

# Uncovering Gullies:

## Protecting the Chicago River in the Forest Preserves of Cook County



**Friends of the Chicago River**





# Uncovering Gullies:

Protecting the Chicago River in the  
Forest Preserves of Cook County

Friends of the Chicago River

A decorative graphic consisting of three horizontal, wavy lines in a dark blue color, positioned directly beneath the text 'Friends of the Chicago River'.

## Acknowledgements

---

Friends of the Chicago River gratefully acknowledges our partners and supporters who contributed to the success of the Gullywalking project: the Boeing Company, the Gaylord and Dorothy Donnelley Foundation, the Forest Preserves of Cook County, and REI.

In addition, we would like to thank the 100 volunteers (Chicago River Eco-Warriors) who trained as Gullywalkers. Their willingness to dedicate their time and energy made it possible for this project to succeed and for Friends to locate and document the many gullies that need to be addressed within the Forest Preserves along the Chicago River system.

Photos are courtesy of Friends of the Chicago River unless otherwise noted.

Released September 2014.

# Table of Contents

|  | Page |
|--|------|
| Acknowledgements.....                            | 2    |
| Executive Summary.....                           | 4    |
| Introduction.....                                | 5    |
| Purpose and Objective of the Study.....          | 6    |
| Methodology.....                                 | 7    |
| Gully Assessment and Identification Results..... | 8    |
| Conclusions and Next Steps.....                  | 11   |

## Appendicies

|  |    |
|--|----|
| Table 1: Level One Gullies of Depths Up to 1 Foot.....               | 13 |
| Table 2: Level Two Gullies of Depths Between 1 and 3.5 Feet.....     | 13 |
| Table 3: Level Three Gullies of Depths Greater Than 3.5 Feet.....    | 16 |
| Gully Locations on the Chicago River.....                            | 17 |
| Gully Maps: Level Two Gullies of Depths Between 1 and 3.5 Feet.....  | 18 |
| Gully Maps: Level Three Gullies of Depths Greater Than 3.5 Feet..... | 20 |
| Google Maps of Gullies at Forest Preserve Sites.....                 | 21 |
| All Gully Data in Alphabetical Order.....                            | 22 |

## Executive Summary

---

When Friends of the Chicago River was founded in 1979 the Chicago River system was a forgotten back alleyway, fenced off in many places and full of sewage and trash. Ignored by the public and utilized as part of the sewer system for over 100 years, the river has been dredged, straightened and reversed with its natural habitat fragmented or destroyed. Development of the region has exacerbated the problems.

Fortunately, the river's fortune has changed and progress can be measured in miles of trail, species of fish, and activities above, below, and along the water including whole new communities and riverfront uses. These changes are the result of the efforts of Friends of the Chicago River working with a wide variety of nonprofit partners, the Clean Water Act, and government agencies, including the Forest Preserves of Cook County (FPCC), who recognize the river's value to the people who live here and the wildlife that call it home.

Friends' mission is to improve and protect the Chicago River system for people, plants, and animals. Our strategic plan supports this mission and calls for the identification and mitigation of threats to water quality, including impacts from sewage, nutrients, and stormwater runoff including erosion and sedimentation. Through projects like the North Branch Watershed project and our collaborative efforts to improve the water quality standards for the Chicago River, Friends has observed an increased interest and investment in the health of the river.

In 2012, Friends developed a two-year project to locate and analyze gullies along the river system. Gullies act as unnatural channels for stormwater erosion, and provide a fast track for detrimental excess sediment and contaminants to enter the river. With the help of volunteers that we trained as part of the project, we located 139 gullies along 45 miles of river within the boundaries of the Forest Preserves of Cook County.

This work will ultimately lead to the restoration of the landscape and the prevention of further erosion; while directly impacting the health of the Chicago River system; and protecting publicly owned land.

In addition, this project will contribute to the overall effort to control unwanted and unwarranted stormwater runoff, which has devastated so many water bodies across the United States.

Gullies can be found in watersheds throughout the country, particularly in areas impacted by humans. In the Chicago River system, our Gullywalker survey and analysis helped elevate the issue, pointing to the presence of gullies along the entire length of the river and the potential negative impacts to the river. Gullies have various degrees of severity and complexity, and Friends learned that addressing their impacts was far more complicated due to each gully's individual characteristics and locations. This report recommends several key steps to addressing gullies in the Chicago River system:

- 1) Include gully monitoring and mitigation as part of major landowners' master stewardship planning;
- 2) Produce a "Gully Guidance Manual" to identify best practices and technical solutions;
- 3) Develop a gully remediation plan with the FPCC, which includes an approval process, a permitting process, and monitoring;
- 4) Identify potential groups interested in gully fixing and share findings as well as "Gully Guidance Manual;"
- 5) Continue to work with volunteers to remediate moderate gullies that are accessible for volunteer crews and materials.

Gullies have been a part of the river landscape for decades and are often overlooked as potential polluters that need to be addressed to improve the health of the river. Due to the past treatment of urban stormwater and the continued growth of our built environment, these issues have long been ignored. But, as the river's health is improving, it is time to develop and implement a process for the remediation of gullies within the Chicago River system. The Forest Preserves of Cook County are a good place to start.



# Introduction

---

Flowing through urban and suburban communities, forest preserves and parks, industrial and commercial districts, the Chicago River is a 156-mile meandering blueway that connects us with the natural environment.

The river is now at a crossroads. Old views of the river as a sewage canal are challenged by new hope for a thriving, healthy river that strengthens our economy and enriches the quality of life for those who live and work throughout the watershed. In addition to increased open space, valuable habitat and economic opportunities, a healthy, robust river improves access for paddlers, hikers, bikers, and other recreational users.

On its way to becoming the ecological, social, economic, and recreational resource that we envision, the Chicago River still faces many challenges, chief among them is stormwater runoff. According to the U.S. Environmental Protection Agency, stormwater runoff is considered one of the greatest causes of surface water pollution in the United States of America (USEPA 2013). It continues to be a major source of pollution in the Chicago River watershed.

The impacts of stormwater runoff in the Chicago River system have been exacerbated by the effects of increased human development. Prior to the runaway construction of buildings, sidewalks, and parking lots in the region, rainwater was absorbed naturally into the ground. Today, the majority of stormwater runs off hard surfaces into pipes, sewers, and ultimately, the Chicago River. In addition to flooding, closures, and property and productivity loss, more debris in the river impedes access for paddlers, fishermen, and other recreational users. As we continue to observe the impact of increasing climate change along with

widespread urban development, rain events like the series of storms in April 2014 become stark indicators of our need for action.

The spread of invasive species has also intensified the impacts of stormwater runoff. Invasive plants such as European buckthorn (*Rhamnus cathartica*) are increasingly common throughout the Chicago River system. As these plants invade native communities, they create thickets with low biodiversity, minimal undergrowth, and networks of shallow root systems that do little to prevent water runoff and soil erosion.

When water runs over this barren soil, as it does when it flows from pipes that empty into the riparian corridor, the result is often a gully: “an open erosion channel which cannot be eliminated by plowing with a minimum dimension of 30 cm deep. It is frequently characterized by steep sidewalls and lack of perennial vegetation” (Ford et al. 1993). These gullies create an easy path for stormwater, eroded sediment, and any chemicals that either may contain, to reach the river.

Both the physical and chemical effects of high sediment levels in waterways lead to detrimental impacts on river communities. From the physical perspective, high levels of turbidity will block sunlight penetration and impede the growth of algae and aquatic plants, the fundamental base of growth for the aquatic food web. Sediment may also fill microhabitats for both benthic macroinvertebrates<sup>1</sup> and fishes (Ongley 1996). High amounts of sediment will reduce the river’s capacity to handle flooding and can also be responsible for transporting chemicals into the waterway, which can lead to negative impacts such as eutrophication<sup>2</sup> and biomagnification<sup>3</sup> of toxins.

---

<sup>1</sup> A benthic macroinvertebrate is a freshwater bottom-dwelling animal with no backbone (insect, crustacean, mollusk, etc.).

<sup>2</sup> Having waters rich in mineral and organic nutrients that promote a proliferation of plant life, especially algae, which reduces the dissolved oxygen content and often causes the extinction of other organisms.

<sup>3</sup> The increasing concentration of a substance, such as a toxic chemical, in the tissues of organisms at successively higher levels in a food chain. Some chemical compounds are not recycled or released into the environment. Instead, they remain in the ecosystem virtually unchanged as they are passed from one organism to another by predation. If a population of fish lives in contaminated water, all of those fish will have the toxin present in their body tissues. However, larger fish that eat the smaller fish will contain the sum total of that toxin. Over time, larger fish will accumulate a disproportionate amount of the toxin.

Sediment erosion damages not only the river, as the outlet of stormwater runoff, but also the surrounding landscape itself. The Forest Preserves of Cook County's land contains numerous gullies making it susceptible to large-scale topsoil loss. Gullies can be responsible for between 10% and 95% of total sediment generated on a catchment scale (Posen et al 2003). In Illinois, gullies are responsible for an average of 9.4 tons of sediment lost per hectare per year or 35% of total soil loss in the state (USDA-NRCS 1997). Loss of this topsoil means more unstable land for

native plant species and lower productivity as well as habitat loss for ground-dwelling organisms.

It is important to recognize the influence that gullies have on riparian systems. As major contributors of undesirable materials to waterways, gullies should be identified and monitored as the first step to designing a plan to manage and mitigate their impact. Gully impact should be considered as landowners look to make their properties ecologically sustainable.

---

## Purpose and Objective of the Study

---

The initial two-year phase of the Gullywalking project involved gully identification and monitoring on lands owned by the Forest Preserves of Cook County (FPCC) along the banks of the Chicago River system and its tributaries, although the process is easily exported to any riparian corridor. FPCC property encompasses more than 69,000 acres and is the largest forest preserve district in the United States. The FPCC provide a multitude of outdoor recreation and environmental education opportunities to an estimated 40 million visitors each year, including canoeing, kayaking, hiking, biking, horseback riding, cross country skiing as well as birding and wildlife observation and monitoring.

Friends chose to focus the Gullywalking project on the FPCC for several reasons. The forest preserves are a critical natural resource which have been the victim of stormwater dumping and the Forest Preserve leadership is a willing partner that recently committed to restoring 30,000 acres over the next 25 years as part of their Next Century Plan. Addressing current stormwater impacts and preventing further damage are key issues in making this plan a success.

By utilizing Friends' volunteer base, the Chicago River Eco-Warriors (CREW), we offered continued training and recruitment for new and existing volunteers. Many CREW volunteers were already active in local restoration efforts and had expressed an interest in becoming more involved in site-based improvement.

Through this hands-on, on-the-ground work, volunteers increased their knowledge of the riparian landscape, developed a sense of ownership, and established a personal stake in the health of the Chicago River while supporting Friends' objectives to identify and improve gullies within the Chicago River system.

Friends' staff segmented the river into mapped sections of walkable length and worked with FPCC resource development staff to select initial sites. This phase of Gullywalking involved volunteer recruitment and training as well as gully identification and monitoring with a goal of 90% of the riverbank owned by FPCC surveyed by December 2013.

Through gullywalking, essential data was collected, aggregated, and summarized by CREW volunteers. In March and April 2014, a team of Friends' staff created a priority ranking system of identified gullies to drive future restoration projects and land management decisions. While larger more complex gullies will require professional restoration by FPCC, Friends' volunteers could restore smaller gullies through our River Volunteer Stewardship Program (RVSP) and River Action Days.



## Methodology

---

Friends recruited and trained 100 volunteer Gullywalkers to identify and document gullies along accessible segments of the riverbank owned by the Forest Preserves of Cook County. Volunteers walked just over 45 out of a total of 66 possible miles of riverbank with the remaining 11% deemed inaccessible. Surveyed sites included Beaubien Woods, Blue Star Memorial Woods, Bunker Hill Woods, Caldwell Woods, Calumet Woods, Chipilly Woods, Edgebrook Woods, Erickson Woods, Kickapoo Woods, LaBagh Woods, Linne Woods, Miami Woods, Somme Woods, Sunset Ridge Woods, Watersmeet Woods and Whistler Woods.

The Gullywalking project was broken into a step-by-step process that both utilized partners and engaged volunteers. There were five steps in the first phase of the Gullywalking project:

- 1) Project development,
- 2) Volunteer recruitment,
- 3) Volunteer training,
- 4) On-the-ground gully assessment, and
- 5) Gully analysis.

Project development included outreach and collaboration with the FPCC volunteer resource and management staff. These staff helped Friends prioritize sites, taking into consideration the availability of volunteers and the distribution of materials. The targeted land was broken up into 27 mapped sections of walkable length. Friends developed a thorough volunteer training, created Gullywalking Report forms, and bought or received donations of the equipment needed for volunteers to safely walk and assess river sections.

Volunteer recruitment relied on mobilizing our existing core group of CREW volunteers who were already active in local restoration efforts. Further outreach and recruitment included utilizing our extensive social media, e-communication, and partner networks as well as word of mouth.

Friends began training volunteers in the winter and worked closely with FPCC staff at the Volunteer Resource Center to utilize the classroom and facilities. Friends partnered with the REI Outdoor Center to support volunteer training on GPS devices. As winter turned to spring, Friends' staff and core volunteers adapted the training to be place-based thus encouraging broader range of volunteers. A mobile training allowed our new volunteer recruits to assess gullies with the help of more experienced volunteers in order to experientially learn how to use the equipment and reporting forms.

Starting in the winter of 2013, volunteers and trainers began the on-the-ground gully assessment. After training a core group of volunteers and identifying leaders, Friends provided "Gully Assessment Team Toolkits," which included three volunteer monitoring vests, a measuring tape, a GPS device, a clipboard, Gullywalking Report forms, and a laminated map of the river section for assessment. Volunteers were organized into groups of two or three and often recruited additional support to walk map sections. The volunteer leader contacted Friends when their section was completed and then turned in the Gullywalking Report forms. Information collected included each gully's GPS location, physical characteristics including depth and width at three measured distances, and any unusual conditions present in the gully or entry into the stream or river. All this data was entered into a comprehensive database.

Friends' staff and the GIS intern completed the gully analysis in the winter and spring of 2014. Utilizing both free, on-line GIS software and Google Earth, gullies were mapped according to size and severity. Friends' staff reviewed preliminary results and began ground-truthing gullies identified and areas of interest.

# Gully Assessment and Identification Results

---

A total of 139 gullies were identified along the reaches of the river. Of these, 78% were found along the Chicago River, while 22% were found along the Little Calumet River. This suggests that the gullies are evenly distributed along the river system.

As part of the assessment process, Friends stratified gullies into three distinct categories based on the level of severity:

- **Level One:**  
*Continue to Monitor Gullies*  
Depths Up to 1 Foot
- **Level Two:**  
*Gully Fixer Targets*  
Depths Between 1 and 3.5 Feet
- **Level Three:**  
*Extreme Gullies*  
Depths Greater than 3.5 Feet

This section will briefly explore the characteristics of these three types of gullies and provide some examples of these gullies within the FPCC. The examples used were identified by the Gullywalker volunteers as part of this assessment.

## Level One: *Continue to Monitor Gullies* Depths Up to 1 Foot

At many sites Gullywalker volunteers identified very small gullies that were just over the 30 cm (12 inch) threshold that defines a gully rather than a smaller rill (Table 1, page 14). Throughout the entire assessment area, volunteers identified 14 “Level One” gullies, accounting for 10% of the total gullies surveyed. These gullies should be monitored periodically to ensure they are not growing due to a new, possibly illicit, source of stormwater. A rapid increase in the size of these gullies could indicate a new source of stormwater entering the preserve from a non-natural source.

## Level Two: *Gully Fixer Targets* Depths Between 1 and 3.5 Feet

Friends’ volunteers identified and collected data on 101 gullies with depths between 1 and 3.5 feet (Table 2, page 14). These account for 73% of the total gullies surveyed. These gullies have been identified as targets for potential restoration by volunteers, either through Friends’ existing core or from the new volunteers recruited as part of the Centennial Volunteers, a partnership between Friends of the Chicago River, the Forest Preserves of Cook County, Friends of the Forest Preserves, and Audubon Chicago Region. See the Appendices on page 16 for maps with gully locations.

## Preserve Example: Bunker Hill Woods

The gully in Figure 1 is located in Bunker Hill Woods. Its maximum depth is 2.5 feet and it runs for 15 feet before draining into the North Branch of the Chicago River. This gully is similar in size and scope to many gullies identified by Gullywalker volunteers throughout the assessment area and it is a good target for restoration.



Figure 1: A Level Two gully at Bunker Hill Woods.



### Level Three: Extreme Gullies Depths Greater than 3.5 Feet

Friends' volunteers identified and collected data on 24 gullies with depths deeper than 3.5 feet throughout this process (Table 1, page 12). These accounted for 17% of the total gullies surveyed. Gullies located at Linne Woods (Figure 2) and Kickapoo Woods (Figure 3) of this size and scope are explored in this section, but overall these types of gullies were located throughout the assessment area (Page 19). Many of these gullies emanate from one large stormwater outfall, like the Linne Woods example (Figures 4 & 5), or from a series of stormwater outfalls that discharge into a common gully that flows into a nearby waterway, as is the case in Kickapoo Woods. Gullies that have drainage pipes as sources create more severe concerns than gullies without a point source. These gullies tend to be larger and deeper and can be found both on the Chicago and Little Calumet Rivers.



*Figure 2: Example of a Level Three gully at Linne Woods. Viewpoint is looking downhill along the gully towards the North Branch.*



*Figure 3: Example of a Level Three gully at Kickapoo Woods. Viewpoint is looking towards the Little Calumet River.*

These extreme gullies present a restoration challenge on two fronts. First, because the source for these gullies is frequently stormwater systems that are either antiquated or far removed from the discharge point, it is more difficult to greatly reduce the end of pipe flows during rain storms. Second, the FPCC lacks the authority to control upstream flows in these situations and must deal with the stormwater from the end of the pipe to its discharge into the waterway. In many cases these large gullies act as de facto tributaries, and restoration and naturalization activities around these systems should focus on managing the existing flow regimes to reduce, or even eliminate, future bank erosion while re-creating the natural processes present in tributaries and small streams.



## Preserve Example: Kickapoo Woods

Gullywalker volunteers identified 13 gullies along the banks of the Little Calumet River in Kickapoo Woods. Of these, eight (62%) contained portions with depths greater than 3.5 feet, ranging from 3.8 to 6 feet deep. Such a high percentage of deep gullies is indicative of an underlying problem at the site. These gullies represented some of the most severe cases in the southern portion of the assessment area.

The gully source in Figures 6 & 7 is a pipe, likely draining water from the graded and drained section of the preserve, as well as some residential development east of Halsted Street. The gully runs for more than 100 feet before draining into the Little Calumet River. It is deep throughout its course, ranging from 1.5 to 4.5 feet in depth. This gully is quite extensive and has a major impact on the health of the preserve and the woodland and prairie restoration that are present at the site. If unchecked, such a large gully will add large amounts of sediment and contaminants to the river.



*Figures 4 & 5: An extreme gully at Linne Woods. The source is from a pipe (top image), which drains 60 feet to the North Branch of the Chicago River (right image). Depth of the gully is up to five feet in places.*



*Figures 6 & 7: A Level Three gully at Kickapoo Woods. The source is from a pipe (top image), and drains to the Little Calumet River (right image). The river can be seen at the top of the image.*

## Conclusions and Next Steps

---

Gullies have been a part of the river landscape for decades and are often overlooked as a pollution source that should be addressed to improve the health of the river. Often due to archaic urban stormwater management practices and the continued growth of our built environment, these pollution issues continue to be a concern despite a regional commitment to green infrastructure by lead government agencies, the environmental community, and pressure from the Clean Water Act. To continue to improve the river's health however, these gullies must be addressed. It is time to develop and implement a process for the remediation of gullies to protect our woods and rivers.

Friends' Gullywalking project identified 139 gullies in the Forest Preserves of Cook County along the Chicago River system. Despite their range in size and severity, each one provides a channel for stormwater to flow directly into the river, eroding soil and contributing in some manner to the detrimental physical and chemical effects of sediments in and along the waterway.

Friends discovered that addressing their impacts was more complex than originally anticipated due to each gully's individual characteristics and location. So rather than just prioritizing gullies to fix, this report recommends several key next steps:

- 1) Include gully monitoring and mitigation as part of major landowners' master stewardship planning;
- 2) Produce a "Gully Guidance Manual" to identify best practices and technical solutions for volunteer gully fixing;
- 3) Develop a gully remediation plan with the FPCC including an approval process, permitting process, and monitoring; training protocols, and timelines for gully remediation;
- 4) Identify potential groups interested in gully fixing and share findings as well as "Gully Guidance Manual;"
- 5) Continue to work with volunteers to remediate moderate gullies that are accessible for volunteer crews and materials.

Identification of gullies is just the first step in the longer process of mitigating the impact of gullies. In order to reduce the harmful pollution and erosion of gullies, physical restoration work should be undertaken. Some of the gullies identified require large-scale contract work and coordination with entities such as the Metropolitan Water Reclamation District of Greater Chicago or the U.S. Army Corps of Engineers. These severe gullies (Level Three) often have a point source that requires maintenance or removal. This scale of work involves projects ranging from regrading efforts, utility work and contract work on pipes to construction of check dams, debris dams, or stone toe armoring.

Many of the gullies that were identified, however, could be fixed with a largely volunteer workforce and a minimal amount of material. Less severe gullies (Levels One and Two) can often be managed in a few steps. The first step would be to clear invasive vegetation in a 50 feet or larger buffer along the gully. After clearing vegetation, volunteers can install native plants and erosion control fabric in the main part of a gully, using plugs, seed, or a combination of both.

Native plants are powerful tools to mitigate stormwater runoff. Howard (1997) notes that "vegetation cover, because of its thinness, is often undervalued in terms of its control over landscape incision and evolution. Its resistance to erosion may be of the same order of magnitude as the underlying bedrock."

As with most restoration projects, these gullies would require monitoring after the initial fixing, to verify the establishment of the plant community, assess the efficacy of the repairs, and make modifications if necessary. While these general guidelines are useful to consider, it must be noted that each gully fixing project should be approached on an individual basis, as each gully has its own unique set of conditions.

Friends of the Chicago River is currently piloting a Gullyfixing project as an outgrowth of the Gullywalking success. Friends identified five Level Two gullies as candidates for rapid restoration. Permitted by the FPCC resource management staff, Friends engaged



professional contractors to clear the area around the gullies and replant and seed these gullies with native plants. Friends of the Chicago River also encourages the Forest Preserves of Cook County and other major landowners in the region to include gully monitoring and mitigation as part of their master stewardship planning. Their attention to stormwater mitigation and the repair of pipes and structures will greatly benefit the Chicago River by reducing sedimentation and contaminants to the river and protect natural lands throughout the watershed from erosion.

Friends is also developing a “Gully Guidance Manual” as a result of the Gullywalking project. After a thorough review of data and analysis, Friends recognized that gully fixing in the Chicago River system was far more complex and comprehensive than we anticipated. This manual will investigate best management practices that incorporate volunteer labor in fixing Level Two gullies. Gullies are found in watersheds throughout the country, particularly in urbanizing areas or places that have been severely altered through development. The manual will be a resource available locally as well as to other metropolitan areas looking to address the impact of gullies on their river systems. Upon completion of the “Gully Guidance Manual,” Friends will continue to engage volunteers in gully fixing projects in 2015 and

beyond through our River Action Days and volunteer activities as funding allows.

In the Chicago River system, Friends’ Gullywalking survey and analysis elevated discussions about the importance of taking action by highlighting the presence of gullies along the entire length of the river and the potential negative impacts to the river. Friends is committed to addressing the harmful effects of gullies on the Chicago River system.

As Friends continues to advance the recommendations of this report, we remain true to the following three goals to ensure long-term success for gully remediation:

- 1) Fostering strong relationships with agencies and partner organizations,
- 2) Creating standard protocols for remediation, and
- 3) Growing a cadre of volunteers and advocates to tackle moderate gullies.

In partnership with government agencies and large landowners, Friends remains eager to find sound solutions to fix the extensive gullies identified along the Chicago River system.



*Conservation Land Stewardship, Inc., a landscape restoration and management firm, burning invasive buckthorn as they assist Friends of the Chicago River and volunteers to fix a gully at Kickapoo Woods.*

**Table 1: Level One Gullies of Depths Up to 1 Foot**

| Location        | Lat (°N) | Long. (°W) | Gully #     | Width (ft) | Depth (ft) | Length (ft) | Water present? | Water condition |
|-----------------|----------|------------|-------------|------------|------------|-------------|----------------|-----------------|
| Blue Star       | 42.0631  | -87.7714   | M22G9100FT  | 12.0       | <1         | 100+        | Y              | Clear/Standing  |
| Blue Star       | 42.0562  | -87.7753   | M22G1720FT  | 4.0        | <1         | 40          | N              |                 |
| Blue Star       | 42.0556  | -87.7747   | M22G20100FT | 3.0        | <1         | 100+        | N              |                 |
| Bunker/Caldwell | 42.0000  | -87.7865   | M14G420FT   | 19.0       | <1         | 75          | N              |                 |
| Caldwell/Bunker | 41.9994  | -87.7799   | M9G103FT    | 2.3        | <1         | 4           | N              |                 |
| Chipilly        | 42.1366  | -87.8062   | M11G5100FT  | 6.0        | <1         | 100+        | Y              |                 |
| Erickson        | 42.0982  | -87.7583   | M1G628FT    | 8.0        | <1         | 28          | N              |                 |
| LaBagh          | 41.9779  | -87.7404   | M18G163FT   | 6.0        | <1         | 3-20        | N              |                 |
| Somme           | 42.1440  | -87.8141   | M10G33FT    | 2.0        | <1         | 20          | N              |                 |
| Somme           | 42.1427  | -87.8140   | M10G63FT    | 7.0        | <1         | 3-20        | Y              | Standing        |
| Somme           | 42.1430  | -87.8361   | M17G73FT    | 1.6        | <1         | 12          | N              |                 |
| Watersmeet      | 42.0811  | -87.7784   | M4G13FT     | 3.5        | <1         | 3-20        | N              |                 |
| Watersmeet      | 42.0926  | -87.7714   | M8G220FT    | 12.0       | <1         | 70          | N              |                 |
| Whistler        | 41.6565  | -87.6373   | M24G620FT   | 3.0        | <1         | 20-100      | N              |                 |

**Table 2: Level Two Gullies of Depths Between 1 and 3.5 Feet**

| Location        | Lat (°N) | Long. (°W) | Gully #    | Width (ft) | Depth (ft) | Length (ft) | Water present? | Water condition |
|-----------------|----------|------------|------------|------------|------------|-------------|----------------|-----------------|
| Beaubien        | 41.6463  | -87.5859   | M23G23FT   | 8          | 3.00       | 3-20        | Y              | Clear/Flowing   |
| Beaubien        | 41.6452  | -87.5846   | M23G33FT   | 14.5       | 2.83       | 20-100      | Y              | Clear/Standing  |
| Beaubien        | 41.6426  | -87.5797   | M23G420FT  | 8          | 2.17       | 20-100      | Y              | Clear/Flowing   |
| Beaubien        | 41.6422  | -87.5792   | M23G53FT   | 6          | 1.50       | 3-20        | N              |                 |
| Blue Star       | 42.0762  | -87.7758   | M13G133FT  | 4          | 2.00       | 3-20        | N              |                 |
| Blue Star       | 42.0761  | -87.7757   | M13G120FT  | 6          | 3.00       | 100+        | N              |                 |
| Blue Star       | 42.0722  | -87.7735   | M13G220FT  | 2.5        | 1.50       | 20          | N              |                 |
| Blue Star       | 42.0683  | -87.7748   | M21G4100FT | 6          | 2.00       | 100+        | Y              | Clear/Standing  |
| Blue Star       | 42.0681  | -87.7745   | M22G220FT  | 11         | 2.67       | 20-100      | Y              | Clear/Standing  |
| Blue Star       | 42.0671  | -87.7734   | M22G43FT   | 7          | 2.50       | 3-20        | N              |                 |
| Blue Star       | 42.0668  | -87.7733   | M22G53FT   | 6          | 2.50       | 3-20        | Y              | Cloudy/Flowing  |
| Blue Star       | 42.0664  | -87.7730   | M22G63FT   | 5          | 1.33       | 3-20        | N              |                 |
| Blue Star       | 42.0645  | -87.7719   | M22G820FT  | 8          | 1.50       | 20-100      | Y              | Cloudy/Standing |
| Blue Star       | 42.0608  | -87.7736   | M22G153FT  | 4          | 2.00       | 3-20        | N              |                 |
| Blue Star       | 42.0572  | -87.7746   | M22G163FT  | 2          | 2.00       | 3-20        | N              |                 |
| Blue Star       | 42.0596  | -87.7716   | M22G2220FT | 10         | 2.50       | 20-100      | N              |                 |
| Bunker/Caldwell | 42.0050  | -87.7921   | M14G720FT  | 14         | 1.25       | 20-100      | N              |                 |

| Location        | Lat<br>(°N) | Long.<br>(°W) | Gully #    | Width<br>(ft) | Depth<br>(ft) | Length<br>(ft) | Water<br>present? | Water<br>condition |
|-----------------|-------------|---------------|------------|---------------|---------------|----------------|-------------------|--------------------|
| Bunker/Caldwell | 42.0055     | -87.7920      | M14G83FT   | 9             | 2.50          | 15             | N                 |                    |
| Bunker/Caldwell | 42.0086     | -87.7926      | M14G1020FT | 9             | 1.50          | 20-100         | N                 |                    |
| Bunker/Caldwell | 42.0091     | -87.7967      | M14G113FT  | 10            | 1.33          | 3-20           | N                 |                    |
| Bunker/Caldwell | 42.0064     | -87.7916      | M14G123FT  | 12            | 1.25          | 9              | N                 |                    |
| Bunker/Caldwell | 42.0040     | -87.7924      | M14G153FT  | 10            | 2.50          | 10             | Y                 | Foaming/Flowing    |
| Bunker/Caldwell | 42.0004     | -87.7901      | M14G1820FT | 3             | 3.50          | 85             | Y                 | Oily sheen         |
| Bunker Hill     | 42.0145     | -87.7978      | M15G120FT  | 6.6           | 2.17          | 47             | N                 |                    |
| Bunker Hill     | 42.0151     | -87.7981      | M15G320FT  | 3.3           | 3.42          | 53             | N                 |                    |
| Bunker Hill     | 42.0154     | -87.7981      | M15G43FT   | 8.3           | 1.50          | 3-20           | N                 |                    |
| Bunker Hill     | 42.0158     | -87.7982      | M15G520FT  | 6.125         | 1.42          | 49             | N                 |                    |
| Caldwell/Bunker | 41.9978     | -87.7799      | M9G83FT    | 5.6           | 2.00          | 7              | N                 |                    |
| Caldwell/Bunker | 41.9994     | -87.7800      | M9G113FT   | 10.25         | 1.33          | 3-20           | N                 |                    |
| Caldwell/Bunker | 42.0017     | -87.7803      | M9G1220FT  | 10.33         | 2.33          | 20-100         | N                 |                    |
| Caldwell/Bunker | 42.0026     | -87.7805      | M9G143FT   | 3.33          | 2.17          | 20-100         | N                 |                    |
| Caldwell/Bunker | 42.0029     | -87.7809      | M9G153FT   | 3             | 2.00          | 3-20           | N                 |                    |
| Caldwell/Bunker | 42.0030     | -87.7820      | M9G16100FT | 1             | 1.58          | 100+           | N                 |                    |
| Calumet         | 41.6485     | -87.6695      | M25G13FT   | 7             | 1.50          | 3-20           | N                 |                    |
| Calumet         | 41.6509     | -87.6618      | M25G23FT   | 6             | 2.33          | 3-20           | N                 |                    |
| Calumet         | 41.6478     | -87.6694      | M26G13FT   | 4             | 1.08          | 3-20           | Y                 | Oily sheen/Flowing |
| Calumet         | 41.6443     | -87.6671      | M26G620FT  | 12            | 2.83          | 20-100         | Y                 | Clear/Flowing      |
| Calumet         | 41.6479     | -87.6698      | M26G73FT   | 3             | 1.58          | 100+           | Y                 | Clear/Flowing      |
| Chick Evans     | 42.0548     | -87.7753      | M21G1100FT | 20            | 3.00          | 100+           | N                 |                    |
| Chick Evans     | 42.0540     | -87.7743      | M21G3100FT | 6             | 3.00          | 100+           | N                 |                    |
| Chipilly        | 42.1351     | -87.8023      | M11G23FT   | 11            | 2.50          | 100+           | N                 |                    |
| Chipilly        | 42.1354     | -87.8041      | M11G320FT  | 20            | 2.00          | 100+           | Y                 | N/A                |
| Edgebrook       | 41.9841     | -87.7570      | M5G23FT    | 8.5           | 2.75          | 9              | N                 |                    |
| Edgebrook       | 41.9966     | -87.7715      | M6G520FT   | 9             | 1.33          | 23             | N                 |                    |
| Edgebrook       | 41.9972     | -87.7738      | M6G83FT    | 10            | 1.33          | 16             | N                 |                    |
| Edgebrook       | 41.9974     | -87.7773      | M6G1020FT  | 5.5           | 1.50          | 20             | N                 |                    |
| Edgebrook       | 41.9973     | -87.7775      | M6G113FT   | 5             | 2.50          | 3-20           | N                 |                    |
| Edgebrook       | 41.9881     | -87.7608      | M7G920FT   | 16.5          | 2.33          | 20-100         | N                 |                    |
| Edgebrook       | 41.9878     | -87.7608      | M7G103FT   | 15            | 3.00          | 100+           | N                 |                    |
| Edgebrook       | 41.9877     | -87.7608      | M7G1120FT  | 14            | 2.75          | 48             | N                 |                    |
| Erickson        | 42.0995     | -87.7582      | M1G120FT   | 4             | 2.50          | 100+           | N                 |                    |
| Erickson        | 42.0958     | -87.7567      | M1G220FT   | 9.5           | 2.50          | 20-100         | N                 |                    |
| Erickson        | 42.0953     | -87.7572      | M1G320FT   | 4             | 2.17          | 20-100         | N                 |                    |
| Erickson        | 42.0966     | -87.7573      | M1G4100FT  | 4.16          | 2.50          | 100+           | N                 |                    |
| Erickson        | 42.0973     | -87.7575      | M1G520FT   | 4             | 2.50          | 20-100         | N                 |                    |

| Location     | Lat (°N) | Long. (°W) | Gully #    | Width (ft) | Depth (ft) | Length (ft) | Water present? | Water condition |
|--------------|----------|------------|------------|------------|------------|-------------|----------------|-----------------|
| Erickson     | 42.0991  | -87.7586   | M1G725FT   | 3          | 2.50       | 25          | N              |                 |
| Erickson     | 42.0870  | -87.7655   | M3G120FT   | 8          | 1.67       | 20-100      | N              |                 |
| Erickson     | 42.0881  | -87.7637   | M3G33FT    | 3          | 3.00       | 3-20        | N              |                 |
| Kickapoo     | 41.6317  | -87.6497   | M27G23FT   | 5          | 1.50       | 43          | N              |                 |
| Kickapoo     | 41.6328  | -87.6506   | M27G33FT   | 9          | 2.25       | 20-100      | N              |                 |
| Kickapoo     | 41.6343  | -87.6528   | M27G520FT  | 16         | 2.42       | 100+        | N              |                 |
| Kickapoo     | 41.6301  | -87.6493   | M27G93FT   | 2.83       | 2.17       | 36          | N              |                 |
| Kickapoo     | 41.6329  | -87.6514   | M27G1120FT | 7          | 2.67       | 55          | N              |                 |
| LaBagh       | 41.9805  | -87.7405   | M18G7100FT | 3.25       | 1.08       | 100+        | Y              | Clear/Flowing   |
| Linne        | 42.0412  | -87.7879   | M19G13FT   | 4.5        | 1.42       | 15          | N              |                 |
| Linne        | 42.0435  | -87.7859   | M19G3100FT | 7.25       | 2.58       | 91          | N              |                 |
| Linne        | 42.0436  | -87.7858   | M19G43FT   | 13.5       | 1.58       | 64          | Y              | Flowing         |
| Linne        | 42.0454  | -87.7866   | M19G53FT   | 2.5        | 1.17       | 32          | N              |                 |
| Linne        | 42.0501  | -87.7805   | M20G1100FT | 6          | 1.50       | 100+        | Y              | Clear/Standing  |
| Linne        | 42.0472  | -87.7844   | M20G53FT   | 4.5        | 1.50       | 20-100      | N              |                 |
| Miami        | 42.0301  | -87.7939   | M16G320FT  | 4          | 1.50       | 29          | N              |                 |
| Miami        | 42.0319  | -87.7945   | M16G43FT   | 4.3        | 3.33       | 3-20        | N              |                 |
| Miami        | 42.0332  | -87.7947   | M16G53FT   | 4.3        | 2.00       | 3-20        | N              |                 |
| Miami        | 42.0342  | -87.7941   | M16G73FT   | 1.3        | 1.58       | 3-20        | N              |                 |
| Somme        | 42.1438  | -87.8138   | M10G1100FT | 8.5        | 3.00       | 100+        | Y              | Standing        |
| Somme        | 42.1438  | -87.8143   | M10G420FT  | 12         | 1.33       | 20-100      | Y              | Standing        |
| Somme        | 42.1411  | -87.8125   | M10G73FT   | 5          | 3.00       | 8           | N              |                 |
| Somme        | 42.1391  | -87.8105   | M10G83FT   | 7          | 2.33       | 40          | N              | Standing        |
| Somme        | 42.0400  | -87.7883   | M17G13FT   | 4.5        | 2.42       | 61          | N              |                 |
| Somme        | 42.1411  | -87.8349   | M17G23FT   | 3.3        | 2.33       | 10          | N              |                 |
| Somme        | 42.1420  | -87.8355   | M17G320FT  | 3.3        | 3.33       | 20-100      | N              |                 |
| Somme        | 42.1452  | -87.8373   | M17G123FT  | 3.5        | 2.50       | 8           | N              |                 |
| Somme        | 42.1387  | -87.8348   | M17G133FT  | 2.33       | 1.50       | 3-20        | N              |                 |
| Somme        | 42.1402  | -87.8347   | M17G143FT  | 2.5        | 1.08       | 3-20        | N              |                 |
| Somme        | 42.1422  | -87.8354   | M17G173FT  | 3.33       | 1.33       | 3-20        | N              |                 |
| Sunset Ridge | 41.9935  | -87.7734   | M12G13FT   | 7.3        | 2.42       | 3-20        | N              |                 |
| Sunset Ridge | 42.1241  | -87.7914   | M12G43FT   | 4          | 1.67       | 3-20        | N              |                 |
| Sunset Ridge | 42.1244  | -87.7907   | M12G53FT   | 5          | 1.67       | 3-20        | N              |                 |
| Sunset Ridge | 42.1266  | -87.7929   | M12G620FT  | 13         | 2.25       | 20-100      | N              |                 |
| Sunset Ridge | 42.1309  | -87.7989   | M12G820FT  | 9          | 3.25       | 20-100      | Y              | Clear/Flowing   |
| Watersmeet   | 42.0940  | -87.7709   | M8G13FT    | 4          | 2.50       | 100+        | Y              | Clear           |
| Watersmeet   | 42.0905  | -87.7719   | M8G33FT    | 10         | 1.25       | 20-100      | Y              | Clear           |
| Watersmeet   | 42.0898  | -87.7720   | M8G420FT   | 12         | 1.50       | 100+        | Y              | N/A             |

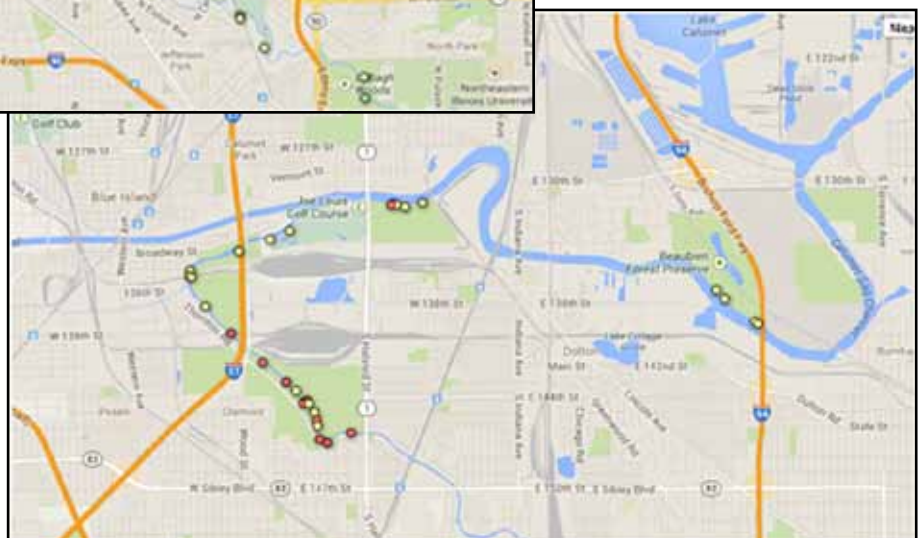
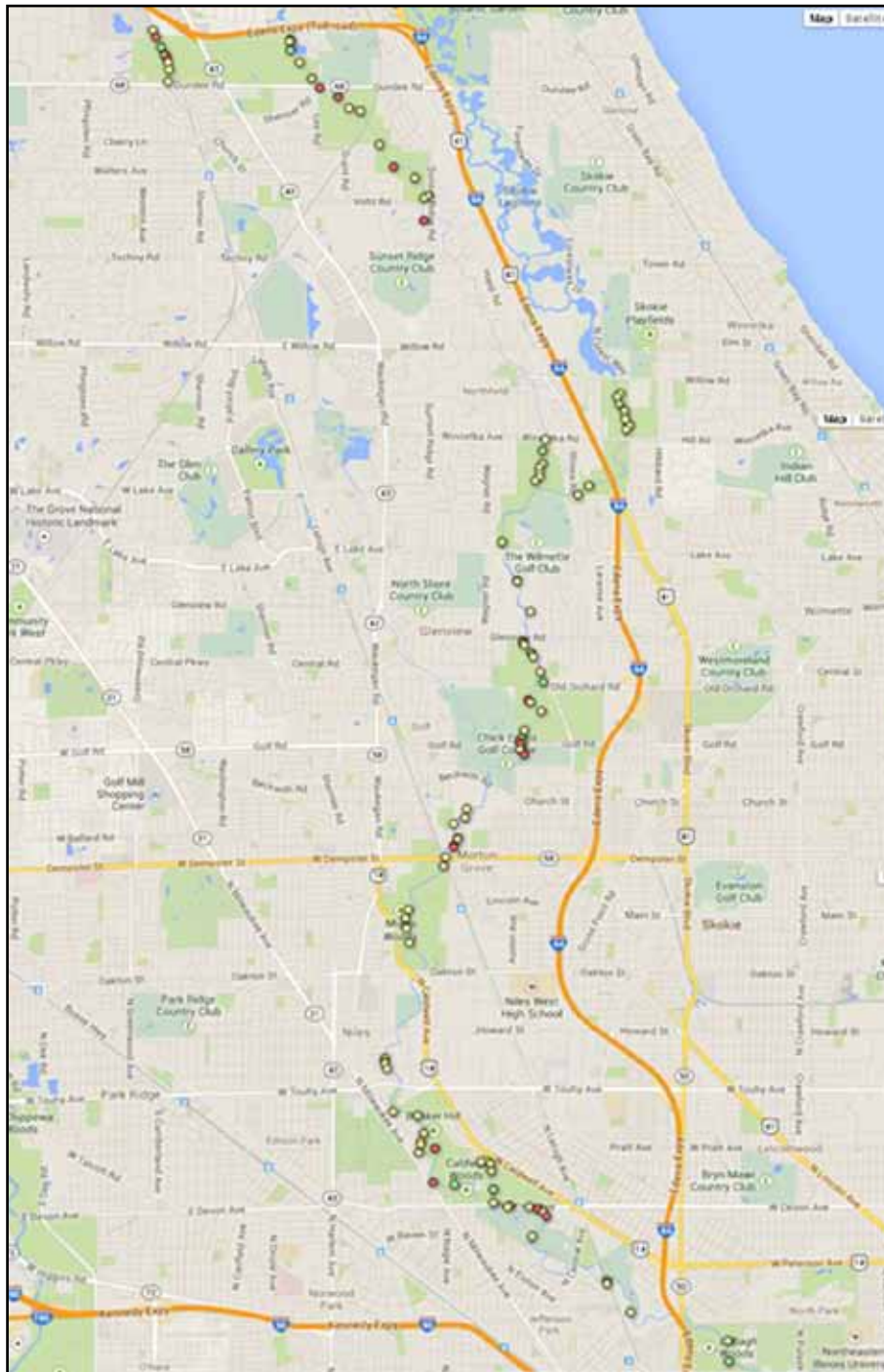
| Location   | Lat (°N) | Long. (°W) | Gully #    | Width (ft) | Depth (ft) | Length (ft) | Water present? | Water condition |
|------------|----------|------------|------------|------------|------------|-------------|----------------|-----------------|
| Watersmeet | 42.0894  | -87.7721   | M8G520FT   | 12         | 1.25       | 60          | N              |                 |
| Watersmeet | 42.0889  | -87.7730   | M8G6100FT  | 8          | 1.50       | 100+        | Y              | N/A             |
| Watersmeet | 42.0909  | -87.7715   | M8G73FT    | 12         | 2.00       | 3-20        | Y              | N/A             |
| Whistler   | 41.6566  | -87.6326   | M24G33FT   | 2          | 1.50       | 3-20        | N              |                 |
| Whistler   | 41.6561  | -87.6353   | M24G4100FT | 10         | 1.08       | 100+        | N              |                 |
| Whistler   | 41.6563  | -87.6367   | M24G53FT   | 13         | 1.83       | 41          | N              |                 |
| Whistler   | 41.6523  | -87.6568   | M24G1120FT | 5          | 1.75       | 20-100      | N              |                 |
| Whistler   | 41.6534  | -87.6538   | M24G1420FT | 5          | 2.00       | 20-100      | N              |                 |

**Table 3: Level Three Gullies of Depths Greater Than 3.5 Feet**

| Location        | Lat (°N) | Long. (°W) | Gully #     | Width (ft) | Depth (ft) | Length (ft) | Water present? | Water condition |
|-----------------|----------|------------|-------------|------------|------------|-------------|----------------|-----------------|
| Blue Star       | 42.0610  | -87.7738   | M22G133FT   | 20.0       | 6.0        | 20-100      | N              |                 |
| Blue Star       | 42.0557  | -87.7755   | M22G1820FT  | 6.0        | 4.0        | 20-100      | Y              | Clear/Flowing   |
| Blue Star       | 42.0555  | -87.7754   | M22G193FT   | 5.0        | 4.0        | 20-100      | N              |                 |
| Bunker/Caldwell | 42.0045  | -87.7897   | M14G63FT    | 10         | 3.5        | 16          | Y              | Clear/Standing  |
| Calumet         | 41.6411  | -87.6630   | M26G53FT    | 15.0       | 4.0        | 100+        | N              |                 |
| Chipilly        | 42.1379  | -87.8092   | M11G63FT    | 3.3        | 5.0        | 3-20        | N              |                 |
| Edgebrook       | 41.9961  | -87.7710   | M6G220FT    | 10.0       | 5.0        | 20-100      | N              |                 |
| Edgebrook       | 41.9970  | -87.7725   | M6G720FT    | 13.0       | 4.0        | 20-100      | N              |                 |
| Kickapoo        | 41.6293  | -87.6440   | M27G120FT   | 13.0       | 4.2        | 100+        | Y              | Standing        |
| Kickapoo        | 41.6331  | -87.6511   | M27G420FT   | 15.0       | 4.1        | 100+        | N              |                 |
| Kickapoo        | 41.6282  | -87.6478   | M27G63FT    | 10.0       | 5.3        | 20-100      | Y              | Clear/Flowing   |
| Kickapoo        | 41.6283  | -87.6487   | M27G73FT    | 4.0        | 8.0        | 3-20        | N              |                 |
| Kickapoo        | 41.6285  | -87.6489   | M27G820FT   | 13.3       | 4.3        | 20-100      | N              |                 |
| Kickapoo        | 41.6308  | -87.6495   | M27G103FT   | 9.5        | 5.0        | 20-100      | Y              | Clear/Flowing   |
| Kickapoo        | 41.6328  | -87.6514   | M27G123FT   | 8.3        | 4.8        | 3-20        | Y              | Ice             |
| Kickapoo        | 41.6376  | -87.6580   | M27G13100FT | 18.0       | 6.0        | 100+        | Y              | Clear/Flowing   |
| Linne           | 42.0425  | -87.7865   | M15G220FT   | 12.8       | 5.8        | 20-100      | Y              | Clear           |
| Linne           | 42.0425  | -87.7866   | M19G23FT    | 12.3       | 4.8        | 3-20        | Y              | Clear           |
| Kickapoo        | 41.6354  | -87.6542   | M27G143FT   | 8.8        | 3.8        | 20-100      | N              |                 |
| Somme           | 42.1443  | -87.8368   | M17G113FT   | 4.1        | 3.8        | 3-20        | N              |                 |
| Sunset Ridge    | 42.1298  | -87.7903   | M12G320FT   | 16.0       | 5.0        | 20-100      | N              |                 |
| Sunset Ridge    | 42.1280  | -87.7966   | M12G73FT    | 9.3        | 3.6        | 100+        | Y              | Cloudy/Standing |
| Somme           | 42.1417  | -87.8350   | M17G1620FT  | 6.0        | 6.0        | 20-100      | N              |                 |
| Whistler        | 41.6563  | -87.6376   | M24G7100FT  | 19.0       | 4.0        | 100+        | Y              | Clear/Flowing   |

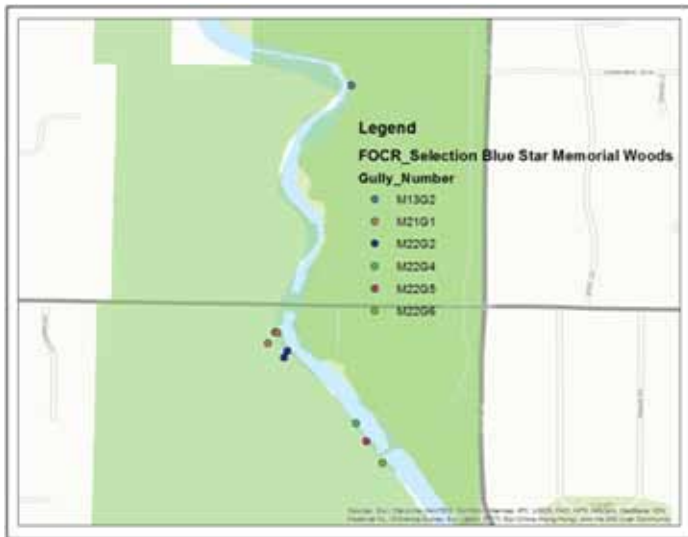


## Gully Locations on the Chicago River

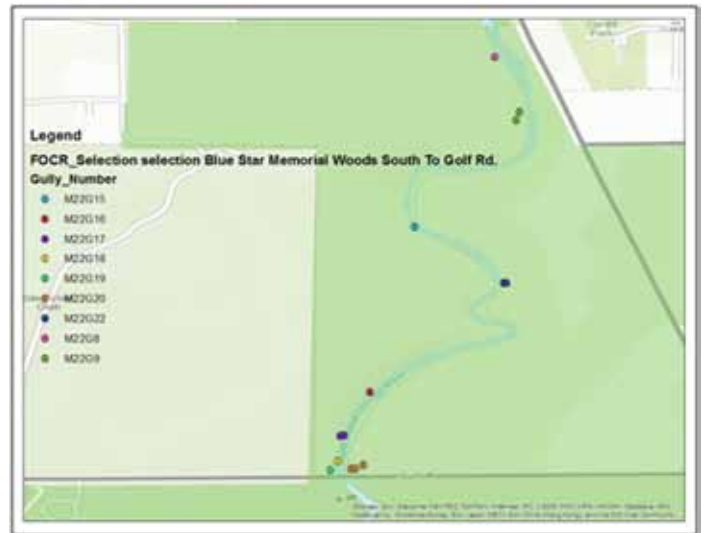


# Gully Maps: Level Two Gullies of Depths Between 1 and 3.5 Feet

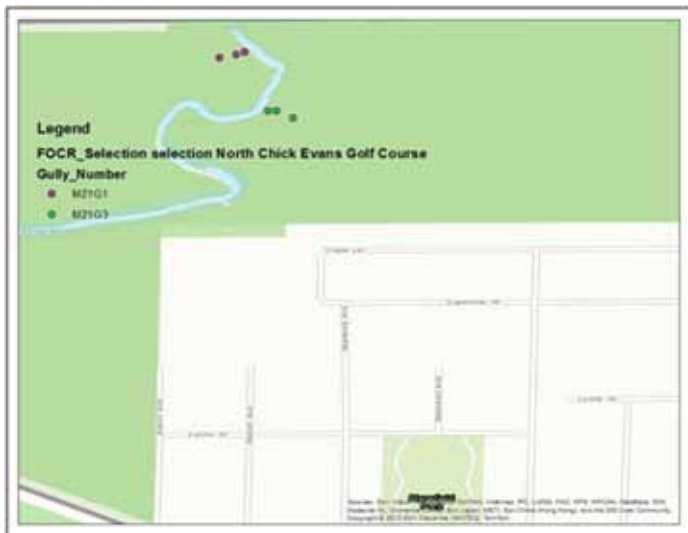
Blue Star Memorial Woods



Blue Star Memorial Woods South



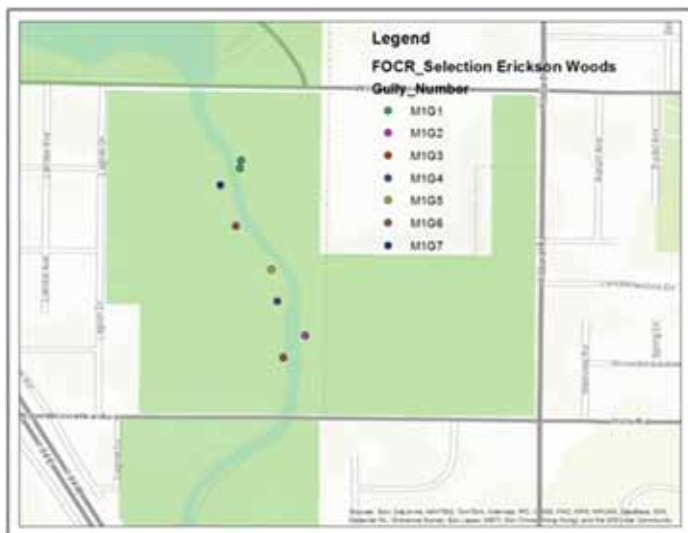
Chick Evans Golf Course North



Chipilly Woods



Erickson Woods



Erickson Woods South



# Gully Maps: Level Two Gullies of Depths Between 1 and 3.5 Feet

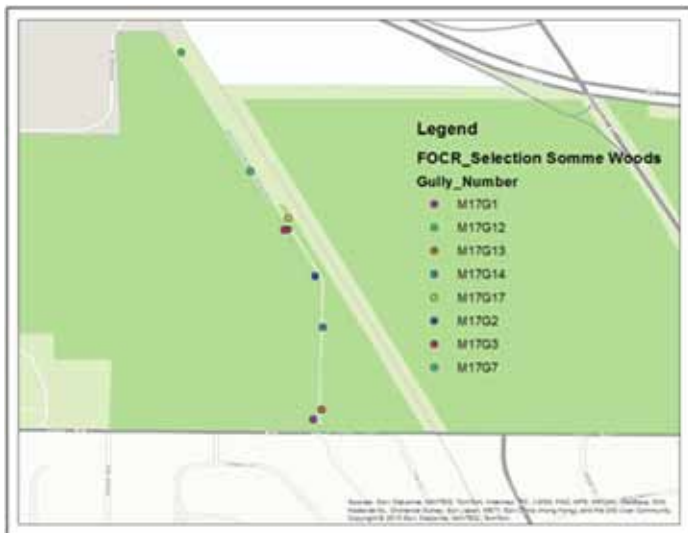
Kickapoo Woods



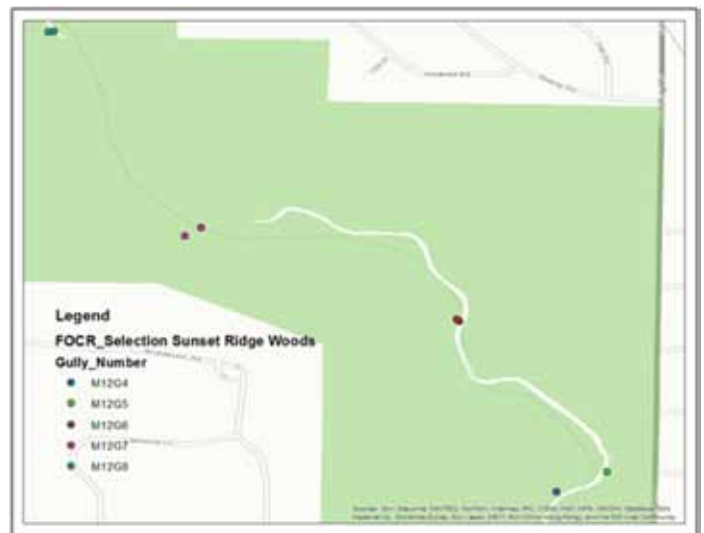
Linne Woods



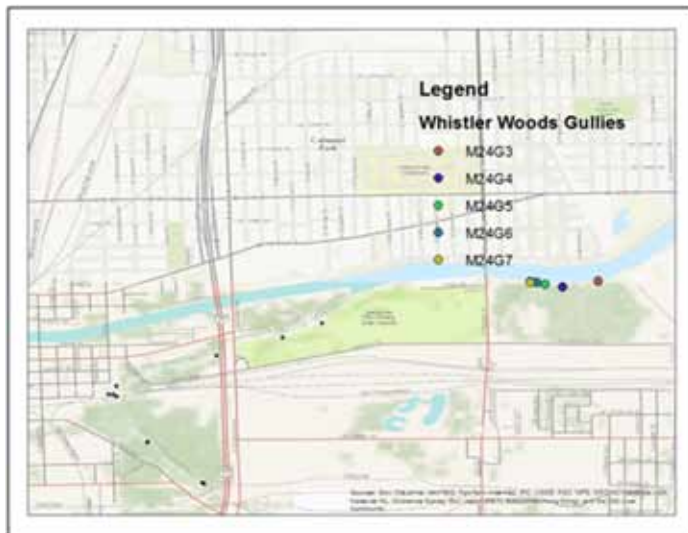
Somme Woods



Sunset Ridge Woods

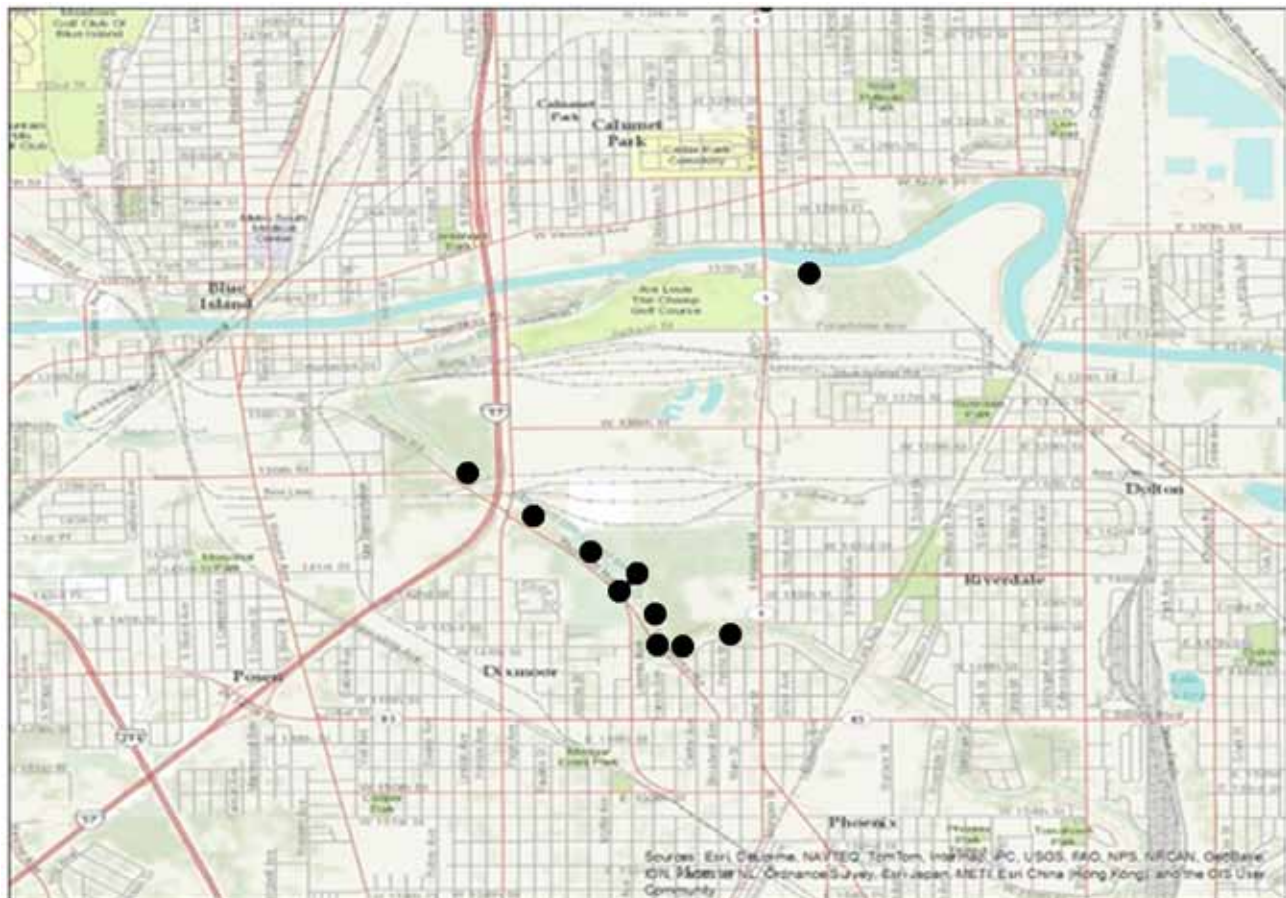
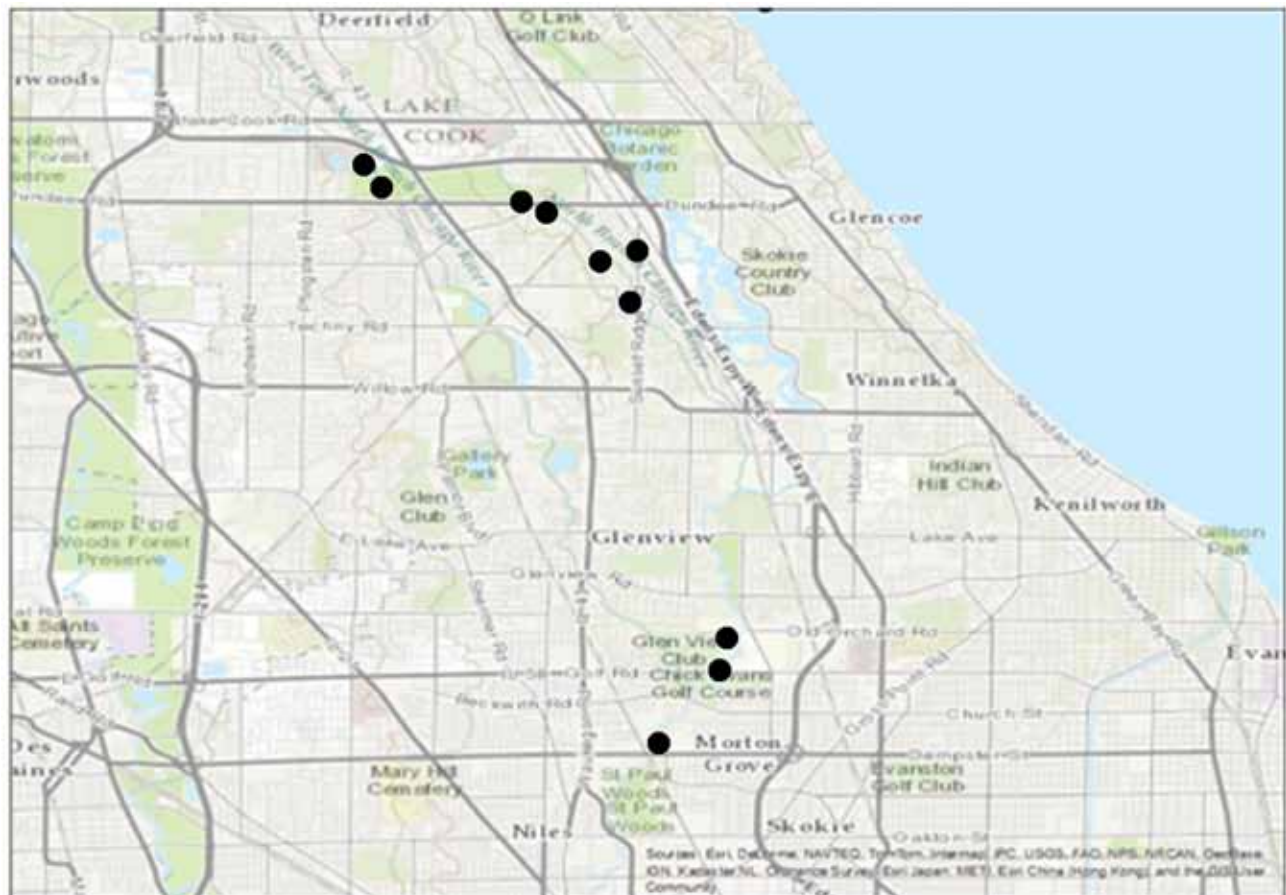


Whistler Woods



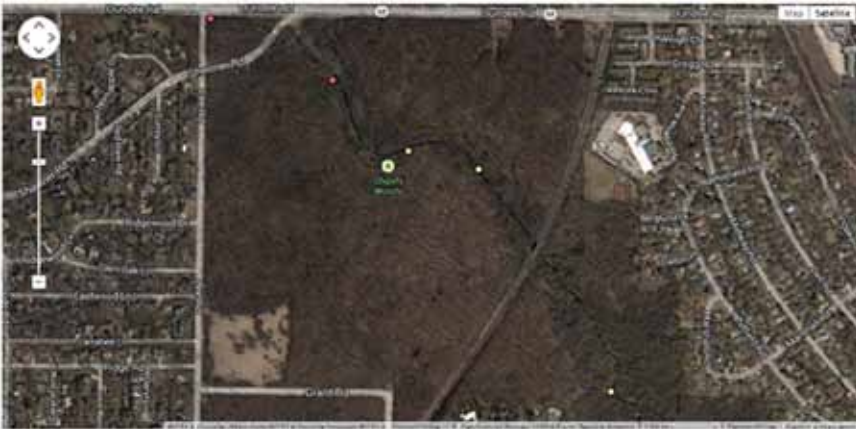


## Gully Maps: Level Three Gullies of Depths Greater Than 3.5 Feet



# Google Maps of Gullies at Forest Preserve Sites

Chipilly Woods



Somme East



Somme West



Sunset Ridge Woods





## All Gully Data in Alphabetical Order

| Location        | Lat (°N) | Long. (°W) | Gully #     | Width (ft) | Depth (ft) | Length (ft) | Water present? | Water condition |
|-----------------|----------|------------|-------------|------------|------------|-------------|----------------|-----------------|
| Beaubien        | 41.6463  | -87.5859   | M23G23FT    | 8          | 3.00       | 3-20        | Y              | Clear/Flowing   |
| Beaubien        | 41.6452  | -87.5846   | M23G33FT    | 14.5       | 2.83       | 20-100      | Y              | Clear/Standing  |
| Beaubien        | 41.6426  | -87.5797   | M23G420FT   | 8          | 2.17       | 20-100      | Y              | Clear/Flowing   |
| Beaubien        | 41.6422  | -87.5792   | M23G53FT    | 6          | 1.50       | 3-20        | N              |                 |
| Blue Star       | 42.0631  | -87.7714   | M22G9100FT  | 12.0       | 1.0        | 100+        | Y              | Clear/Standing  |
| Blue Star       | 42.0562  | -87.7753   | M22G1720FT  | 4.0        | 1.0        | 40          | N              |                 |
| Blue Star       | 42.0556  | -87.7747   | M22G20100FT | 3.0        | 1.0        | 100+        | N              |                 |
| Blue Star       | 42.0762  | -87.7758   | M13G133FT   | 4          | 2.00       | 3-20        | N              |                 |
| Blue Star       | 42.0761  | -87.7757   | M13G120FT   | 6          | 3.00       | 100+        | N              |                 |
| Blue Star       | 42.0722  | -87.7735   | M13G220FT   | 2.5        | 1.50       | 20          | N              |                 |
| Blue Star       | 42.0683  | -87.7748   | M21G4100FT  | 6          | 2.00       | 100+        | Y              | Clear/Standing  |
| Blue Star       | 42.0681  | -87.7745   | M22G220FT   | 11         | 2.67       | 20-100      | Y              | Clear/Standing  |
| Blue Star       | 42.0671  | -87.7734   | M22G43FT    | 7          | 2.50       | 3-20        | N              |                 |
| Blue Star       | 42.0668  | -87.7733   | M22G53FT    | 6          | 2.50       | 3-20        | Y              | Cloudy/Flowing  |
| Blue Star       | 42.0664  | -87.7730   | M22G63FT    | 5          | 1.33       | 3-20        | N              |                 |
| Blue Star       | 42.0645  | -87.7719   | M22G820FT   | 8          | 1.50       | 20-100      | Y              | Cloudy/Standing |
| Blue Star       | 42.0608  | -87.7736   | M22G153FT   | 4          | 2.00       | 3-20        | N              |                 |
| Blue Star       | 42.0572  | -87.7746   | M22G163FT   | 2          | 2.00       | 3-20        | N              |                 |
| Blue Star       | 42.0596  | -87.7716   | M22G2220FT  | 10         | 2.50       | 20-100      | N              |                 |
| Blue Star       | 42.0610  | -87.7738   | M22G133FT   | 20.0       | 6.0        | 20-100      | N              |                 |
| Blue Star       | 42.0557  | -87.7755   | M22G1820FT  | 6.0        | 4.0        | 20-100      | Y              | Clear/Flowing   |
| Blue Star       | 42.0555  | -87.7754   | M22G193FT   | 5.0        | 4.0        | 20-100      | N              |                 |
| Bunker/Caldwell | 42.0050  | -87.7921   | M14G720FT   | 14         | 1.25       | 20-100      | N              |                 |
| Bunker/Caldwell | 42.0055  | -87.7920   | M14G83FT    | 9          | 2.50       | 15          | N              |                 |
| Bunker/Caldwell | 42.0086  | -87.7926   | M14G1020FT  | 9          | 1.50       | 20-100      | N              |                 |
| Bunker/Caldwell | 42.0091  | -87.7967   | M14G113FT   | 10         | 1.33       | 3-20        | N              |                 |
| Bunker/Caldwell | 42.0064  | -87.7916   | M14G123FT   | 12         | 1.25       | 9           | N              |                 |
| Bunker/Caldwell | 42.0040  | -87.7924   | M14G153FT   | 10         | 2.50       | 10          | Y              | Foamy/Flowing   |
| Bunker/Caldwell | 42.0004  | -87.7901   | M14G1820FT  | 3          | 3.50       | 85          | Y              | Oily sheen      |
| Bunker/Caldwell | 42.0045  | -87.7897   | M14G63FT    | 10         | 3.50       | 16          | Y              | Clear/Standing  |
| Bunker/Caldwell | 42.0000  | -87.7865   | M14G420FT   | 19.0       | 1.0        | 75          | N              |                 |
| Bunker Hill     | 42.0145  | -87.7978   | M15G120FT   | 6.6        | 2.17       | 47          | N              |                 |
| Bunker Hill     | 42.0151  | -87.7981   | M15G320FT   | 3.3        | 3.42       | 53          | N              |                 |
| Bunker Hill     | 42.0154  | -87.7981   | M15G43FT    | 8.3        | 1.50       | 3-20        | N              |                 |
| Bunker Hill     | 42.0158  | -87.7982   | M15G520FT   | 6.125      | 1.42       | 49          | N              |                 |
| Caldwell/Bunker | 41.9994  | -87.7799   | M9G103FT    | 2.3        | 1.0        | 4           | N              |                 |

| Location        | Lat<br>(°N) | Long.<br>(°W) | Gully #    | Width<br>(ft) | Depth<br>(ft) | Length<br>(ft) | Water<br>present? | Water<br>condition |
|-----------------|-------------|---------------|------------|---------------|---------------|----------------|-------------------|--------------------|
| Caldwell/Bunker | 41.9978     | -87.7799      | M9G83FT    | 5.6           | 2.00          | 7              | N                 |                    |
| Caldwell/Bunker | 41.9994     | -87.7800      | M9G113FT   | 10.25         | 1.33          | 3-20           | N                 |                    |
| Caldwell/Bunker | 42.0017     | -87.7803      | M9G1220FT  | 10.33         | 2.33          | 20-100         | N                 |                    |
| Caldwell/Bunker | 42.0026     | -87.7805      | M9G143FT   | 3.33          | 2.17          | 20-100         | N                 |                    |
| Caldwell/Bunker | 42.0029     | -87.7809      | M9G153FT   | 3             | 2.00          | 3-20           | N                 |                    |
| Caldwell/Bunker | 42.0030     | -87.7820      | M9G16100FT | 1             | 1.58          | 100+           | N                 |                    |
| Calumet         | 41.6485     | -87.6695      | M25G13FT   | 7             | 1.50          | 3-20           | N                 |                    |
| Calumet         | 41.6509     | -87.6618      | M25G23FT   | 6             | 2.33          | 3-20           | N                 |                    |
| Calumet         | 41.6478     | -87.6694      | M26G13FT   | 4             | 1.08          | 3-20           | Y                 | Oily sheen/Flowing |
| Calumet         | 41.6443     | -87.6671      | M26G620FT  | 12            | 2.83          | 20-100         | Y                 | Clear/Flowing      |
| Calumet         | 41.6479     | -87.6698      | M26G73FT   | 3             | 1.58          | 100+           | Y                 | Clear/Standing     |
| Calumet         | 41.6411     | -87.6630      | M26G53FT   | 15.0          | 4.0           | 100+           | N                 |                    |
| Chick Evans     | 42.0548     | -87.7753      | M21G1100FT | 20            | 3.00          | 100+           | N                 |                    |
| Chick Evans     | 42.0540     | -87.7743      | M21G3100FT | 6             | 3.00          | 100+           | N                 |                    |
| Chipilly        | 42.1366     | -87.8062      | M11G5100FT | 6.0           | 1.0           | 100+           | Y                 |                    |
| Chipilly        | 42.1351     | -87.8023      | M11G23FT   | 11            | 2.50          | 100+           | N                 |                    |
| Chipilly        | 42.1354     | -87.8041      | M11G320FT  | 20            | 2.00          | 100+           | Y                 | N/A                |
| Chipilly        | 42.1379     | -87.8092      | M11G63FT   | 3.3           | 5.0           | 3-20           | N                 |                    |
| Edgebrook       | 41.9841     | -87.7570      | M5G23FT    | 8.5           | 2.75          | 9              | N                 |                    |
| Edgebrook       | 41.9966     | -87.7715      | M6G520FT   | 9             | 1.33          | 23             | N                 |                    |
| Edgebrook       | 41.9972     | -87.7738      | M6G83FT    | 10            | 1.33          | 16             | N                 |                    |
| Edgebrook       | 41.9974     | -87.7773      | M6G1020FT  | 5.5           | 1.50          | 20             | N                 |                    |
| Edgebrook       | 41.9973     | -87.7775      | M6G113FT   | 5             | 2.50          | 3-20           | N                 |                    |
| Edgebrook       | 41.9881     | -87.7608      | M7G920FT   | 16.5          | 2.33          | 20-100         | N                 |                    |
| Edgebrook       | 41.9878     | -87.7608      | M7G103FT   | 15            | 3.00          | 100+           | N                 |                    |
| Edgebrook       | 41.9877     | -87.7608      | M7G1120FT  | 14            | 2.75          | 48             | N                 |                    |
| Edgebrook       | 41.9961     | -87.7710      | M6G220FT   | 10.0          | 5.0           | 20-100         | N                 |                    |
| Edgebrook       | 41.9970     | -87.7725      | M6G720FT   | 13.0          | 4.0           | 20-100         | N                 |                    |
| Erickson        | 42.0982     | -87.7583      | M1G628FT   | 8.0           | 1.0           | 28             | N                 |                    |
| Erickson        | 42.0995     | -87.7582      | M1G120FT   | 4             | 2.50          | 100+           | N                 |                    |
| Erickson        | 42.0958     | -87.7567      | M1G220FT   | 9.5           | 2.50          | 20-100         | N                 |                    |
| Erickson        | 42.0953     | -87.7572      | M1G320FT   | 4             | 2.17          | 20-100         | N                 |                    |
| Erickson        | 42.0966     | -87.7573      | M1G4100FT  | 4.16          | 2.50          | 100+           | N                 |                    |
| Erickson        | 42.0973     | -87.7575      | M1G520FT   | 4             | 2.50          | 20-100         | N                 |                    |
| Erickson        | 42.0991     | -87.7586      | M1G725FT   | 3             | 2.50          | 25             | N                 |                    |
| Erickson        | 42.0870     | -87.7655      | M3G120FT   | 8             | 1.67          | 20-100         | N                 |                    |
| Erickson        | 42.0881     | -87.7637      | M3G33FT    | 3             | 3.00          | 3-20           | N                 |                    |
| Kickapoo        | 41.6317     | -87.6497      | M27G23FT   | 5             | 1.50          | 43             | N                 |                    |

| Location | Lat<br>(°N) | Long.<br>(°W) | Gully #     | Width<br>(ft) | Depth<br>(ft) | Length<br>(ft) | Water<br>present? | Water<br>condition |
|----------|-------------|---------------|-------------|---------------|---------------|----------------|-------------------|--------------------|
| Kickapoo | 41.6328     | -87.6506      | M27G33FT    | 9             | 2.25          | 20-100         | N                 |                    |
| Kickapoo | 41.6343     | -87.6528      | M27G520FT   | 16            | 2.42          | 100+           | N                 |                    |
| Kickapoo | 41.6301     | -87.6493      | M27G93FT    | 2.83          | 2.17          | 36             | N                 |                    |
| Kickapoo | 41.6329     | -87.6514      | M27G1120FT  | 7             | 2.67          | 55             | N                 |                    |
| Kickapoo | 41.6293     | -87.6440      | M27G120FT   | 13.0          | 4.2           | 100+           | Y                 | Standing           |
| Kickapoo | 41.6331     | -87.6511      | M27G420FT   | 15.0          | 4.1           | 100+           | N                 |                    |
| Kickapoo | 41.6282     | -87.6478      | M27G63FT    | 10.0          | 5.3           | 20-100         | Y                 | Clear/Flowing      |
| Kickapoo | 41.6283     | -87.6487      | M27G73FT    | 4.0           | 8.0           | 3-20           | N                 |                    |
| Kickapoo | 41.6285     | -87.6489      | M27G820FT   | 13.3          | 4.3           | 20-100         | N                 |                    |
| Kickapoo | 41.6308     | -87.6495      | M27G103FT   | 9.5           | 5.0           | 20-100         | Y                 | Clear/Flowing      |
| Kickapoo | 41.6328     | -87.6514      | M27G123FT   | 8.3           | 4.8           | 3-20           | Y                 | Ice                |
| Kickapoo | 41.6376     | -87.6580      | M27G13100FT | 18.0          | 6.0           | 100+           | Y                 | Clear/Flowing      |
| Kickapoo | 41.6354     | -87.6542      | M27G143FT   | 8.8           | 3.8           | 20-100         | N                 |                    |
| LaBagh   | 41.9779     | -87.7404      | M18G163FT   | 6.0           | 1.0           | 3-20           | N                 |                    |
| LaBagh   | 41.9805     | -87.7405      | M18G7100FT  | 3.25          | 1.08          | 100+           | Y                 | Clear/Flowing      |
| Linne    | 42.0412     | -87.7879      | M19G13FT    | 4.5           | 1.42          | 15             | N                 |                    |
| Linne    | 42.0435     | -87.7859      | M19G3100FT  | 7.25          | 2.58          | 91             | N                 |                    |
| Linne    | 42.0436     | -87.7858      | M19G43FT    | 13.5          | 1.58          | 64             | Y                 | Flowing            |
| Linne    | 42.0454     | -87.7866      | M19G53FT    | 2.5           | 1.17          | 32             | N                 |                    |
| Linne    | 42.0501     | -87.7805      | M20G1100FT  | 6             | 1.50          | 100+           | Y                 | Clear/Standing     |
| Linne    | 42.0472     | -87.7844      | M20G53FT    | 4.5           | 1.50          | 20-100         | N                 |                    |
| Linne    | 42.0425     | -87.7865      | M15G220FT   | 12.8          | 5.8           | 20-100         | Y                 | Clear              |
| Linne    | 42.0425     | -87.7866      | M19G23FT    | 12.3          | 4.8           | 3-20           | Y                 | Clear              |
| Miami    | 42.0301     | -87.7939      | M16G320FT   | 4             | 1.50          | 29             | N                 |                    |
| Miami    | 42.0319     | -87.7945      | M16G43FT    | 4.3           | 3.33          | 3-20           | N                 |                    |
| Miami    | 42.0332     | -87.7947      | M16G53FT    | 4.3           | 2.00          | 3-20           | N                 |                    |
| Miami    | 42.0342     | -87.7941      | M16G73FT    | 1.3           | 1.58          | 3-20           | N                 |                    |
| Somme    | 42.1430     | -87.8361      | M17G73FT    | 1.6           | 1.0           | 12             | N                 |                    |
| Somme    | 42.1440     | -87.8141      | M10G33FT    | 2.0           | 1.0           | 20             | N                 |                    |
| Somme    | 42.1427     | -87.8140      | M10G63FT    | 7.0           | 1.0           | 3-20           | Y                 | Standing           |
| Somme    | 42.1438     | -87.8138      | M10G1100FT  | 8.5           | 3.00          | 100+           | Y                 | Standing           |
| Somme    | 42.1438     | -87.8143      | M10G420FT   | 12            | 1.33          | 20-100         | Y                 | Standing           |
| Somme    | 42.1411     | -87.8125      | M10G73FT    | 5             | 3.00          | 8              | N                 |                    |
| Somme    | 42.1391     | -87.8105      | M10G83FT    | 7             | 2.33          | 40             | N                 | Standing           |
| Somme    | 42.0400     | -87.7883      | M17G13FT    | 4.5           | 2.42          | 61             | N                 |                    |
| Somme    | 42.1411     | -87.8349      | M17G23FT    | 3.3           | 2.33          | 10             | N                 |                    |
| Somme    | 42.1420     | -87.8355      | M17G320FT   | 3.3           | 3.33          | 20-100         | N                 |                    |
| Somme    | 42.1452     | -87.8373      | M17G123FT   | 3.5           | 2.50          | 8              | N                 |                    |

| Location     | Lat<br>(°N) | Long.<br>(°W) | Gully #    | Width<br>(ft) | Depth<br>(ft) | Length<br>(ft) | Water<br>present? | Water<br>condition |
|--------------|-------------|---------------|------------|---------------|---------------|----------------|-------------------|--------------------|
| Somme        | 42.1387     | -87.8348      | M17G133FT  | 2.33          | 1.50          | 3-20           | N                 |                    |
| Somme        | 42.1402     | -87.8347      | M17G143FT  | 2.5           | 1.08          | 3-20           | N                 |                    |
| Somme        | 42.1422     | -87.8354      | M17G173FT  | 3.33          | 1.33          | 3-20           | N                 |                    |
| Somme        | 42.1443     | -87.8368      | M17G113FT  | 4.1           | 3.8           | 3-20           | N                 |                    |
| Somme        | 42.1417     | -87.8350      | M17G1620FT | 6.0           | 6.0           | 20-100         | N                 |                    |
| Sunset Ridge | 41.9935     | -87.7734      | M12G13FT   | 7.3           | 2.42          | 3-20           | N                 |                    |
| Sunset Ridge | 42.1241     | -87.7914      | M12G43FT   | 4             | 1.67          | 3-20           | N                 |                    |
| Sunset Ridge | 42.1244     | -87.7907      | M12G53FT   | 5             | 1.67          | 3-20           | N                 |                    |
| Sunset Ridge | 42.1266     | -87.7929      | M12G620FT  | 13            | 2.25          | 20-100         | N                 |                    |
| Sunset Ridge | 42.1309     | -87.7989      | M12G820FT  | 9             | 3.25          | 20-100         | Y                 | Clear/Flowing      |
| Sunset Ridge | 42.1298     | -87.7903      | M12G320FT  | 16.0          | 5.0           | 20-100         | N                 |                    |
| Sunset Ridge | 42.1280     | -87.7966      | M12G73FT   | 9.3           | 3.6           | 100+           | Y                 | Cloudy/Standing    |
| Watersmeet   | 42.0926     | -87.7714      | M8G220FT   | 12.0          | 1.0           | 70             | N                 |                    |
| Watersmeet   | 42.0811     | -87.7784      | M4G13FT    | 3.5           | 1.0           | 3-20           | N                 |                    |
| Watersmeet   | 42.0940     | -87.7709      | M8G13FT    | 4             | 2.50          | 100+           | Y                 | Clear              |
| Watersmeet   | 42.0905     | -87.7719      | M8G33FT    | 10            | 1.25          | 20-100         | Y                 | Clear              |
| Watersmeet   | 42.0898     | -87.7720      | M8G420FT   | 12            | 1.50          | 100+           | Y                 | N/A                |
| Watersmeet   | 42.0894     | -87.7721      | M8G520FT   | 12            | 1.25          | 60             | N                 |                    |
| Watersmeet   | 42.0889     | -87.7730      | M8G6100FT  | 8             | 1.50          | 100+           | Y                 | N/A                |
| Watersmeet   | 42.0909     | -87.7715      | M8G73FT    | 12            | 2.00          | 3-20           | Y                 | N/A                |
| Whistler     | 41.6566     | -87.6326      | M24G33FT   | 2             | 1.50          | 3-20           | N                 |                    |
| Whistler     | 41.6561     | -87.6353      | M24G4100FT | 10            | 1.08          | 100+           | N                 |                    |
| Whistler     | 41.6563     | -87.6367      | M24G53FT   | 13            | 1.83          | 41             | N                 |                    |
| Whistler     | 41.6523     | -87.6568      | M24G1120FT | 5             | 1.75          | 20-100         | N                 |                    |
| Whistler     | 41.6534     | -87.6538      | M24G1420FT | 5             | 2.00          | 20-100         | N                 |                    |
| Whistler     | 41.6563     | -87.6376      | M24G7100FT | 19.0          | 4.0           | 100+           | Y                 | Clear/Flowing      |
| Whistler     | 41.6565     | -87.6373      | M24G620FT  | 3.0           | 1.0           | 20-100         | N                 |                    |

# FRIENDS OF THE CHICAGO RIVER BOARD OF DIRECTORS

## Officers

### President

Craig Coit  
Deputy CFO, Aon Risk Services

### Vice President

Cy H. Griffith  
Marketing Director, Burke, Warren, MacKay & Serritella, P.C.

### Vice President

Karen Alber  
Chief Information Officer, MillerCoors

### Treasurer

Stacey Hasenbalg  
Associate General Counsel and Vice President, BMO Financial Group

### Secretary

Jacqueline J. Loewe  
Founding Partner, Sheridan Park Consulting

## Directors

Judith Bassoul

Kent Brown  
Consultant, Kraft Foods (retired)

Kate Chappell  
Director of Planned Giving  
NorthShore University Health System Foundation

Grant Crowley  
President, Crowley's Yacht Yard

Sally Fletcher  
Vice President, Fletcher Group

Kevin E.A. Hartman  
Head of Industry, Google

Lawrence M. Kaplan  
Impossible Objects LLC

Jeffrey Knipmeyer  
Partner, Nottage and Ward

David Lowe  
Executive Vice President  
Leo Burnett USA

James Mark, Jr.  
Vice President, Director of Chicago Office,  
Wight & Company

Barbara Morse-Quinn

David Wong  
Vice President, Certare Ventures

John D. Ziesmer  
Principal, Avison Young

Margaret Frisbie  
Executive Director



## FRIENDS OF THE CHICAGO RIVER

Friends of the Chicago River is a nonprofit, 501(c)(3) corporation and is eligible to receive tax-deductible contributions. The governing body of Friends is the board of directors, which sets the organization's policies and procedures, controls its fiscal affairs, manages its assets, and oversees the executive director. The executive director is an *ex officio* member of the board of directors and is the principal executive officer of the organization.

## MISSION STATEMENT

The mission of Friends of the Chicago River is to improve and protect the Chicago River system for people, plants, and animals. Friends achieves our mission through: education programs that foster awareness, involvement, and a stewardship ethic; public policy and planning efforts that result in systemic river improvements; and on-the-ground projects that physically improve the Chicago River.

## VISION STATEMENT

Our vision is that the Chicago River is one of the world's greatest metropolitan rivers.

## ABOUT THE CHICAGO RIVER

Extending from northern Lake to southern Cook County, the 156-mile Chicago River system is an interesting and complex series of waterways, which are inextricably linked to Chicago's history and the development of the region. Flowing through dozens of communities, the river winds its way past forest preserves, parks, industrial zones, and downtown Chicago where it provides a breathtaking natural vista that complements one of the world's most famous skylines.

While the Chicago River was once a prairie stream that flowed towards Lake Michigan, over the last 200 years it has been subject to many human modifications including channelization and flow reversal, yet it still maintains its natural character and is an essential asset to the almost 70 species of fish, 60 species of birds as well as many other species including beavers, muskrats, snapping turtles, occasional river otters, and many more.

Once considered a community detriment, the Chicago River is now a symbol of ingenuity and progress, and is becoming a treasured natural resource that is shared and valued by business leaders, government officials, and the residents of our watershed.

