

# **Botanical Inventory Highlights and Management Considerations for Covenant Park: City of Kentwood Parks & Recreation**

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In the spring and summer of 2021, Calvin University students and faculty conducted a botanical inventory and assessment of the natural areas in Covenant Park, located at 3724 Shaffer Avenue SE, Kentwood, MI 49512. Given that the property was recently acquired by the City of Kentwood Parks & Recreation, the purpose of this inventory is to inform Kentwood Parks and Recreation staff about the site's floristic quality, diversity, and ecological significance. The specific objectives of this study are to 1) provide a comprehensive inventory of the species of plants occurring on the property, 2) identify particular areas that would benefit from preservation or restoration efforts, and to 3) inform Kentwood Parks and Recreation as they determine what land use activities best fit certain areas within this parcel.

During early spring of 2021, the Calvin University Biology 346 Plant Taxonomy class (taught by Dr. Warners) took on a project to document the spring flora on the park property. Groups of 3 or 4 students were assigned to one of five sections of natural habitat at Covenant Park (see map of parcels below). These sites were visited weekly during April and early May, and botanical lists for each site were initiated.

Subsequently, student researchers with the Emma Cole Project under the Calvin Summer STEM Research Program visited Covenant Park eight times to continue these inventories (May 20, June 2, June 21, June 23, July 6, July 21, August 5, and August 6). During our visits, we carefully walked each of the five remnant parcels, identifying each vascular plant species we could and observing how the flora developed

respected scientist and teacher at Grand Rapids Central High School around the turn of the 20<sup>th</sup> century. In 1901 Cole published a book entitled *Grand Rapids Flora: A Catalogue of the Flowering Plants and Ferns Growing Without Cultivation in the Vicinity of Grand Rapids, Michigan*. By carefully reading her book, combing through her correspondences with students and colleagues at the time, seeking out her herbarium specimens, and trying to piece all this information together, we have been delighted to learn a great deal about what the Grand Rapids landscape looked like 120 years ago.

The goal of the Emma Cole Grand Rapids Flora Project is to revisit high quality remnant natural sites that still exist within the 16 townships (585 square miles) covered in Cole's (1901) *Grand Rapids Flora*, especially seeking out those sites of high conservation value that exhibit a pre-settlement character resembling their appearance when Emma Cole studied them. Although we cannot determine if Emma Cole's field work along Plaster Creek included the area currently occupied by the Covenant Park property, we have encountered 101 specimens she or her colleagues collected along Plaster Creek. These collections appear to have been focused on the Plaster Creek-Madison Ave. crossing, at Plaster Creek near the Paris Town Hall (area around the Kalamazoo Ave. crossing/Ken-O-Sha Park), and Crystal Springs (Plaster Creek crossing at 68th St., just west of Dutton). In the summer of 2021, our field work for the Emma Cole Project included inventories of four sites along Plaster Creek, adding valuable information to inventories already conducted at Ken-O-Sha Park, Paris Park, and Shadyside Park. We are in the process of using these data to compile a checklist of all the current species that occur in close proximity to Plaster Creek to compare with the list we have compiled from Emma Cole's work along the creek.

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into the city of Grand Rapids,

Creek enters Covenant Park from the south, meandering through the property and exiting toward the northwest corner of the park, under an overpass of Shaffer Avenue. Further upstream (southward), the creek's headwaters are located in the agriculturally dominated Gaines Township area south of Dutton; the creek then flows through suburban areas of Kentwood, including Covenant Park, before making its way through the highly commercialized, residential, and industrial areas of southeast Grand Rapids. While much of the creek's natural floodplain in Covenant Park had been converted into fairways, some important remnants of natural areas remain in the park. These natural areas were divided up into 5 parcels, each inv2 Tf1 0510048>7<0048>7gPrcep

*deltoides*), sycamore (*Platanus occidentalis*), swamp white oak (*Quercus bicolor*), and American elm (*Ulmus americana*). Additionally, pawpaw (*Asimina triloba*), shellbark hickory (*Carya laciniosa*), and bur oak (*Quercus macrocarpa*) were also identified.





The two parcels we found to have the highest conservation value are sites 3 and 4.



TABLE 1. Significance of the Michigan Floristic Quality Assessment System for determining the value of individual natural habitats in reflecting Michigan’s native biodiversity and natural landscapes, based on Herman et al. (2001).

<b>Native FQI</b>	<b>Significance of habitat quality to Michigan</b>	<b>Value of site to Michigan</b>
< 20	Minimal indication of natural quality	Low value
> 35	Important representation of native flora; unmitigable	Floristically important statewide
> 50	Significant component of Michigan’s remaining native biodiversity	