the Park Commission. When determining a new or different amenity, and adjustment to amenity location, the Park Commission will be guided by the goals, objectives and policies of this planning document.

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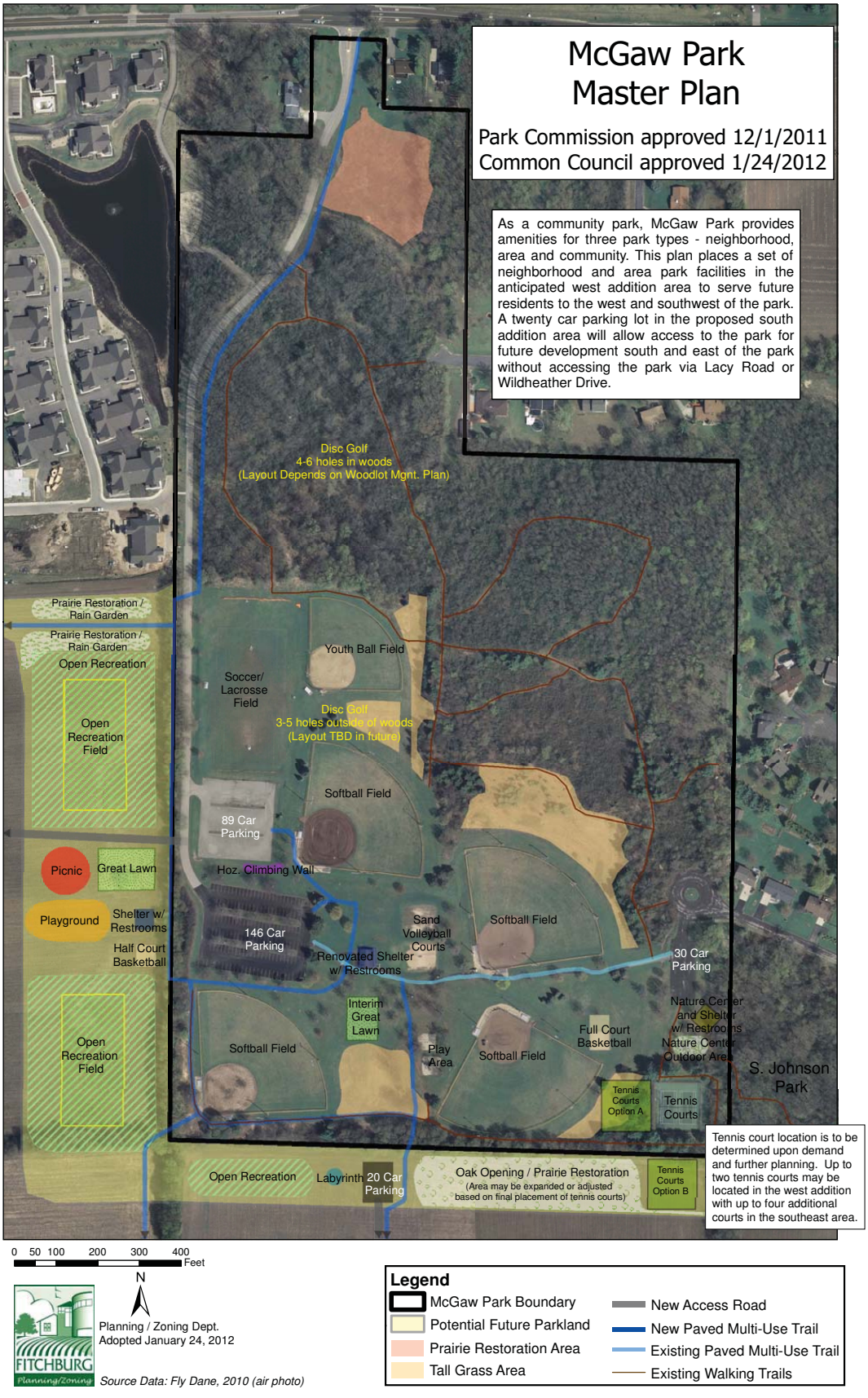
Figure 3-2: McGaw Park Master Plan



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Chapter 4: Natural Resources, Transportation and Utilities

Natural Resources, Transportation, and Utilities

This chapter will provide additional information on three aspects related to the development of McGaw Park. Natural resources (e.g. soils, slope, or vegetation) in the park help to guide facility location and development. As a community park, transportation is critical to bringing visitors to the park regardless of whether or not the visitor lives nearby or distant. Pedestrian, bicycle and motor vehicle transportation are all important. Finally, the public utilities that service the park are also important, and inform planning and phasing decisions.

Natural Resources

The environmental analysis of McGaw Park that follows will discuss the various natural resources and environmental features that exist in the park, including vegetation, water, soils, topography, and wildlife.

Vegetation

Due to the establishment of trees and woodland, McGaw Park is quite different in appearance than it was 30 to 40 years ago and very different since early settlement days. The land that is currently McGaw Park was likely originally prairie in the mid-1800s. In Fitchburg: A History (Fitchburg Bicentennial Committee, 1976, p. 1), William Vroman, an early Fitchburg historian, described the town of Fitchburg as being “about equally divided between prairie and oak openings.” (Refer to Appendix A for a map of the Original Vegetation Cover of Wisconsin.)

Today, about half of McGaw Park, approximately 32 acres, consists of early successional woodland and about another 4 acres are managed as grassland (Figure 4.1). The majority of the wooded areas are found in the northern half of the park. S. Johnson Park, immediately adjacent to southeast corner of McGaw Park, contains about another 6 acres of woodland. There is 1.2-acre prairie restoration area to the east of the Lacy Road park entrance drive and a number of tall grass areas in the southern part of the park.

The tall grass area to the north of the northeast ball diamond is characterized by Mike Healy of Biologic Environmental Consulting (personal communication, June 16, 2011) as either “an old-field with some invading, opportunistic native species or as an old, unmanaged prairie planting in which non-native species typical of old-fields have become dominant.” Healy goes on to state “The dominance of two non-native forage grasses, Timothy and Canada bluegrass, suggest a scenario in which former pasture has been invaded by a few hardy native species. Native species of note include opportunistic species such as bee balm, frost aster, and yellow coneflower. These wildflowers provide aesthetic appeal and habitat for birds and insects.” Refer to Appendix B for additional information on this area. This is an unmowed area in which, to the best of staff knowledge, the City has not planted prairie plants.

Figure 4-1: McGaw Park Vegetation and Water

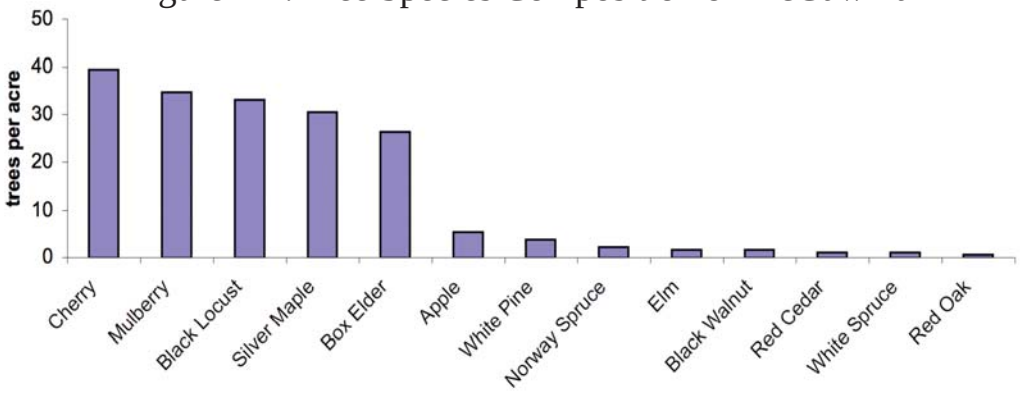
Parks, Recreation & Forestry Dept.
July 7, 2011

Source Data: Fly Dane, 2010 (air photo); NRC, 2008; CARPC, 2008; City of Fitchburg

On May 28, 2011, Biologic Environmental Consulting conducted a tree and vegetation survey of the McGaw and S. Johnson Park woodlots and shrublands to determine tree, shrub, and ground layer species compositions. Biologic Environmental Consulting found the McGaw Park woodlot overall tree density to be 202 trees per acre, which is low for an early successional forest (Biologic Environmental Consulting, 2011). Appendix B contains a complete report of Biologic's findings and methods.

In summary, most of the McGaw Park woodland overstory trees are of poor quality and vigor. Figure 4-2 shows that the woodlot is dominated mostly by black cherry, representing 21.8% of the trees. Other prevalent species are mulberry (19.2%), black locust (18.3%), silver maple (16.9%), and box elder (14.5%). However, apple, white pine, Norway spruce, white spruce, elm, black walnut, red cedar, and red oak were also found (Biologic Environmental Consulting, 2011). Many of these high quality trees may have been planted by the Parks Department. Soon after the park opened, staff began planting trees near the recreation fields and along what are now the wooded trails, including the larger pines that are still there today.

Figure 4-2: Tree Species Composition of McGaw Park



Source: BioLogic Environmental Consulting Inventory, 2011

BioLogic Environmental Consulting also conducted a vegetation survey in McGaw Park's woodlot, prairie restoration area (near the main park entrance), and tall grass area (between the northeast ball field and the woodlot). The prairie and tall grass areas are the most species-rich of all the surveyed areas, but their species composition and location suggests they are not prairie remnants, but perhaps were seeded with prairie plants. The dominant plant in the woodland understory is honeysuckle (Lonicera x bella), a non-native and invasive bush. The next most common plant is common buckthorn (Rhamnus cathartica), another non-native and invasive species. No rare, threatened, or endangered vascular plant species were observed (Biologic Environmental Consulting, 2011).

In addition to the larger woodlots, McGaw Park also has planted trees in its developed open areas, as well as planted and volunteer trees along almost its entire perimeter. The south and west perimeters of the park are old fencelines that once separated the former McGaw farm from the surrounding family farms. They consist of a mixture of hardwoods, including poor quality black cherry, native weedy tree species, such as box elder, and exotic invasives like common buckthorn and Asian honeysuckle. However, the fencelines do contain some

quality trees (i.e. oak and pine). In 2009, the Fitchburg Parks, Recreation & Forestry Department surveyed approximately 245 trees outside the woodlot. The majority of these trees are ash, honeylocust, maple, oak, pine, and spruce.

The Fitchburg Parks, Recreation & Forestry Department also maintains an ongoing heritage and specimen tree inventory for the City. A heritage tree is one that is estimated to be at least 200 years old based on it diameter, and in Fitchburg, that is typically an oak tree. Specimen trees are those 15 inches or greater in diameter that display superior quality and characteristics when compared to trees of the same species. A 2008 natural resources survey conducted in the future McGaw Park Neighborhood by Natural Resources Consulting found 7 potential specimen oak trees along the southern perimeter of McGaw Park. Three are 23 to 26-inch diameter northern pin oaks found either directly south of the existing playground or west of the southwest ball diamond. The other 4 are found in the fenceline in the southeast corner of the park. There are no heritage trees in McGaw Park. However, S. Johnson Park contains 3 heritage bur oak trees.

Water

While McGaw Park has an abundance of forest resources, it lacks in water resources. The only natural water feature is in the very northwest corner of the park, where the north branch of Swan Creek flows underground from the detention pond in The Crossing development (located west of the park) to the northeast and off park property. Swan Creek ultimately flows into Lake Waubesa in the Town of Dunn.

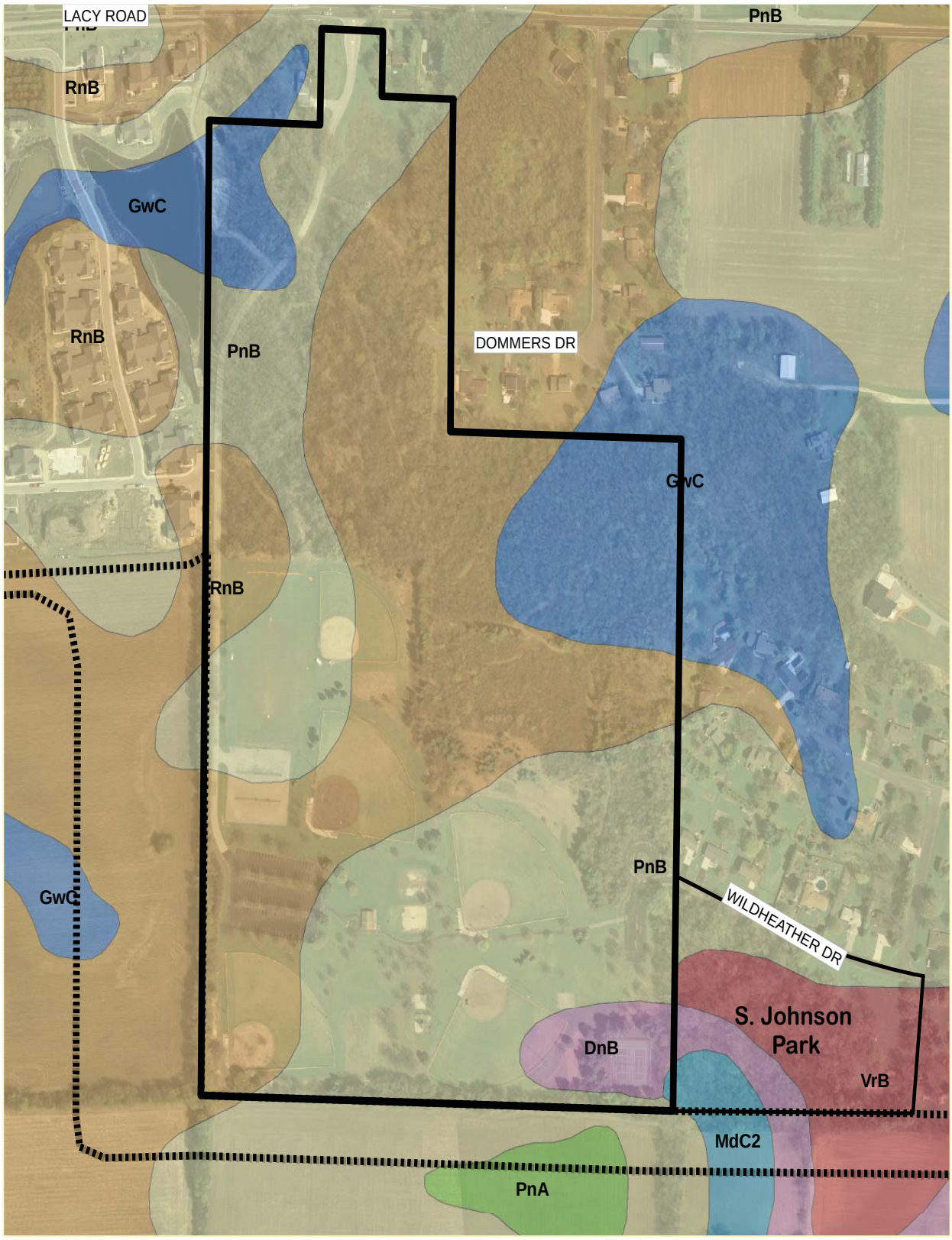
Other low areas in McGaw Park may become wet or serve as drainageways after storm events. This includes a few areas in the woods, as well as the ditch to the west of the eastern parking lot. Residents of The Crossing have indicated stormwater problems and would like the park to be designed to minimize water runoff to their residential development.

Soils

Soils have different properties and behaviors that have implications for certain land uses (e.g. buildings, roads, recreation facilities). For example, the content of sand, silt, and clay affects the physical behavior of a soil, such as its vegetative productivity or susceptibility to erosion by water and wind.

Figures 4-3 and 4-4 show that McGaw Park and the potential park addition areas to the west and south consist of five different soil types. All are well-drained loamy soils and all but one, Griswold loam, are silt loams. A loam is a soil with relatively equal concentrations of sand, silt, and clay (Purdue University Department of Horticulture and Landscape Architecture, 2000). Silt loams, have a higher content of silt than sand. The silt loams found in McGaw Park are considered prime farmland (University of Wisconsin-Madison Department of Soil Science, n.d.).

Figure 4-3: McGaw Park Soils



N 0 150 300 450 Feet

Parks, Recreation & Forestry Dept.
June 30, 2011

Source Data: Fly Dane, 2010 (air photo); Dane County, 2005

LEGEND

McGaw Park Boundary

Private Land (Potential Future Parkland)

Soil Map Units

PnA
DnB
PnB
GwC
RnB
MdC2
VrB

Figure 4-4: McGaw Park Soils

Soil Map Unit	Soil Name	Associated Slope
DnB	Dodge silt loam	2 - 6 %
GwC	Griswold loam	6 - 12 %
PnA	Plano silt loam	0 - 2 %
PnB	Plano silt loam	2 - 6 %
RnB	Ringwood silt loam	2 - 6 %

Source: NRCS

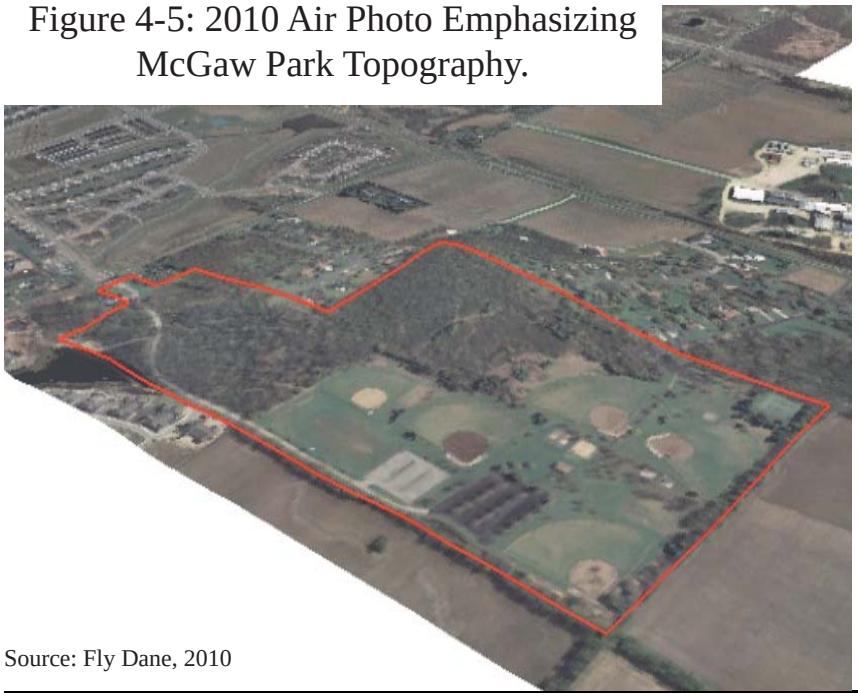
Much of McGaw Park is suitable for a number of recreation development uses. This includes lawns and landscaping, picnic areas, and paths. However, areas that consist of Griswold loam (GWC), in the northeast and northwest areas of the park, are somewhat limited for lawns, landscaping, and picnic areas. Griswold loam is associated with steeper slopes (6-12%). None of the McGaw Park soils have limitations for paths and trails.

Topography

According to a 1973 appraisal by Brown, McGaw Park has a gently rolling terrain overall. However, a significant area of the park is relatively flat, thereby supporting the use of the existing athletic fields (Figure 4-6).

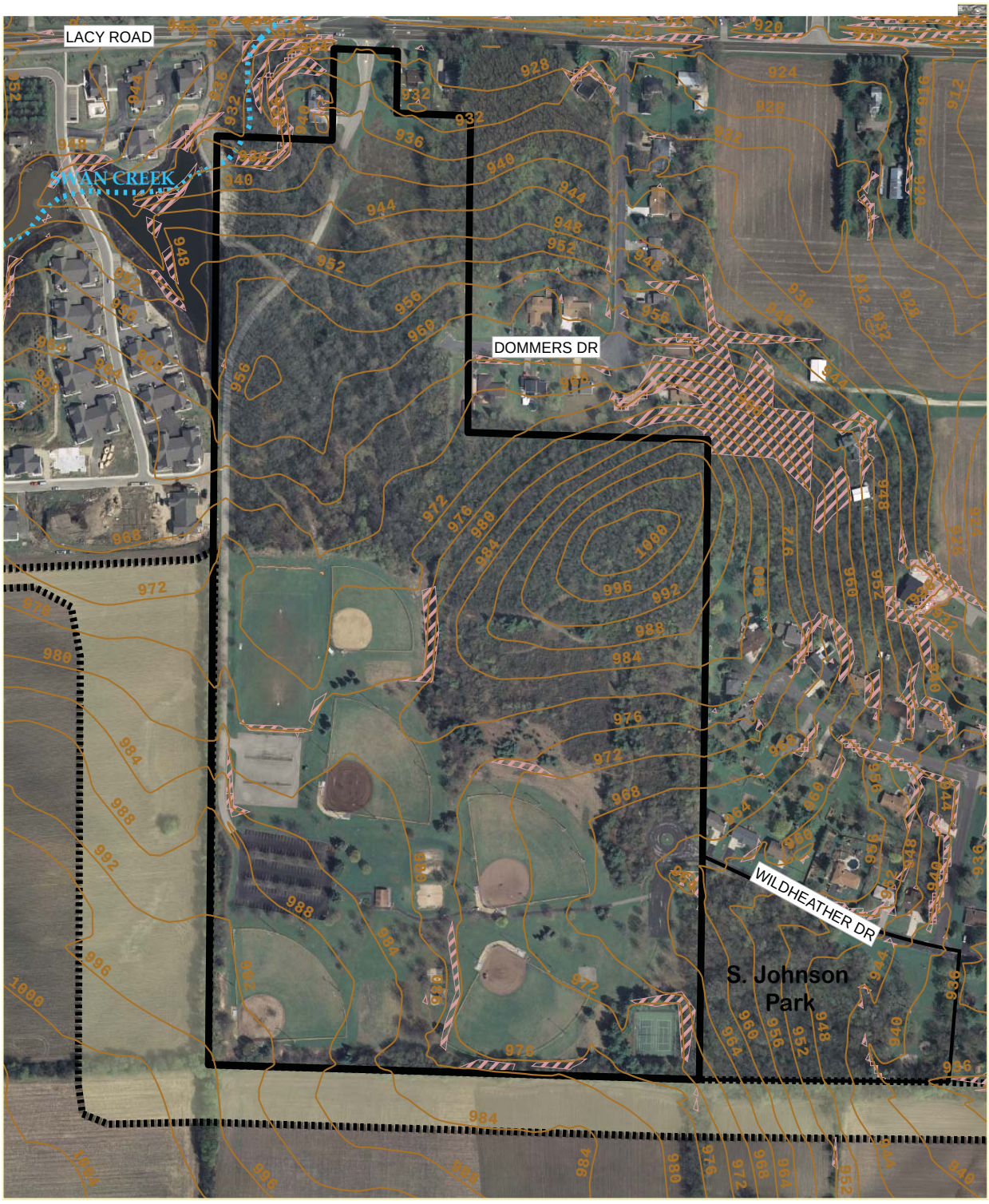
The highest point in the park is in the northeast corner of the woods, south of Dommers Drive (Figure 4-5). The land slopes downhill from this point to the north and south property lines. Brown's 1973 appraisal of the property states "The property enjoys an excellent view in all directions from the top of the small hill. This view includes most of the Madison skyline". This is evident in Figure 4-7. Today, that view is no longer present due to the establishment of the woods.

Figure 4-5: 2010 Air Photo Emphasizing McGaw Park Topography.



Source: Fly Dane, 2010

Figure 4-6: McGaw Park Topography



Parks, Recreation & Forestry Dept.
June 30, 2011

Source Data: Fly Dane, 2010 (air photo); CARPC, 2005, 2008; City of Fitchburg

Figure 4-7: View of Madison Skyline from McGaw Park

Source: Brown, 1973

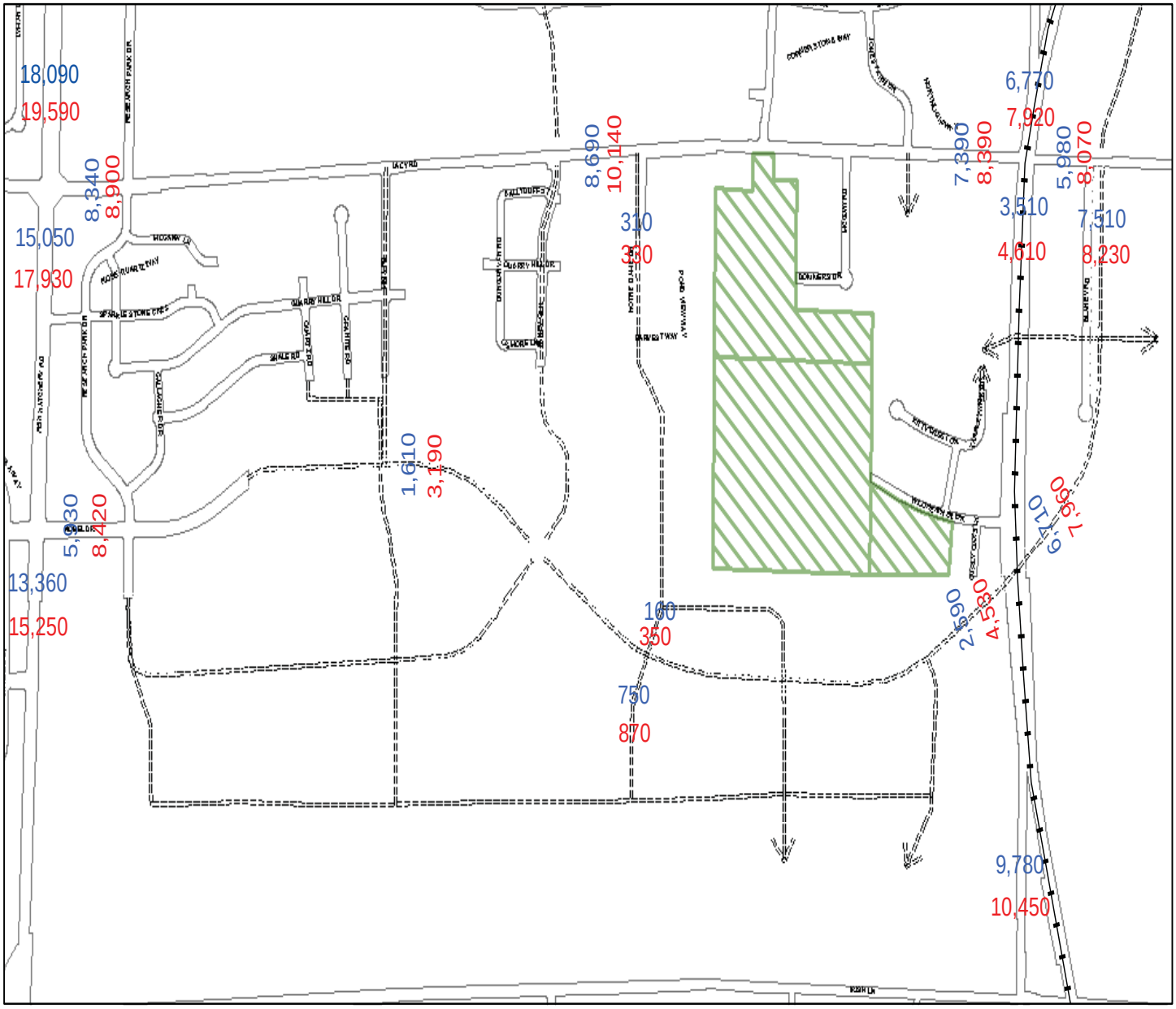
Wildlife

There are no known scientific studies of the fauna in McGaw Park. However, a number of typical urban animal species have been sighted near the park by neighboring residents. This includes white-tailed deer, coyote, fox, Eastern cottontail, muskrat, skunk, squirrel, raccoon, wild turkey, pheasant, duck, canada geese, sandhill crane, blue herons, hawks, Indigo Bunting, and other common birds (A. Richardson, N. Berkas, J. Wilson, personal communication, 2011). Several different waterfowl and other aquatic animals use the stormwater pond in The Crossing subdivision to the west of McGaw Park (J. Wilson, personal communication, 2011). It is also likely that many of the terrestrial species above use the park for its available habitat and food source.

Transportation

There are three main modes of transportation that will be discussed as part of the transportation analysis--motor vehicle, bicycle and pedestrian. The park was developed in a rural part of Fitchburg and at a time when motor vehicle access was the only mode of transportation considered. Sidewalks in subdivisions were not required until the mid 1990's, and being in a rural area, no other modes of transportation seemed important as the park developed. However, when the park was originally being considered, the Park Commission had discussed bicycle trail access for the park, but such access would need to wait until urban development started to come near and abut the park in the 2000's.

Figure 4-8: McGaw Area Forecasted Traffic Patterns



Source: McGaw Park Neighborhood Plan, 2009. p. 9-8

Figure 4-9: McGaw Area Forecasted Traffic Pattern

Location	2025 Build	2035 Build
Fish Hatchery, North of Lacy	18,090	19,590
Fish Hatchery, South of Lacy	15,050	17,930
Fish Hatchery, North of Nobel	13,360	15,250
Notre Dame, North of Lacy	2,170	2,660
Notre Dame, South of Lacy	310	330
Notre Dame, North of Nobel	160	350
Notre Dame,South of Nobel	750	870
Syene, North of Lacy	6,770	7,920
Syene, South of Lacy	3,501	4,610
Syene, North of Irish	9,780	10,450
Lacy, East of Fish Hatchery	8,340	8,900
Lacy, Between Fahey Glen & Notre Dame	8,690	10,140
Lacy, West of Syene	7,390	8,390
Lacy, Between Syene and Nobel	5,980	8,070
Lacy, West of USH 14	4,430	6,730
Nobel, East of Fish Hatchery	5,930	8,420
Nobel, between Fahey Glen & Notre Dame	1,610	3,190
Nobel, West of Syene	2,590	4,350
Nobel, East of Syene	6,710	7,960
Nobel, South of Lacy	7,510	8,230

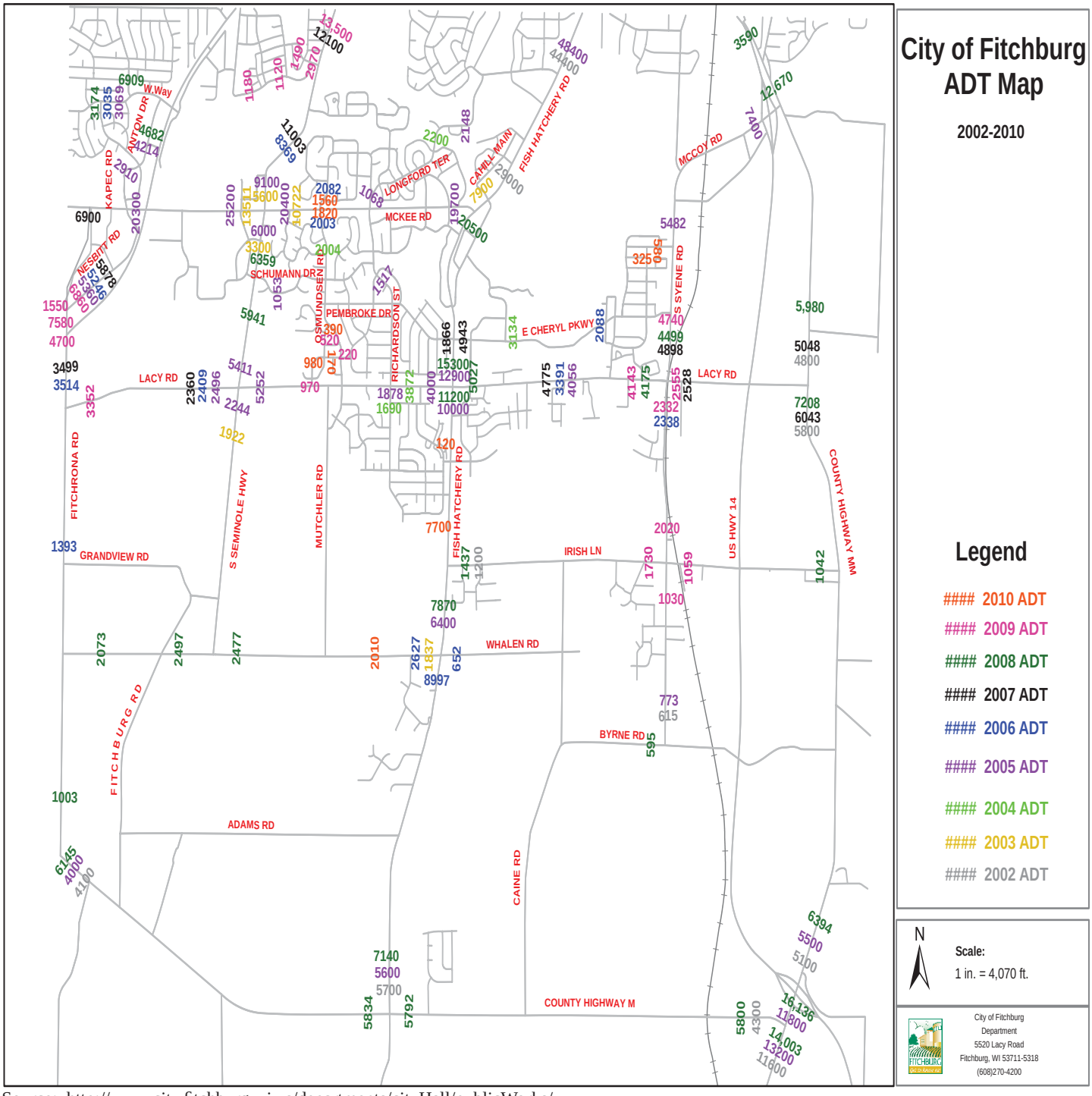
Source: McGaw Park Neighborhood Plan, 2009 p. 9-8

Motor Vehicle

McGaw Park is currently served by two access drives. The first access to the park was at the end of Wildheather Drive with a turn around and a parking lot being part of the park's phase one construction. This access was through the Tarpleywick Hills subdivision, and to reduce vehicle traffic in the rural subdivision, the second access point off Lacy Road was constructed in the early 1980's. The second access is now the main access to the park, being directly located off a street designated by the City as a major collector. This access drive runs nearly a half-mile, primarily along the westerly boundary of the park and ends at the southernmost of two large parking lots serving the park.

While Lacy Road is currently the main access to McGaw Park, other roadways are, or will be important. Lacy Road, a main east-west connector across the City, is expected to be improved over time to a two land road with turn lanes. Its section east of Syene Road be relocated north to connect to USH 14 at an interchange and head east to County MM from the interchange. The relocation will occur in 2012. Existing Lacy Road east of the new relocated Lacy Road will need to be renamed. This connection to USH 14 will provide ease of access to McGaw Park by users outside the community. USH 14 is a principal north

Figure 4-10: Traffic Patterns



Source: http://www.city.fitchburg.wi.us/departments/cityHall/publicWorks/transportation/documents/TrafficcountADTmap2010.pdf

south arterial that runs along the east side of Fitchburg. Fish Hatchery Road (also known as County D) is a north-south running minor arterial, and runs through the central portion of the City.

Nobel Drive is located south of Lacy Road, and is about half way between Lacy Road and Irish Lane. Nobel will eventually be extended east as part of the McGaw Neighborhood Plan to connect to Lacy at a roundabout to be located just east of Syene Road. Nobel is important to the development of the McGaw Neighborhood and is designed to provide a relief to traffic from solely using Lacy Road. Lacy Road residents are concerned about increasing traffic on their roadway and proper traffic relief by a series of east-west roads is important to provide relief. East Cheryl Parkway, functions in much the same way as Nobel Drive. Nobel is also a potential transit route, which would be beneficial to residents who live in northeastern Fitchburg and their ability to access functions and amenities in the park, without using an automobile. Nobel is expected to be a boulevard with one lane of traffic in each direction, parking and bike lanes. Nobel will also contain a recreational path on one side of the roadway with a sidewalk on the other side.

Proposed McGaw Park expansion will provide indirect access to Nobel to the south end of the proposed park addition land. The intent of the park planning is not having the existing west drive connect south to “Parks Street” to avoid high speed cut-through usage. However, access to the south edge of the park is certainly appropriate to allow users from the south and east to have more direct access than using either Tarpleywick Drive or going further north to Lacy Road.

Notre Dame Drive is a small length street serving The Crossing development. This street will eventually head south to Nobel Drive but in so doing run near or border the west park addition. Additional access is expected from Notre Dame Drive to the west park addition to connect to the existing main entry drive, and the two main parking lots. Using a “T” design, the future connection is intended to provide access to the main parking lots without encouraging higher speed cut through traffic. Notre Dame will be more typical of a city residential street with a 66’ right-of-way and 32’ to 36’ pavement width; bikes will be accommodated as part of the roadway.

Nobel Drive and Notre Dame Drive are dependant upon the development of the McGaw Neighborhood Plan, and full and complete access will likely take many years to be realized, just as west and south expansion could take many years. Figures 4-8 and 4-9 show Average Traffic Volume Forecasts for major streets serving McGaw Park for 2025 and 2035 with development identified in the McGaw Park Neighborhood Plan. For comparison purposes, Figure 4-10 illustrates average counts taken in the City between 2002 and 2010.

Bicycle and Pedestrian

Urban services are becoming readily available to McGaw Park as development has reached to the north and northwest of the park. One of these services is bicycle and pedestrian connections. The Swan Creek neighborhood north of

Lacy Road and just west of Syene Road abuts McGaw Park to the north of the park's main entry drive. This subdivision has sidewalks on the public streets and a great number of recreational paths providing access within the neighborhood and connectivity to the Capital City State Trail. As development along Lacy Road comes to fruition, a recreational path will be constructed along the south side of Lacy Road.

Existing Nobel Drive and Research Park Drive also have recreation paths, and as Nobel is extended easterly, this recreation path will provide alternate access. Additionally, a narrow green space connection is anticipated along the south edge of The Crossing and Waterford Glen between Fitchburg Technology Campus and McGaw Park. This area is anticipated to also have a separate off road recreation path. As urban development continues to move toward, adjoin and around the park, the construction of recreation paths and sidewalks will better enhance bike and pedestrian access to the park. Access to the west side of Fish Hatchery is assisted by signals at Lacy Road, and East Cheryl Drive, while grade separated access is provided for the Capital City State Trail just north of McKee Road. A few small segments currently prohibit a recreation path connection between two community parks; overtime these segments will be completed.

Two existing recreation paths generally run into the park's main access drive off of Lacy Road. What is currently missing in the park is an off-drive recreational trail route to connect the main use area of the park to these existing recreation paths. The only paved recreation path in McGaw Park runs from the south parking lot easterly to the east parking lot. Besides lacking strong bicycle and pedestrian linkages within McGaw Park, there are utility issues to be considered.

Utilities

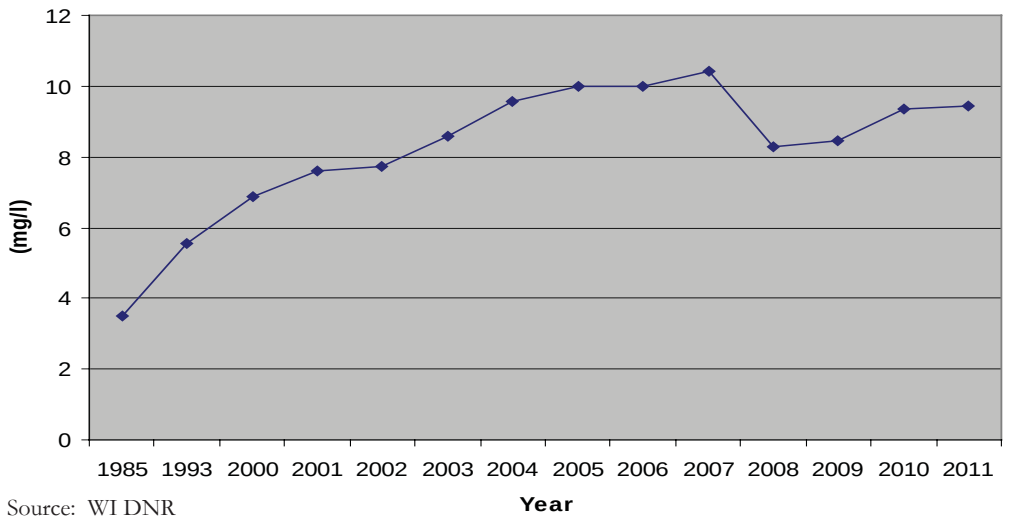
With the approval of the north McGaw Park Neighborhood Urban Service Adjustment request, all of McGaw Park is now within the urban service area. However, at present the nearest public water and sanitary sewer connection is located at the east turn around of Harvest Way, a private drive located in The Crossing development. By straight line, it is a distance of 1,100 feet from the existing shelter. A route location developed by the City's engineering department in 2010 had an estimated cost of $30,000 to $35,000 for public water and sewer from the general location of a replacement shelter (in generally the same location as the existing shelter) to the east end of Harvest Way. The replacement shelter proposed in 2010 and again in 2011 continued to use the existing water and private sewerage system. However, consideration should be given to connecting the shelter to the public water and sewer supply. For planning purposes, extension of water and sewer services is estimated at $30-$35 per lineal foot.

Connection to public water and sewer would remove uncertainty that can pervade private sewerage systems. The Dommers Drive area, as was seen from discussion in Chapter 1, had a few homes constructed by the early 1970's and petitioned the City for both inclusion in the urban service area and urban water and sewer. The urban service amendment for Dommers Drive was approved in 2002, with water and sewer installation in 2003. One reason for the petition was to use public sewer

to replace aging septic systems. It is more cost effective to provide both services at the same time, rather than doing so separately. While the septic system serving McGaw Park is not, as far as the City is aware, in violation of any code, it is presently over 30 years of age, having been constructed on November 18, 1980.

In addition, the water quality for the shelter is suspect. Nitrate levels have been near the maximum in some water quality tests completed over the past several years. A nitrate level of 10.5 mg/l (milligrams per liter) is the maximum contaminant level set by the Federal Safe Drinking Water Act, and WI Administrative Code, chapter NR809. The following figure illustrates the levels over the past few years.

Figure 4-11: McGaw Park Nitrate Levels



Source: WI DNR

A municipal park needs to provide safe and reliable drinking water. The park is used for athletic activities, picnics, and other large events, at which the water supply is necessary for the health and well being of the participants. Protecting the health of residents is one of the primary functions of government. The above nitrate information shows that for three consecutive years nitrate levels were at or above 10 mg/l. Appendix C identifies recommendations to be satisfied when water levels have a nitrate concentration of greater than 10mg/l. While a decrease was seen in 2008, levels have seen a steady increase over the last three years. A history of nitrate levels near the maximum contaminant level should give pause and concern, and lead to solutions on methods of correction.

Electric and Gas

Electric service for the park comes from Tarpleywick Hills area and angles southwest to east of the shelter where all of the electrical transformers are located. Electric lines then ran to the four ball diamonds and shelter. No telephone or natural gas services exist in the main bodies of the park. A telephone switching station constructed in the later part of the 1980s is located to the west of the entry drive, south of the former McGaw farm house.

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Chapter 5: Implementation

Implementation

Introduction

This section of the McGaw Park Master Plan is intended to provide the City of Fitchburg with a guide for implementation actions related to park improvements suggested in Chapter 3, The Master Plan. This element identifies the amenities and actions that the City will implement to achieve the Goals, Objectives and Policies (Chapter 2) outlined within this Plan.

Plan Adoption

As a part of the development and adoption of the McGaw Park Master Plan, the City of Fitchburg held numerous public meetings and collected public and committee input beginning in March 2011. This included one visioning session, one park tour, two open houses, one public hearing, approximately 20 committee meetings, two public comment periods, and two surveys. The adoption process included approvals by the Park Commission, Plan Commission and Common Council.

Implementation Recommendations

Figure 5-1 provides a guide for the City of Fitchburg as to the timeframe for major actions or amenities that may be completed to implement the McGaw Park Master Plan. It should be noted that constraints or priorities placed on City policy makers and staff may affect the recommended implementation timeframe as presented. In addition, this plan provides flexibility to the Park Commission to alter amenity types and modify locations to meet the changing recreation needs and circumstances of a growing community. Therefore, the implementation timeframe and recommendations may be amended after further detailed planning or resource analysis become available.

One potential constraint that may influence the implementation timeframe is the occurrence and timing of the west and south parkland additions. These additions are called for in the McGaw Park Neighborhood Plan, but at this time it is unknown if or when the land will be dedicated or accepted for park purposes.

Figure 5-1 has three different columns of information, described as follows:

Category: The list of recommended actions by the City is divided into four different categories based on the different elements of the Master Plan.

Recommended Action/Amenity: The second column lists the actual action or amenity creation to be undertaken by the City to implement the goals, objectives and policies of the McGaw Park Master Plan.

Implementation Timeframe: The third column states the suggested timeframe each action or amenity is to be completed in a stated sequence. The City of Fitchburg has broken down the timeframe into Near Term, Mid to Long Term, Phase In, and Ongoing. For new park addition areas, the timeframe applies to the time after which the property is acquired for the park. As noted earlier, the timing of amenity installation may be adjusted by the Park Commission.

Near Term- approximately 1-5 years
Mid to Long Term- approximately 5-20 years
Phase In- timing is undetermined and requires further study
Ongoing- continues over time

Figure 5-1: Recommended Implementation Timeframe

Existing Park Property		
Category	**Recommended Action/Amenity**	**Implementation Timeframe**
Recreation	Convert half basketball court to full court	Near Term
	Interim great lawn	Near Term
	Horizontal climbing wall	Mid to Long Term
	Nature center and outdoor area	Mid to Long Term
	Tennis courts (or southeast area)	Near Term
	Disc golf course	Mid to Long Term
	Evaluate traffic calming features	Near Term
Safety/ Accessibility	Improve/add parking lot and entry drive lighting	Near Term
	New paved multi-use trail (Lacy Rd to soccer field)	Near Term
	New paved multi-use trail (soccer field to shelters and south park entrance)	Phase In
	Pedestrian level lighting of major multi-use trails	Phase In
	Create and implement a woodlot management plan	Near Term and Ongoing
Natural Environment	Continue management of prairie restoration area	Ongoing
	Renovate existing shelter/public services	Near Term
Infrastructure and Buildings	Nature center shelter and restrooms	Mid to Long Term

Potential West Park Addition		
Category	**Recommended Action/Amenity**	**Implementation Timeframe (After Ownership)**
Recreation	Picnic area	Near Term
	Playground	Near Term
	Great lawn	Near Term
	Open recreation areas	Near Term
	Tennis courts	Near Term
	Half basketball court	Near Term
Safety/ Accessibility	New paved multi-use trails	Phase In
	Pedestrian level lighting of major multi-use trails	Phase In
	Access driveway and lighting	Phase In
Natural Environment	Prairie restoration/rain garden	Near Term
Infrastructure and Buildings	Shelter with restrooms	Near Term

Potential South Park Addition		
Category	**Recommended Action/Amenity**	**Implementation Timeframe (After Ownership)**
Recreation	Open recreation area	Near Term
	Tennis courts (or existing park)	Near Term
	Labyrinth	Near Term
Safety/ Accessibility	New paved multi-use trails	Phase In
	Pedestrian level lighting of major multi-use trails	Phase In
	Access driveway and lighting	Phase In
	Parking area	Phase In
Natural Environment	Prairie restoration/oak opening	Near Term

Implementation Funding Sources

Capital Improvement Program: The Capital Improvement Program (CIP) is a five-year plan which identifies capital projects and equipment purchases, provides a planning schedule, and identifies options for financing the plan. The CIP is one way the City of Fitchburg can monitor and implement projects detailed in the McGaw Park Master Plan.

Benefits of a CIP include the systematic evaluation of all potential projects at the same time, ability to consolidate projects to reduce borrowing costs or stabilize debt, and its use as an economic development tool. The City of Fitchburg monitors, develops and adopts a five-year Capital Improvement Program every year.

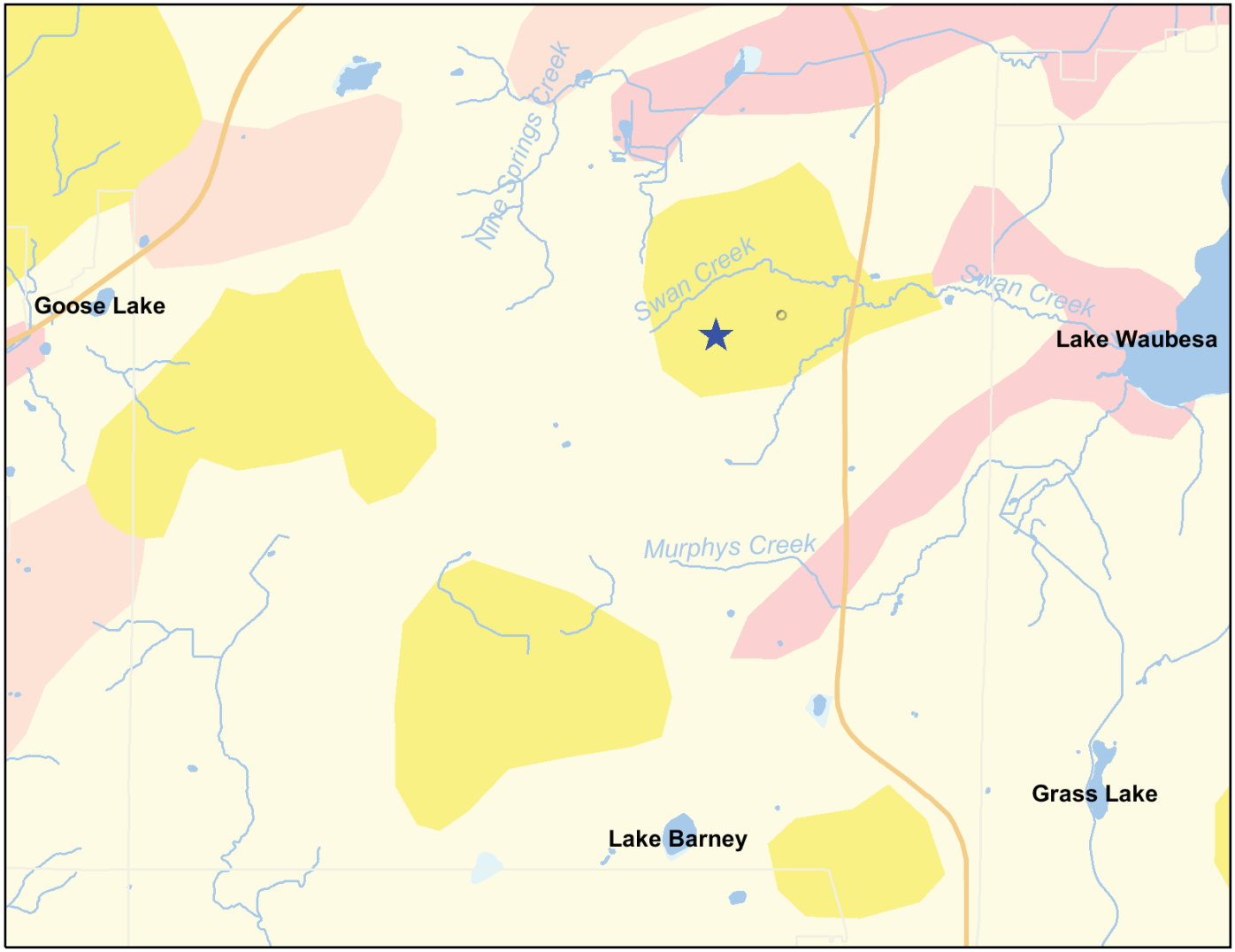
Parkland Dedication: With the anticipated development of the McGaw Park Neighborhood, parkland dedication is a possible mechanism for expanding McGaw Park to the west and south. Persons subdividing lands within the City are required to dedicate sufficient land area to provide adequate park, playground, recreation, and open space to meet the needs to be created by and to be provided for the land development, land division, or subdivision. The City of Fitchburg Land Division Ordinance sets standards for the amount of parkland to be dedicated, which is based on the number of residential dwelling units within a development. The Land Division Ordinance also requires a developer/subdivider to pay a parkland improvement fee to be utilized for the construction of park facilities and it requires the dedication of street frontage for dedicated parkland.

Plan Update

The McGaw Park Master Plan is intended as a long-term plan to meet current recreation needs and anticipate longer term needs of existing and future park users. However, it is expected that the plan will require an update some time after the establishment of the McGaw Park Neighborhood to ensure that McGaw Park is continuing to provide quality services and amenities for residents of the immediate neighborhoods and greater Fitchburg community.

Appendices

Original Vegetation Cover of Wisconsin



0 7000 14000 21000 ft.

Legend

- County Boundaries
- Major Highways
  - Interstate
  - US Highway
  - State Highway
- Civil Towns
  - Civil Town
- 24K Open Water
- 24K Rivers and Shorelines
- Original Vegetation Cover
  - 0 - Water
  - 1- White spruce, balsam fir, tamarack, white cedar, white birch, aspen
  - 2 - Beech, hemlock, sugar maple, yellow birch, white pine, red pine
  - 3 - Hemlock, sugar maple, yellow birch, white pine, red pine
  - 4 - Sugar maple, yellow birch, white pine, red pine
  - 5 - White pine, red pine
  - 6 - Jack pine, scrub (hill's), oak forest and barrens
  - 7 - Aspen, white birch, pine
  - 8 - Beech, sugar maple, basswood, red oak, white oak, black oak
  - 9 - Sugar maple, basswood, red oak, white oak, black oak
  - 10 - White oak, black oak, bur oak
  - 11 - Oak openings bur oak, white oak, black oak
  - 12 - Prairie
  - 13 - Brush
  - 14 - Swamp Conifers
  - 15 - Lowland Hardwoods
  - 16 - Marsh and sedge meadow, wet prairie, lowland shrubs
  - Area with vegetation cover type not

N

Scale: 1:74,267

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: The original vegetation cover data was digitized from a 1976 map created from land survey notes written in the mid-1800s when Wisconsin was first surveyed. This digital version of the original vegetation cover map can be used to identify regional changes in land cover since the time when the state was first

Tree and Vegetation Survey

McGaw Park &
S. Johnson Woodlands
June 7, 2011

Prepared for:
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Introduction:

The purpose of this tree and vegetation survey was to determine the tree, shrub and ground layer species composition within the wooded and shrubland areas of McGaw Park and S. Johnson woodlots (Fig. 1). The McGaw Park and S. Johnson woodlands comprise approximately 37 acres of undeveloped area within the City of Fitchburg. The woodlands are surrounded by developed park land, residential neighborhoods, and agricultural fields.

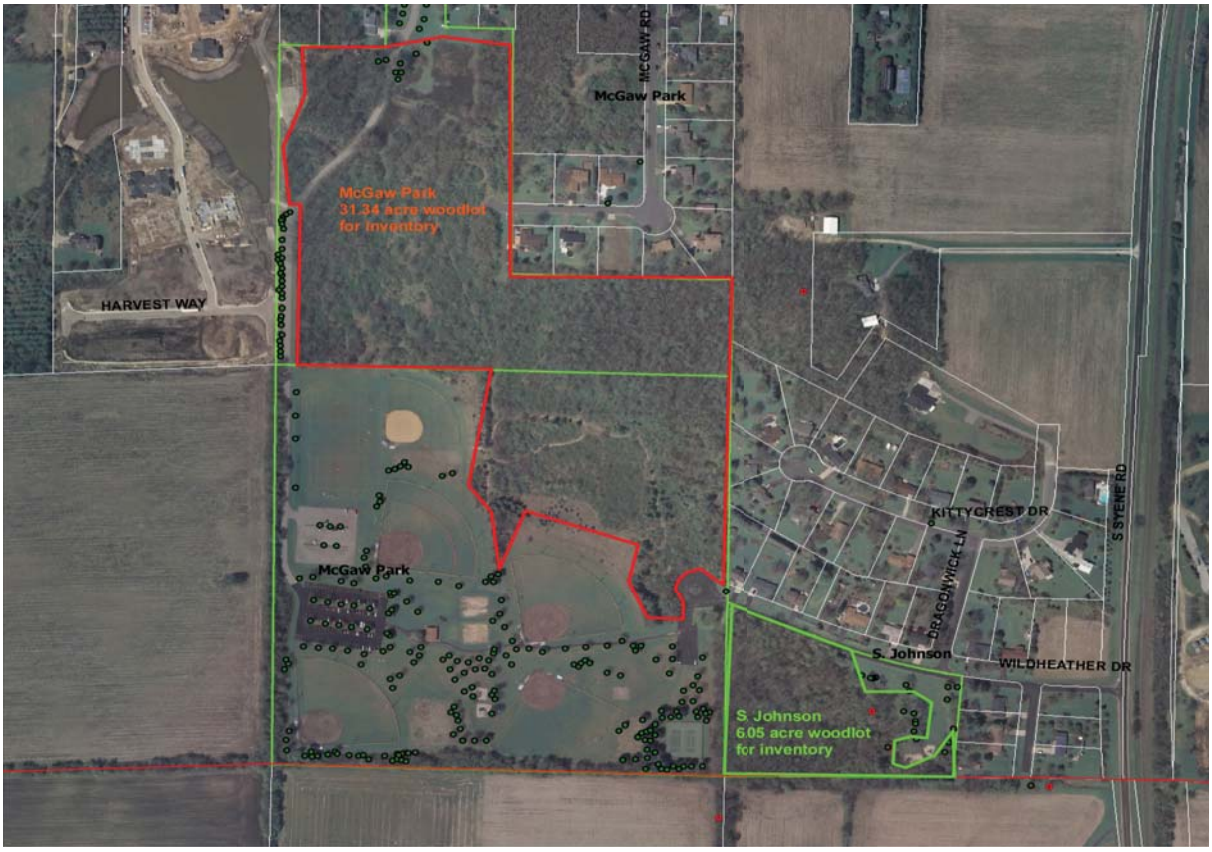

Figure 1: McGaw Park Woodland and S. Johnson woodlot survey areas, outlined in green and red. (Airphoto credit City of Fitchburg)

Methods:

Tree survey – McGaw Park Woodland

We conducted the tree survey using the City of Fitchburg's Emerald Ash Borer Readiness and Response Plan tree survey protocol. This protocol calls for one plot per acre for stands of less than 15 acres. The S. Johnson woodlot was treated as a single "Stand" for the purposes of this survey. These fixed area sample plots represent 0.1 acres, with a radius of 37.25 feet per plot. In addition to collecting species and diameter at breast height (dbh) information, we estimated the volume and basal area at each survey point, according to accepted forest biometry methods. Since the McGaw Park survey area was greater than 15 acres, we surveyed approximately one plot per 2 acres. We surveyed one plot per acre within the smaller, 6-acre S. Johnson Woodlot (Table 1).

We established a plot center via GPS navigation. All trees greater than 1 inch in diameter within the plot boundary were tallied, and we recorded tree species and dbh. We also assessed trees for merchantability, by estimating number of sawlogs, sawbolts and/or pulp sticks contained in each tree, where applicable. Not all trees were merchantable, and these measures should serve only as reference, and by no means imply silvicultural recommendations.

Vegetation survey – McGaw Park Woodlands

To obtain a sample of vegetation within the woodlots, we established a grid containing north-south transects approximately 200 meters apart. We randomly determined the initial survey point. Each survey point was approximately 300 meters apart along each transect. We used a Garmin GPS III+ unit to navigate to each survey point. We used 0.25m^2 quadrats to estimate vegetation cover. We identified and estimated the percent cover of all vascular plant and shrub species with leaves or stems within or above the quadrat. In addition, we estimated the absence of cover (e.g. bare soil, leaf litter, moss). We placed the quadrat at the center of each tree survey plot.

Table 1: Stand acreage and plots surveyed

Stand	Acreage	Plots surveyed	Plots/acre
McGaw Park Woodland	31	20	0.65
S. Johnson Woodlot	6	6	1

Results:

Tree survey – McGaw Park

The McGaw Park Woodland is composed of several smaller distinct stands which were not treated individually for the purpose of this inventory. Black cherry is the most prevalent overstory tree, but most trees are of poor quality and vigor. Silver maple dominates the overstory in the small acreage to the west of the park entrance road. Silver maple is also present sporadically in the stand interior, where the stand is dominated by dense honeysuckle, along with prevalent buckthorn, which was not sampled as part of this survey, but represents a significant portion of low overstory in many parts of the stand. Black Locust dominates the portion of the stand immediately south of McGaw Road, blending into mulberry saplings as the stand becomes more open to the south. Box elder is present throughout the stand, but especially in the black locust-dominated portions.

According to estimates from this inventory, the McGaw Park Woodland has 202 trees per acre (estimated 5,949 total trees), and an average basal area of 35 square feet per acre. Tree density is variable throughout the woodlot, but very low overall for an early successional forest. Cherry is the most prevalent species in the woodlot, representing 21.8 % of trees. Mulberry species make up 19.2% of the stand, followed by black locust (18.3%), silver maple (16.9%) and box elder (14.5%) (Fig. 2). Older apple trees are dispersed throughout the stand, but are a minor component. At stand edges, conifers such as white pine, Norway spruce and white spruce were found, along with red oak, elm and black walnut. Other species (i.e. burr oak) may be present in the stand, but were not sampled.

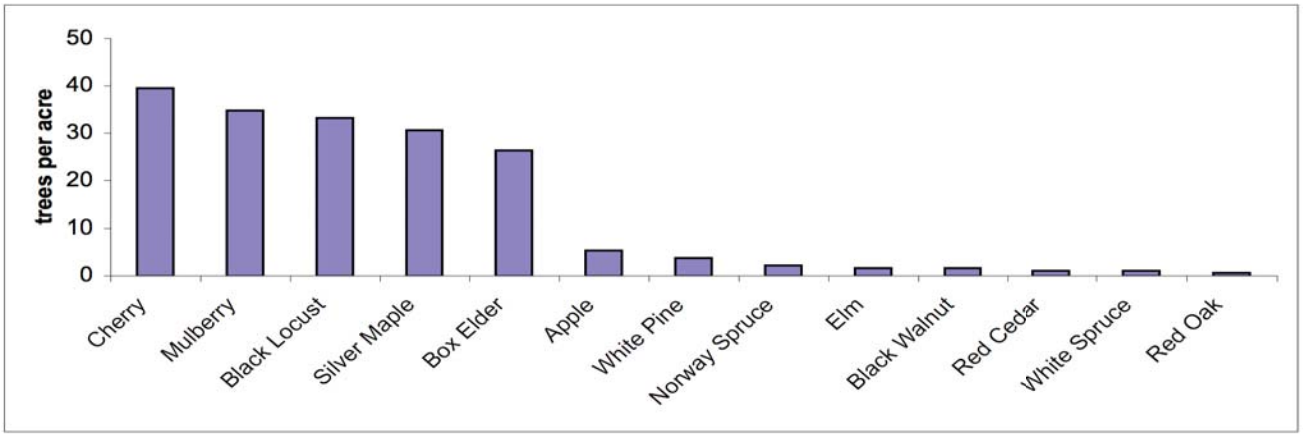

Figure 2: Tree species composition of McGaw Park woodlot, per BioLogic Environmenal Consulting inventory, 5/28/2011.

Most trees in McGaw Park Woodland are of sapling and pole size, and of poor form and vigor. The most prevalent size class is diameter at breast height (dbh) of 4-6 inches, with nearly a quarter of all trees, followed closely by trees with dbh 2-4 inches. Trees of dbh less than 6" compose just over half of the stand, while less than 7% of all trees are greater than 12 inches dbh (Fig. 3). Few "Specimen Trees" exist in the stand.

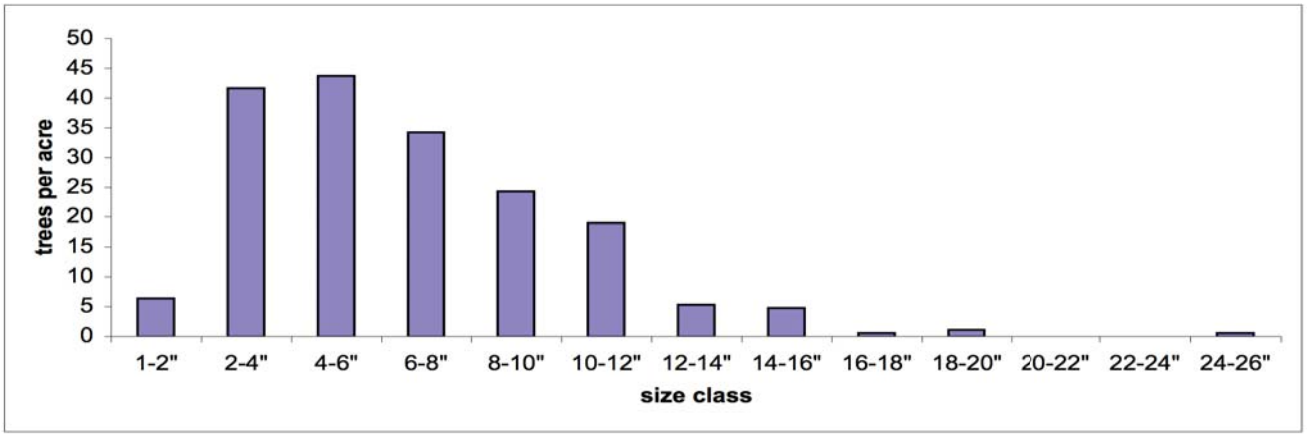

Figure 3: Tree diameter distribution of McGaw Park woodlot, per BioLogic Environmental Consulting inventory, 5/28/2011.

The inventory estimates only 626 board feet per acre in standing trees, along with 6.8 cords per acre in lesser quality material. This assessment of utilization potential shows a stand with very little merchantable-quality timber, and what does exist is not of high quality. Merchantability estimates such as this may be used as a baseline for future growth of the stand, even where conventional harvests are not likely to occur.

Vegetation survey – McGaw Park

The majority of our vegetation survey was conducted in shrubland and forested areas. Two of our sample points were within open areas of the park supporting prairie vegetation. These areas are located north of the ballfields and northeast of the entrance, and they contained the most species-rich plots within our survey. The species composition and location of these areas suggests that they are not prairie remnants, but were seeded with prairie vegetation sometime within the last 20 years.

The most diverse plot contained 13 species; the least diverse plot contained 2 species (Fig. 4). Most plots contained fewer than 4 species. The dominant plant in the understory was a non-native bush honeysuckle (*Lonicera* x bella), occurring in at least 75 percent of all plots, with an average cover of 58 percent.

This plant is considered invasive by the Wisconsin Department of Natural Resources (WDNR 2011). The second most common plant observed was common buckthorn (*Rhamnus cathartica*), occuring in 55 percent of the plots, with an average cover of 19.5 percent (Fig. 5). *Rhamnus cathartica* is also considered invasive by the Wisconsin Department of Natural Resources (WDNR 2011).

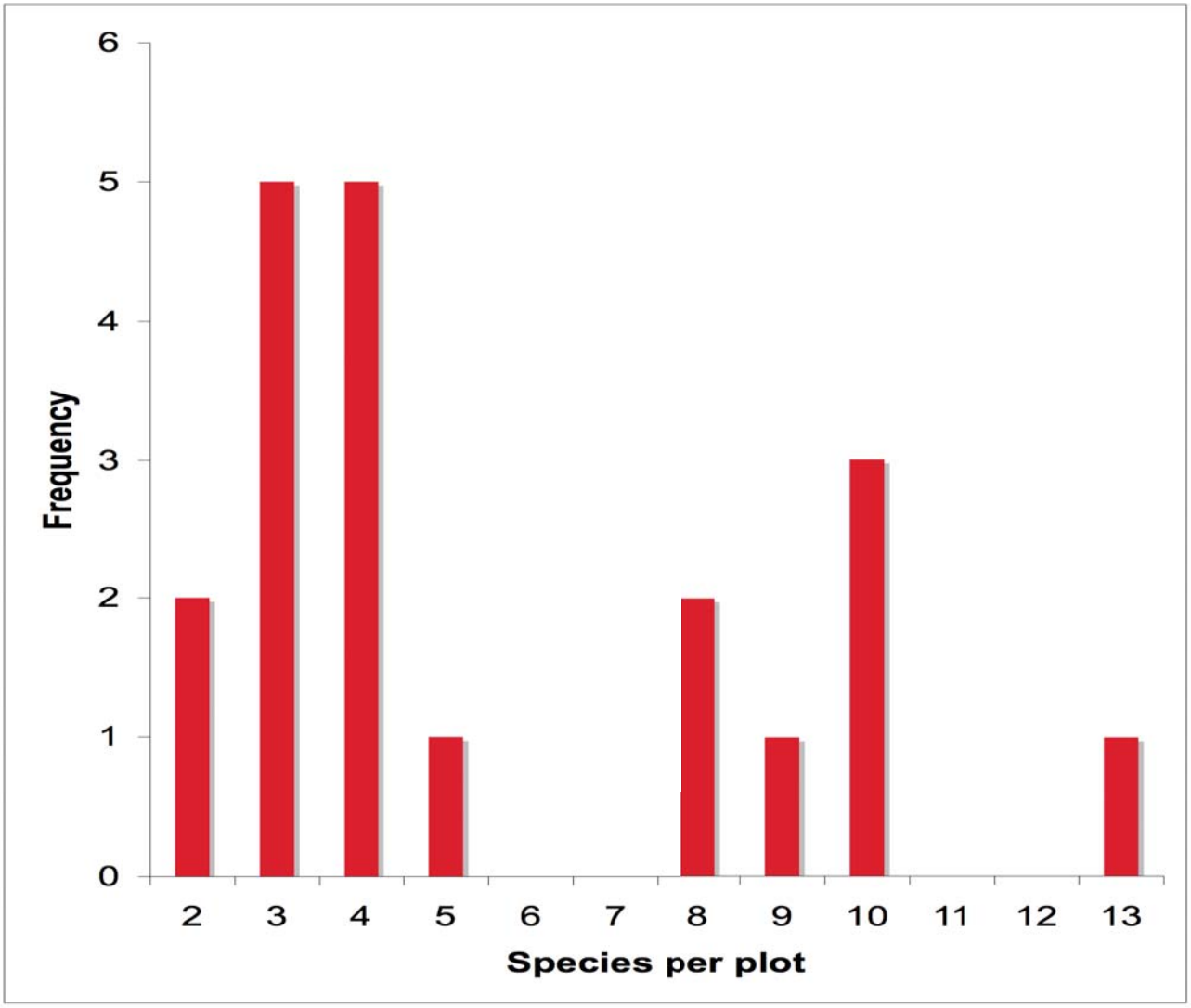

Figure 4: Distribution of species per plot within McGaw Park woodlands, surveyed 5/28/2011.

Two-thirds of the 44 species observed were native (Table 2). However, the park contains at least 3 native invasive species, including black locust, Canada goldenrod, and box elder. We did not observe any federally or state-designated rare, threatened or endangered vascular plant species (Table 3).

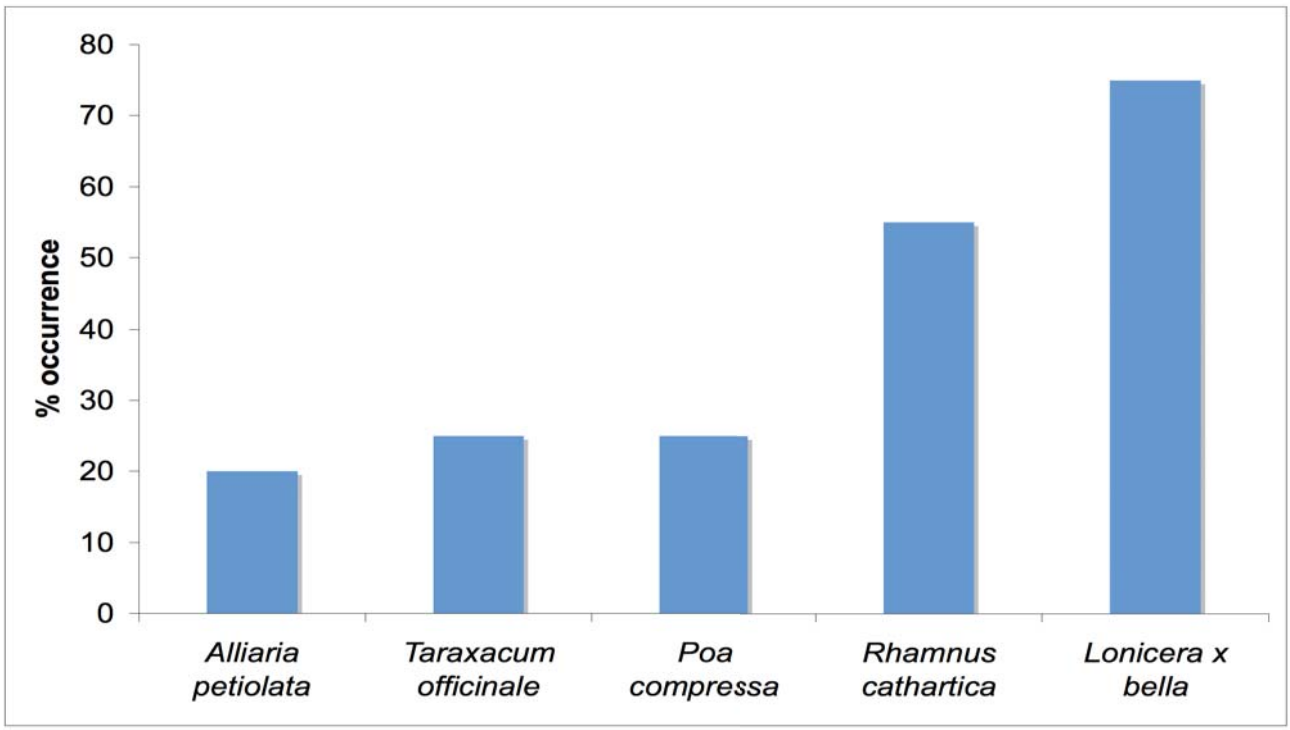

Figure 5: Percent occurrence of the five most frequently sampled species in McGaw Park woodlands. All of these species are non-native, and at least three are considered invasive.

While en-route to our sample points, we observed 9 native species not captured in our sample: thimbleweed (*Anemone cylindrica*), Solomon's seal (*Polygonatum biflorum*), elderberry (*Sambucus canadensis*), field thistle (*Cirsium discolor*), stickseed (*Hackellia virginiana*), sawtooth sunflower (*Helianthus grossesseratus*), smooth sumac (*Rhus glabra*), downy rattlesnake plantain (*Goodyera pubescens*), and stinging nettle (*Urtica dioica*). We also observed 3 non-native species: multiflora rose (*Rosa multiflora*), dame's rocket (*Hesperis matrionalis*), and motherwort (*Leonorus cathartica*). Multiflora rose and dame's rocket are considered invasive by the Wisconsin Department of Natural Resources under their NR 40 invasive species identification, classification and control rule (WDNR 2011).

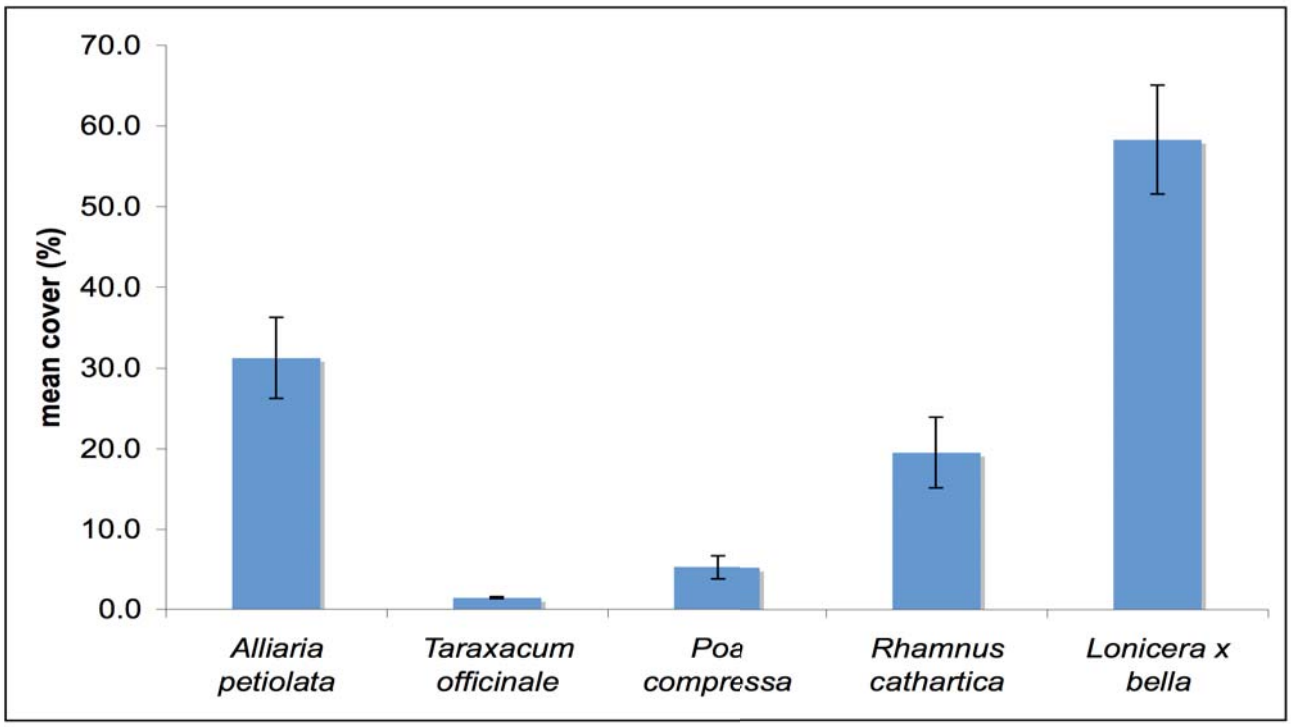

Figure 6: Mean cover of the five most frequently sampled species in McGaw Park, ± 1 Standard Error (SE).

Table 2: Summary native, non-native and invasive species sampled

Total species	Native	Non-Native	Invasive
44	29	15	12

Table 3: List of all vascular flora sampled during McGaw Park tree and vegetation survey, 5/28/11.

Scientific name	Common name	Native	Invasive
Acer negundo	Box elder	y	y
Acer saccharinium	Silver maple	y	
Achellia millifolium	Yarrow	y	
Alliaria petiolata	Garlic mustard	n	y
Arctium minus	Burdock	n	
Calystegia sepium	Bindweed	y	
Circaea lutetiana	Enchanter's nightshade	y	
Conyza canadensis	Fleabane	y	
Cornus racemosa	Gray dogwood	y	
Daucus carota	Queen Anne's lace	n	

Scientific name	Common name	Native	Invasive
Dodecatheon meadia	Shooting star	y	
Echinacea pallida	Pale purple coneflower	y	
Galium aparine	Bedstraw	y	
Galium triflorum	Sweet-scented bedstraw	y	
Geum canadense	White avens	y	
Glechoma hederacea	Creeping charlie	n	
Hemerocallis fulva	Day lily	n	y
Hieracium caespitosum	Field hawkweed	n	
Impatiens capensis	Jewelweed	y	
Juglans nigra	Black walnut	y	
Lonicera x bella	Honeysuckle	n	y
Monarda fistulosa	Bee balm	y	
Morus alba	Mulberry	n	y
Panicum virgatum	Switchgrass	y	
Parthenocissus quinquefolia	Virginia creeper	y	
Pastinaca sativa	Wild parsnip	n	y
Penstemon digitalis	Penstemon	n	
Phalaris arundinacea	Reed canarygrass	n	y
Phleum pratense	Timothy	n	
Poa compressa	Canada bluegrass	n	y
Prunus serotina	Black cherry	y	
Ratibida pinnata	Gray-headed coneflower	y	
Rhamnus cathartica	Common buckthorn	n	y
Robinia pseudoacacia	Black Locust	y	y
Rubus idaeus	Blackberry	y	
Rudbeckia hirta	Black-eyed Susans	y	
Solanium nigra	Nightshade	n	
Solidago canadensis	Canada goldenrod	y	y
Solidago speciosa	Showy goldenrod	y	
Taraxacum officinale	Dandelion	n	y
Tradescantia ohiensis	Ohio spiderwort	y	
Viola canadensis	Tall white violet	y	
Vitis riparia	Frost grape	y	
Zizia aptera	Heart-leaved golden Alexanders	y	

Tree survey -- S. Johnson Woodland

The S. Johnson woodlot has 240 trees per acre (estimated 1,452 total trees), and an average basal area of 90 square feet per acre. Tree density is relatively constant throughout the woodlot, with the exception of an area of higher density of smaller box elder and cherry along the southern edge of the stand. Box elder is the most prevalent species in the woodlot, representing 36.1% of trees. Black cherry (21.5%) and elm (20.8%) are also major components of the stand; black cherry is co-dominant in the canopy throughout the stand (Fig. 7). Though burr oak and shagbark hickory compose only just over 10% of individual trees, they dominate the overstory of this oak-hickory forest, and include many Specimen and Heritage trees, with several burr oaks measuring over 30 inches dbh. Mulberry, silver maple, hackberry, red pine, aspen and red oak were sampled as minor stand components. Other species (i.e. butternut) may be present in the stand, but were not sampled. Ash is present around the playground and open areas in the southeast portion of the stand.

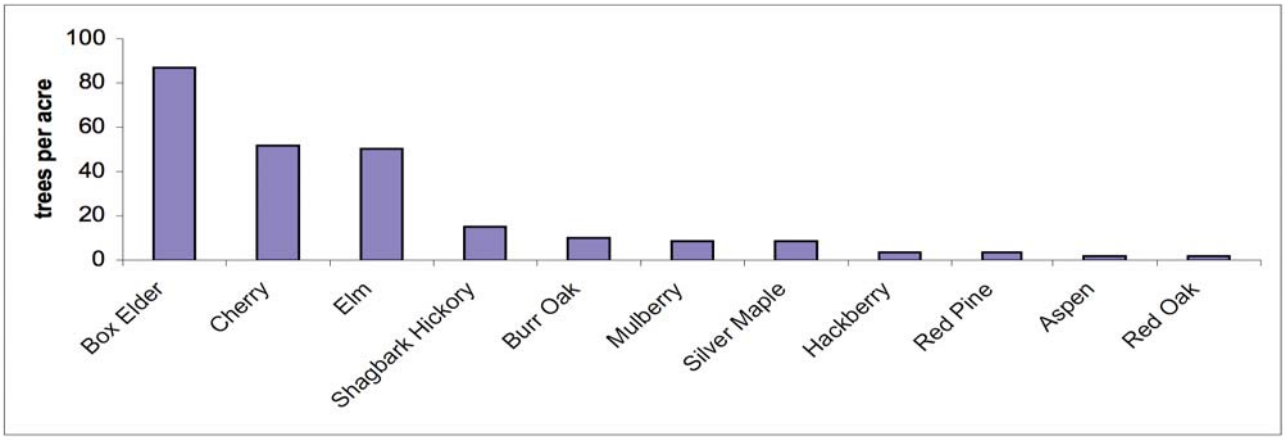

Figure 7: S. Johnson woodlot tree species composition.

The most prevalent size class in the S. Johnson woodlot is at diameter at breast height (dbh) of 2-4 inches, with more than a quarter of all trees, followed by trees with dbh 1-2 inches (14.6%) of trees (Fig. 8). Most of these small trees are box elders, though some are black cherry and notably, shagbark hickory of good form. Trees of dbh between 4-8 inches compose another quarter of the stand; most of these trees are box elder, elm and black cherry. Many Specimen Trees exist in the stand, including potential Heritage Trees among the best of the large burr oaks. Some of these burr oaks appear to be declining, with die back and frost cracks, but many are of high vigor.

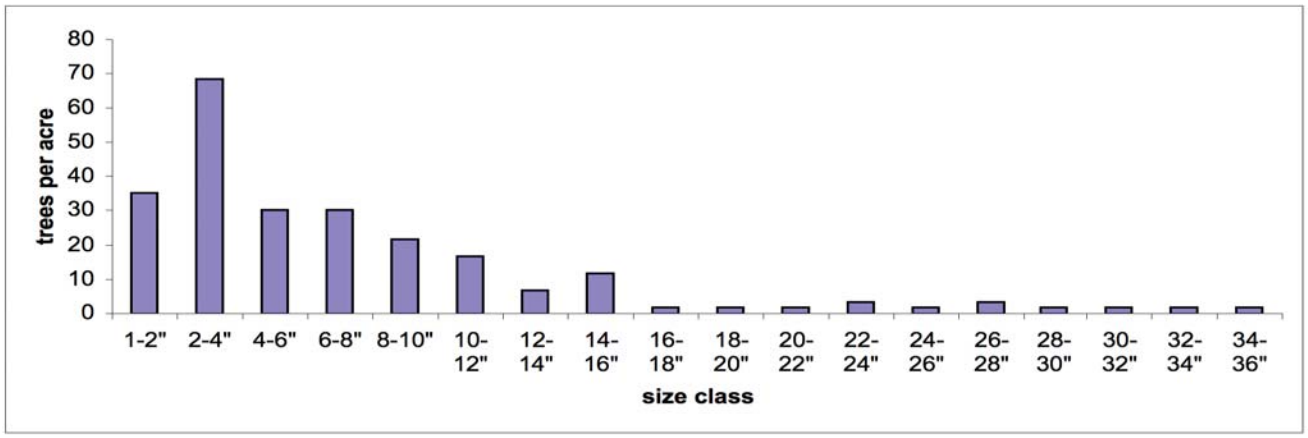

Figure 8: S. Johnson tree diameter at breast height (dbh) distribution

The inventory estimates nearly 8,000 board feet per acre in standing trees, along with 11 cords per acre in lesser quality material. This assessment of utilization potential reflects a stand with some very large trees, especially burr oaks, with merchantable-quality timber. One exceptional burr oak was estimated to contain 900 board feet. Though these trees likely have much greater value as standing trees, merchantability estimates such as this may be used as a baseline for future growth of the stand, even where conventional harvests are not likely to occur.

Vegetation survey – S. Johnson

Within the six sample plots, we observed 11 species: 8 native species and 3 non-native species (Table 4). All of the non-native species observed are considered invasive by the Wisconsin Department of Natural Resources. While en-route to our sample points, we also observed 3 additional native species: two sedges (*Carex sp*), and mayapple (*Podophyllum peltatum*). We also observed one additional non-native species, European Lily-of-the-Valley (*Convallaria majalis*). This species is considered invasive by the Wisconsin Department of Natural Resources (WDNR 2011).

We observed an average of 4.5 ±0.4 species per sample plot. Garlic mustard (*Allaria petiolata*) was the most frequently observed species; we found it in 100 percent of the survey plots (Fig. 9). The mean cover of garlic mustard was 44.5 (± 11.5), nearly four times the cover of the most frequently occurring native forb, White Avens (*Geum canadense*), which had an average cover of 10.8 (± 4) percent (Fig. 10). White avens is a common native understory plant in southern Wisconsin (Rodgers et. al. 2008)

Table 4: Summary native, non-native and invasive species sampled

Total species	Native	Non-Native	Invasive
11	8	3	3

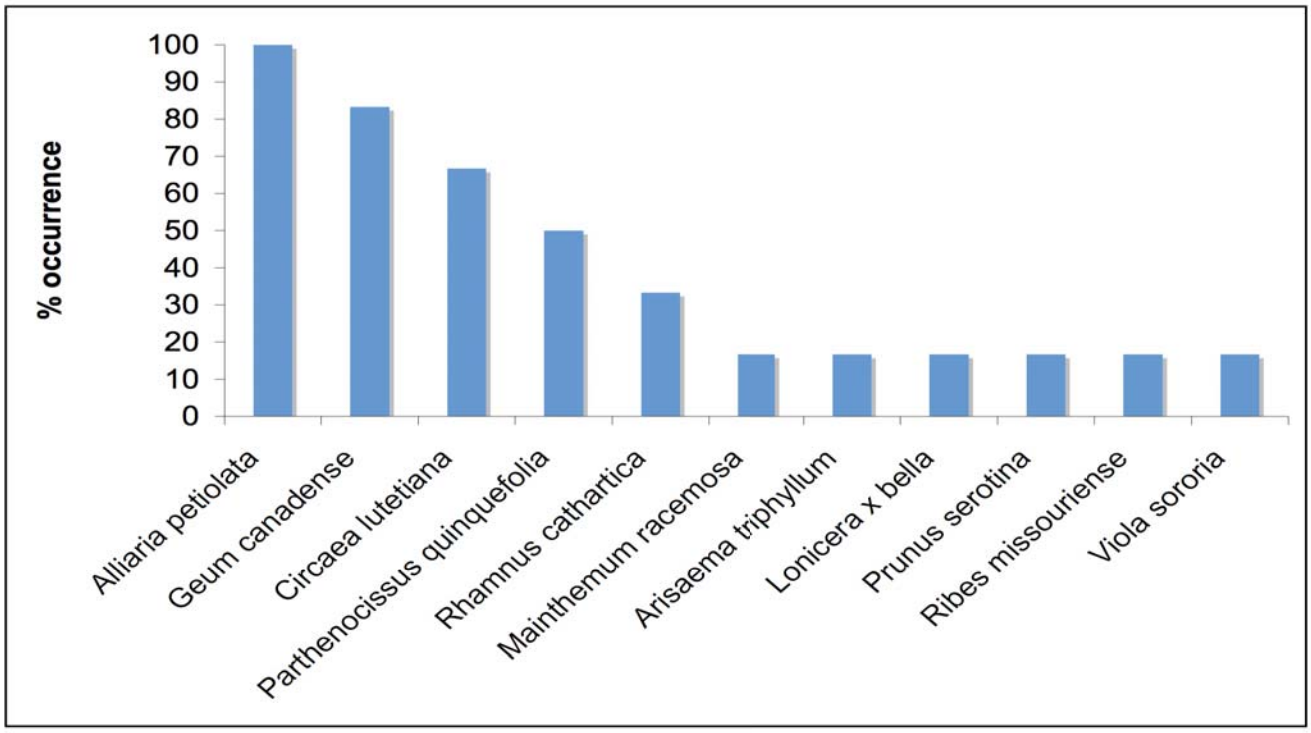

Figure 9: Frequency of occurrence of species sampled in S. Johnson Woodlot, 5/31/2011.

Table 5: List of all vascular flora sampled during S. Johnson tree and vegetation survey, 5/31/11.

Scientific name	Common name	Native	Invasive
Alliaria petiolata	Garlic mustard	n	y
Arisaema triphyllum	Jack-in-the-pulpit	y	
Circaea lutetiana	Enchanter's nightshade	y	
Geum canadense	White avens	y	
Lonicera x bella	Honeysuckle	n	y
Mainthemum racemosa	False Solomon's aeal	y	
Parthenocissus quinquefolia	Virginia creeper	y	
Prunus serotina	Black cherry	y	
Rhamnus cathartica	Common buckthorn	n	y
Ribes missouriense	Gooseberry	y	
Viola sororia	Violet	y	

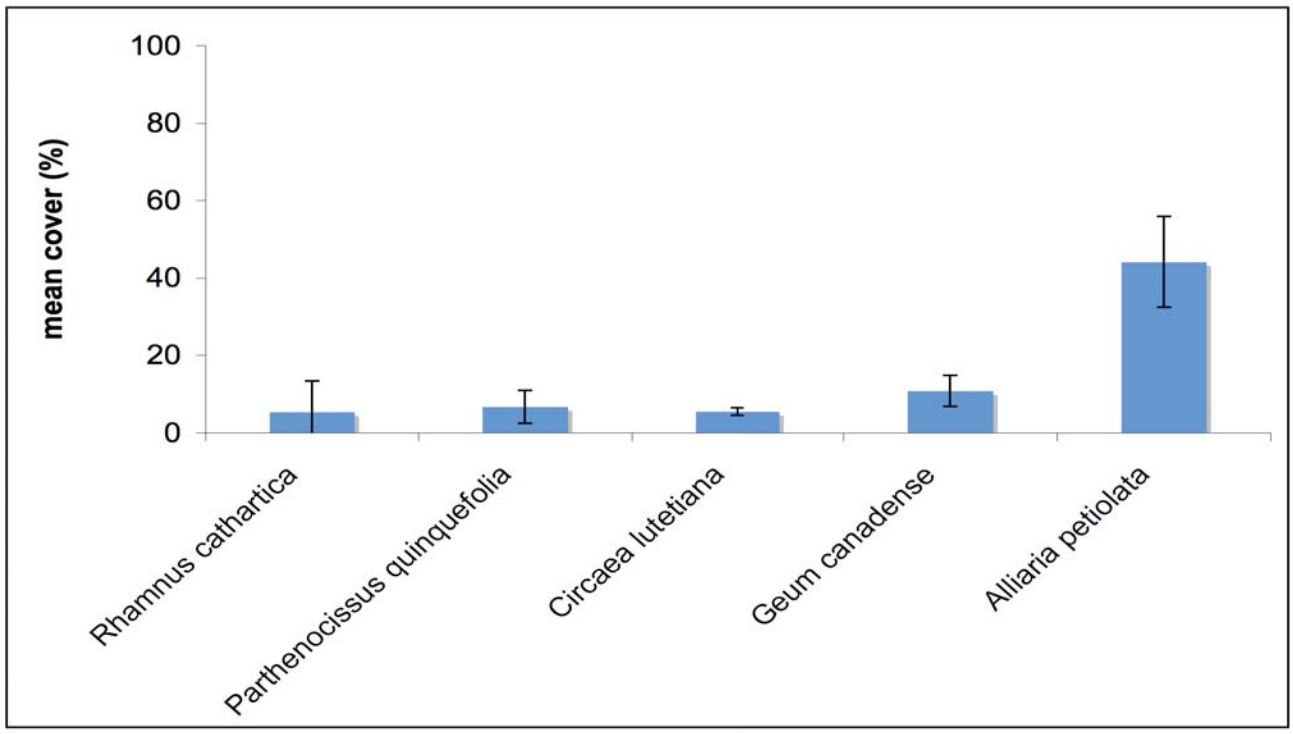

Figure 10: Mean cover of the five most frequently occurring species in S. Johnson woodlot, ± 1 Standard Error (SE).

Discussion:

McGaw Park

The wooded and shrubby areas of McGaw Park are heavily invaded by non-native bush honeysuckle and European buckthorn. Relative to non-invaded woodlots in southern Wisconsin, the park's wooded areas are species-poor. The invasive bush honeysuckle, the most abundant shrub in the park, is shading out the understory, limiting diversity and tree regeneration. Few species can persist below the honeysuckle canopy, and much of this area is occupied by bare soil and mosses. Where canopy gaps are sufficient to support understory vegetation, we observed an abundance of invasive species, including garlic mustard and reed canarygrass.

We expect diversity and abundance of native vegetation will decline at McGaw Park over time. The old field north of the ball fields is being shaded out by the conifers south of the planting, and by honeysuckle invading the area. The planted prairie area northeast of the park entrance is heavily invaded by reed canarygrass and Canada goldenrod.

S. Johnson woodlot

The S. Johnson woodlot is primarily an oak-hickory overstory, with black cherry and box elder more prevalent along its southern boundary, and a variety of species present along its eastern edge. Despite the presence of large-diameter, mature trees in the overstory, regeneration is hindered by prevalence of buckthorn and garlic mustard throughout the stand, and honeysuckle to a lesser degree. During the inventory, one area in particular provided a window into the future of the stand, absent intervention by mechanical means. Two large shagbark hickories growing together, dbh greater than 20 inches each, had fallen over. In the large canopy gap created by their absences, a much higher density of buckthorn was now thriving, compared to the closed canopy areas surrounding the gap.

Compared to the McGaw Park Woodland, the S. Johnson woodlot was more open and species-poor, with a much lower density of non-native honeysuckle. We attribute the more open understory and lower understory species diversity to a difference in land use history. Based on the dbh of the larger trees, we know the understory of S. Johnson woodlot was much more shady and the soil possibly less disturbed, compared to the McGaw Woodland. This would have slowed the establishment of shrubs and ground layer vegetation.

Without mechanical removal, the persistence of honeysuckle and buckthorn will likely preclude any regeneration of native species, trees and understory alike. Garlic mustard is well established throughout the stand as well, presenting further problems, as this plant creates soil conditions that inhibit establishment of trees and other ground layer vegetation.

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Appendix C

The WIDNR web site provides caution and recommendations when the nitrate level is 10 mg/l or greater. It reads:

When laboratory tests determine that water contains 10 milligrams per liter nitrate-nitrogen, the following are recommended:

1. Do not give water to infants less than 6 months of age or the use the water to prepare infant formula.

2. Avoid drinking the water on a daily basis during pregnancy.

3. Do not attempt to remove nitrate level by boiling water. This will only concentrate the nitrate making levels even higher.

4. Seek medical help immediately if the skin of an infant appears bluish or gray in color. Sometimes the color change is first noticed around the mouth, or on the hands and feet.

5. Identify the nitrate source and take action to reduce contamination. Remedial actions may include reducing fertilizer use, improving manure handling methods, pumping septic tanks or upgrading wells.

6. Limit your daily intake if you have chronic health problems that increase your sensitivity to nitrate, or if you are concerned about scientific uncertainty regarding the health effects of long-term exposure to nitrate contaminated water.

References

References

Text, Map, and Graphic References

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References

Photograph References

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All: City of Fitchburg Parks Department

Introduction Cover
Large photo: City of Fitchburg Parks Department
Three small photos: Brown, 1973

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Appendices Cover
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Bottom right photo: Aaron Widmer - City of Fitchburg Planning Intern

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