2022 Black Hawk County
Water Trails Master Plan
for the Cedar River and Black Hawk Creek

DNR

INRCOG
Iowa Northland
Regional Council
Of Governments

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PROJECT BACKGROUND

1. PROJECT BACKGROUND

INTRODUCTION

The scope of this Water Trails Master Plan includes three water trails within Black Hawk County:

- Cedar River Water Trail
- Black Hawk Creek Water Trail
- Cedar Valley Paddlers Trail

A total of eight jurisdictions are directly involved with the planning process, as outlined in Figure 1-1. The number of existing river accesses managed by each jurisdiction is shown below for each water trail:

Figure 1-1: Jurisdictions involved in the Water Trails Master Plan

Jurisdiction	Population (2019 Estimate)	Mayor or Chairperson (2021)	Number of existing accesses		
			Cedar River	Black Hawk Creek	Cedar Valley Paddlers Trail
Iowa DNR	-	Margo Underwood	1	-	14*
Black Hawk County	Total: 132,960 Unincorp: 9,633	Dan Trelka	7	-	1*
City of Waterloo	67,326	Quentin Hart	4	2	-
City of Cedar Falls	40,983	Rob Green	4	-	-
City of Evansdale	4,765	Richard Dewater	1	-	-
City of Hudson	2,375	George Wessel	-	1	-
City of Janesville	981	Dave Beenblossom	2	-	-
City of Gilbertville	859	Mark Thome	-	-	-

* These figures include Cedar River Access #167 and #168 which are also situated along the Cedar Valley Paddlers Trail.

In a few cases, a river access is situated within city limits but managed by another entity. In Waterloo, the George Wyth State Park access is managed by the Iowa DNR and the Sherwood Park access is managed by the Black Hawk County Conservation Board. In Gilbertville, the Gilbertville Park access is also managed by the County Conservation Board. The grounds and other park amenities at Sherwood Park and Gilbertville Park are maintained by the respective city.

Multiple jurisdictions within Black Hawk County are not directly included in this plan document, the largest of which is La Porte City (pop. 2,743). La Porte City is currently developing two river accesses along Wolf Creek, a tributary to the Cedar River not included in the Master Plan project scope. These local efforts are supported by the Water Trails Master Plan, even though Wolf Creek is not a candidate for State Water Trails designation at this time. Development of local river accesses is in line with the plan goals addressed later in this chapter.

The cities of Dunkerton (pop. 845), Elk Run Heights (pop. 1,009), and Raymond (pop. 691) are also not included in this document. Dunkerton is situated along Crane Creek which is a tributary to the Wapsipinicon River. Though the Wapsipinicon River travels through the northeast corner of Black Hawk County, it is also not included in the scope of this plan. The Wapsipinicon River is a State-designated water trail in Buchanan County, though it remains unstudied for designation in Black Hawk and Bremer Counties at this time. These areas may be good candidates for future study. Likewise, the Cedar River in Bremer County as well as Black Hawk Creek in Grundy County are also potential areas for future study and consideration.

STEERING COMMITTEE

Eleven steering committee meetings were held between June 2017 and December 2018 to guide development of the Water Trails Master Plan. Development of the Master Plan was led by INRCOG. Figure 1-2 lists all individuals who have participated in more than one steering committee meeting. On average, 16 individuals attended each meeting.

Figure 1-2: Steering committee participants

Name	Representing
Mike Hendrickson	Black Hawk County Conservation Board
Cherrie Northrup	Black Hawk County Conservation Board
Roger White	Black Hawk County REAP Committee
Josh Balk	Black Hawk County Soil and Water Conservation District
Shane Wulf	Black Hawk County Soil and Water Conservation District
Linda Laylin	Black Hawk County Supervisor
John Harris	Black Hawk Creek Water and Soil Coalition
Clark Porter	Black Hawk Creek Water and Soil Coalition
Kim Manning	Cedar Falls Tourism and Visitors Bureau
Kevin Cross	City of Cedar Falls
Mark Ripplinger	City of Cedar Falls
Rob Werner	City of Gilbertville
Jane Whittlesey	City of La Porte City
Jamie Knutson	City of Waterloo, Engineering
Todd Derifield	City of Waterloo, Leisure Services
Noel Anderson	City of Waterloo, Community Planning and Development
Aric Schroeder	City of Waterloo, Community Planning and Development
Mark Kittrell	Eagle View Partners, TechWorks
Mike Bonser	Iowa DNR, Law Enforcement Bureau
Lori Eberhard	Iowa DNR, George Wyth State Park
Jeremiah Schwake	Maxx Rentals
Vern Fish	Public
Rod Larsen	Public
Rebecca Kauten	Public
Craig Ritland	Ritland Kuiper Landscape Architects
Samantha Price	Ritland Kuiper Landscape Architects
Chad Heinzel	UNI, Department of Earth and Environmental Sciences
Kevin Blanshan	INRCOG
Kyle Durant	INRCOG
Codie Leseman	INRCOG
Jacki Schares	INRCOG

PLAN GOALS

During the first steering committee, participants discussed positive outcomes they would like to see from the Water Trails Master Plan process. Responses included the following themes, which are to be considered the goals of this plan (in no particular order):

1. Increased public appreciation and awareness of the rivers
2. Improved water quality
3. Emphasis on public safety
4. Improved public knowledge of proper river use
5. Improved public policy and state legislation
6. Ease of access to the rivers and new recreational opportunities
7. River developed as a community resource
8. Water recreation as a rapidly growing activity is addressed
9. Improved quality of life and economic development
10. Levee integrity is maintained

Developing a public input process for the Master Plan was among the primary responsibilities of the steering committee. There was much discussion about past efforts to involve the public in water trails planning, most notably in neighboring Bremer and Grundy Counties. The steering committee was aware that a number of topics related to water trails planning could be viewed as controversial and could potentially disrupt future public involvement efforts. Such topics include the following:

- Private property considerations for landowners and paddlers
- Dams and whitewater courses
- Public safety and emergency response
- Dredging
- The definition of a water trail

Handouts were developed by the steering committee to address each of these topics. The handouts were available at both public meetings described in Chapter Three. A copy of each handout is included in Appendix A.

The steering committee also had a role in defining the scope of the plan, identifying responsibilities among jurisdictions, developing a public input survey, determining each river segment's experience classification, developing an interactive website, organizing public input meetings, and reviewing projects proposed for the water trails. Altogether, an estimated 269 individual-hours were invested by steering committee participants. This does not include time spent on activities outside of the steering committee meetings.

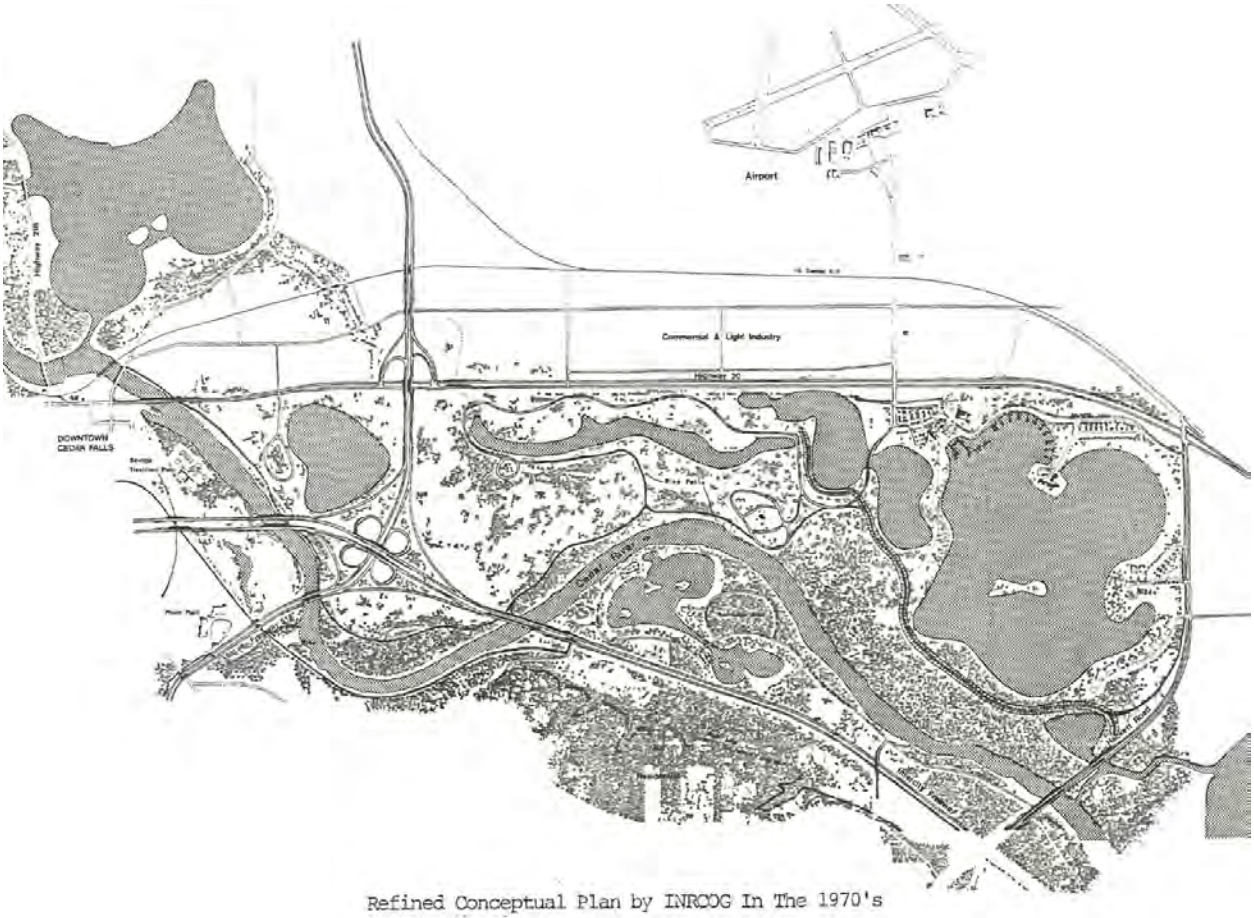
FLOODPLAIN DEVELOPMENT AND HISTORY

CEDAR VALLEY LAKES

Conceptual planning for the Cedar Valley Lakes began in the late 1960s which ultimately led to the creation of the Cedar Valley Paddlers Trail. The Cedar Valley Lakes and many surrounding recreational trails were developed in tandem with the construction of U.S. Highway 218 in the early 1990s (then U.S. Highway 20).

Prior to the construction of U.S. Highway 218, many of the lakes surrounding the Cedar River were only drawings on paper. Fisher Lake is the only natural lake in this whole area, while the remaining lakes are manmade. A conceptual plan developed by INRCOG in the 1970s is shown below. There are several differences between the 1970s conceptual plan and the lakes today. For example, Alice Wyth Lake is shown on the west of "Freeway 518" (now Iowa Highway 58), however it is situated east of Iowa Highway 58 today. The highways and interchanges are also in different locations today than originally envisioned.

Figure 1-3: Cedar Valley Lakes conceptual plan, 1970s



The Cedar Valley Lakes Board was formed in 1985 to create a water-oriented recreation and conservation greenbelt along the Cedar River. The board remained active through the 1990s and was instrumental in overseeing a variety of improvements along the river. With the completion of the highway program in 2003, the Cedar Valley Lakes Board disbanded while other advocacy groups such as the Cedar Trails Partnership were formed.

In 2007, the original Black Hawk County Resource Enhancement and Protection (REAP) Plan was completed. The plan identified goals, objectives, initiatives, and projects related to the County's natural resources. The Cedar River was an important focal point of this plan. Later that year, the Cedar River Initiative was formed.

CEDAR RIVER INITIATIVE

When the Cedar River Initiative formed in 2007, stakeholders developed a mission to guide decision-making:

"Increase public use and enjoyment of the Cedar River and its watershed, and enhance environmental health, cultural heritage and economic development opportunities of this special resource."

Meetings were held monthly from March 2008 until the June 2008 floods. In October 2008, the first post-flood Cedar River Initiative meeting was held. Participants reviewed and confirmed the mission and its continued applicability within the context of the flood. An assessment was conducted to determine whether the community would benefit from Long-Term Community Recovery (LTCR) support after the flood. It was determined that ten Iowa communities would benefit from additional recovery resources. In the case of the Cedar River Initiative, LTCR provided a Technical Advisor to coordinate resources and develop tools and materials to assist with project development. During the period of LTCR support, three workshops and community meetings were conducted.

The Cedar River Initiative organizational structure was committee-based, with work focused around four committees: Infrastructure, Water Quality, Marketing and Advocacy, and Special Projects. The planning process led to the development of a workplan for the following year.

Several projects and programs followed the Cedar River Initiative planning process: Iowa Great Places designation, the River Renaissance redevelopments along the Cedar River, planning and development for the Cedar River and Black Hawk Creek Water Trails, involvement with the Cedar River Watershed Coalition, and involvement with Iowa Rivers Revival.

IOWA GREAT PLACES

In 2009, the Cedar Valley was designated as a Great Place under the Iowa Great Places program. A Visioning Committee was established to pursue Great Places designation prior to the 2008 floods. After the floods, the committee decided to wait one year to submit a Great Places application and shifted the scope of the application to focus on rebuilding and expanding riverfront amenities. The proposal submitted for Great Places consideration included five projects with budgets, timelines, and funding sources identified for each project. All of these projects have since been completed, and all project areas are included in the scope of this Water Trails Master Plan:

- Island Park Beach House construction in Cedar Falls
- Ice House Museum restoration in Cedar Falls
- Washington Park restoration in Cedar Falls
- Cedar River Boat House in Waterloo
- RiverLoop Trails in Waterloo

In 2019, the Cedar Valley was redesignated by the Iowa Great Places program. As part of the redesignation process, several community stakeholders came together to develop the Cedar Valley Visioning Plan including Grow Cedar Valley, Cedar Falls Tourism and Visitors Bureau, Experience Waterloo, City of Cedar Falls, City of Waterloo, and INRCOG. The Vision Plan's goals include improving quality of life, developing recreational facilities, and creating spaces that support living, working, and playing. The top vision area identified by the plan is building a connection to the rivers. In 2021, the Cedar Valley was awarded $150,000 by the Iowa Great Places program to develop and improve river access in downtown Cedar Falls and downtown Waterloo.

INITIAL WATER TRAILS PLANNING

The Iowa DNR's Water Trails program began in 2005. Two years later, the first water trail was completed under the DNR program – the Cedar Valley Paddlers Trail. Unlike most water trails which are exclusively river runs, the Cedar Valley Paddlers Trail includes six lakes, the Cedar River, and several portages on land. To this day, the Cedar Valley Paddlers Trail remains a unique water trail in the state for this reason. The inclusion of lakes and portages gives beginners a chance to develop the skills needed for more advanced paddling destinations, such as the Boundary Waters Canoe Area Wilderness in Minnesota.

Black Hawk Creek from Grundy Center to the confluence with the Cedar River was nearly designated as a State water trail in 2011. Signs were installed at each access along Black Hawk Creek, including the three accesses included in the scope of this Master Plan. However, a new process for the State-designation of water trails soon followed which necessitated a more in-depth study of stream conditions, wildlife, water quality, and existing development along the rivers. It was determined that an Existing Conditions report and a Water Trails Master Plan would be required for State-designation of Black Hawk Creek and the Cedar River.

From 2012 to 2014, numerous meetings were held to discuss the development of the two water trails. The original scope for the Cedar River Water Trail included Black Hawk and Bremer Counties, while the scope for the Black Hawk Creek Water Trail included Black Hawk and Grundy Counties. Much focus during this time was on the Cedar River in Bremer County. Open house public input events were held in June 2012 to receive input from landowners in Bremer and Black Hawk Counties. Several meetings followed, many of which were held at Waverly City Hall. In July 2013, Dr. Jim Pease conducted a presentation with optional paddle trip along the Cedar River. Meanwhile, public outreach efforts were underway in Grundy County. Stakeholder meetings followed in early 2013 which led to the development of a survey of landowners in Black Hawk and Grundy Counties. Over half of the 101 surveys sent were returned, and 53 percent of respondents indicated they either "oppose" or "strongly oppose" the designation of Black Hawk Creek as a water trail. Given the tepid response from landowners, project leaders decided it would be best to refocus the project scope to only Black Hawk County where a large share of land surrounding the rivers is publicly owned.

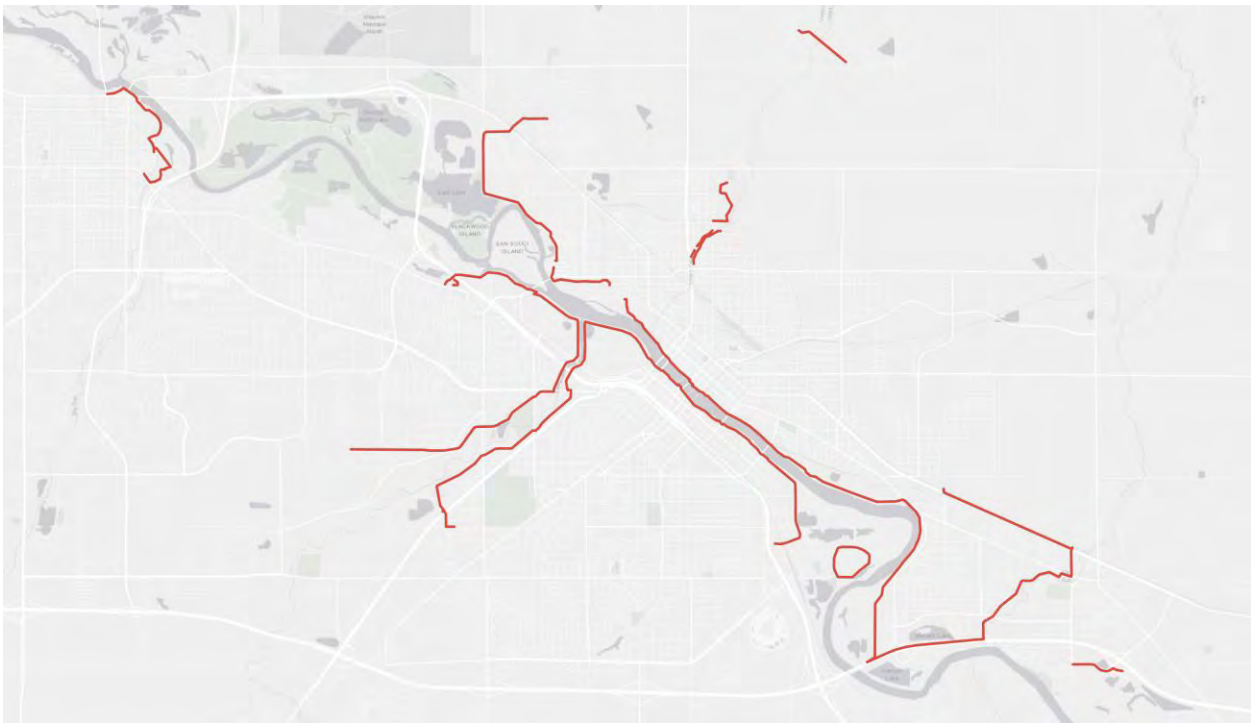
Several public events were also held during this time including the Cedar River Festival, Cedar River ROCKS! Event, Cedar River Watershed Coalition Field Day, the Best Dam Fun Run, a mussel workshop, two "River of Dreams" poker run canoe/kayak events, and the Northeast Iowa Paddle Fest at Hartman Reserve Nature Center.

In 2016, reports were completed on the existing conditions of the Cedar River and Black Hawk Creek. The results of these reports are included in Chapter Two. In late 2016, the Iowa DNR and INRCOG signed a contract to complete a Water Trails Master Plan for the Cedar River and Black Hawk Creek in Black Hawk County.

FLOOD MITIGATION

The majority of levees in Black Hawk County were constructed in 1982, according to data from the U.S. Army Corps of Engineers National Levee Database. The levee surrounding downtown Cedar Falls was built in 2000. Figure 1-4 shows the location of flood levees today, as identified by the U.S. Army Corps of Engineers.

Figure 1-4: Flood levees in Black Hawk County



Source: U.S. Army Corps of Engineers, National Levee Database

The rivers in Black Hawk County have an extensive history of flooding. Many record flood events have occurred in recent years including the floods of 1993, 1999, 2008, and 2016. At the time, the flood of 1993 led to the second highest river crest ever recorded in Cedar Falls. Six years later, the flood of 1999 resulted in record-breaking water levels at the Janesville and Cedar Falls river gauges. The 2008 flood was estimated to be a 500-year (or 0.2 percent chance) flood event. On June 10, 2008, the river crested at 27.01 feet in Waterloo, 5.15 feet above the previous record. The flood of 2008 remains the highest crest recorded at the three Cedar River gauges in the county. Interestingly, the highest crest recorded on Black Hawk Creek in Hudson was two months prior in April 2008. Finally, in 2016, the Cedar River reached its second highest levels ever, second only to the 2008 flood. However, unlike 2008, the flood of 2016 resulted in significantly less damage to property and cropland.

An extensive effort of property buyouts followed the 1993, 1999, and 2008 floods to remove structures from the floodplain and eliminate repetitive-loss properties. Property owners with sustained damage greater than a specified percentage of their home's total value were offered 110 percent of their home's fair market value. The vast majority of homeowners took advantage of these buyouts, though some opted to raise the elevation of their homes instead, and a handful declined the buyout offer altogether. Nonetheless, over 100 properties were purchased in Cedar Falls after the 2008 flood alone, and hundreds of homes have been removed throughout the county over the past few decades.

These buyouts led to the creation of public lands and greenspace in some areas. Two newly created areas relate directly to the Cedar River water trail. Gateway Park in Cedar Falls and Sherwood Park in Waterloo are now developed city parks with access to the Cedar River. These parks were once residential neighborhoods only two decades ago. The photos below show the Gateway Park area before and after the extensive flood buyouts:

Figure 1-5: Flood buyout properties in Cedar Falls, 1994-2016

Lincoln Street neighborhood, 1994

Gateway Park, 2016

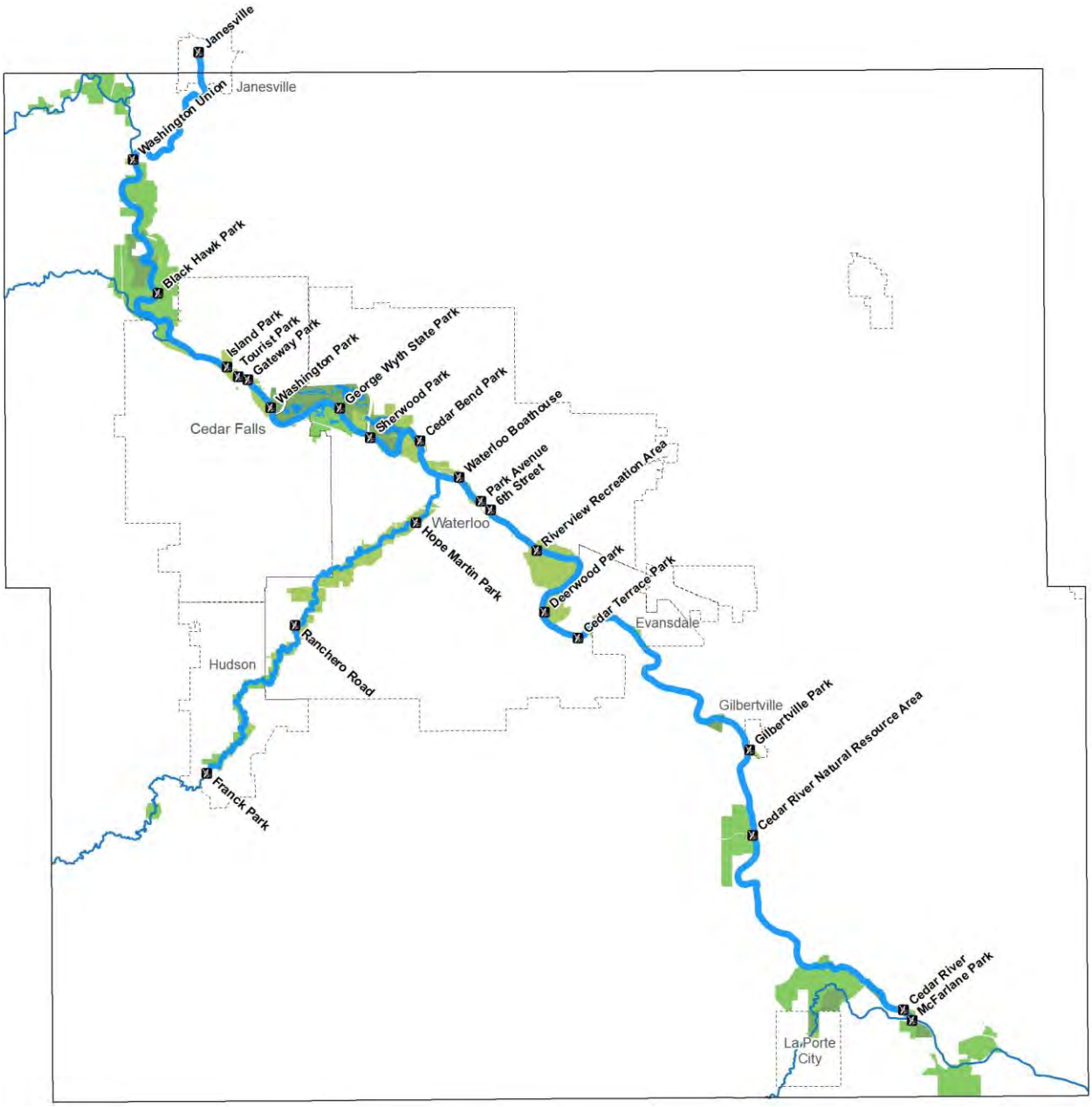
Flooding had less impact on the Black Hawk Creek Water Trail and Cedar Valley Paddlers Trail. Much of the developed area surrounding Black Hawk Creek in Waterloo is levee protected. The Cedar Valley Paddlers Trail is mainly within George Wyth State Park, and there are no homes within the park.

MAPS OF THE WATER TRAILS

OVERVIEW

There are a variety of land uses surrounding the Cedar River and Black Hawk Creek, ranging from protected bottomland forests to densely populated city centers. The following maps show various features along the water trails including parks, hazards, camping areas, and bicycle accommodations:

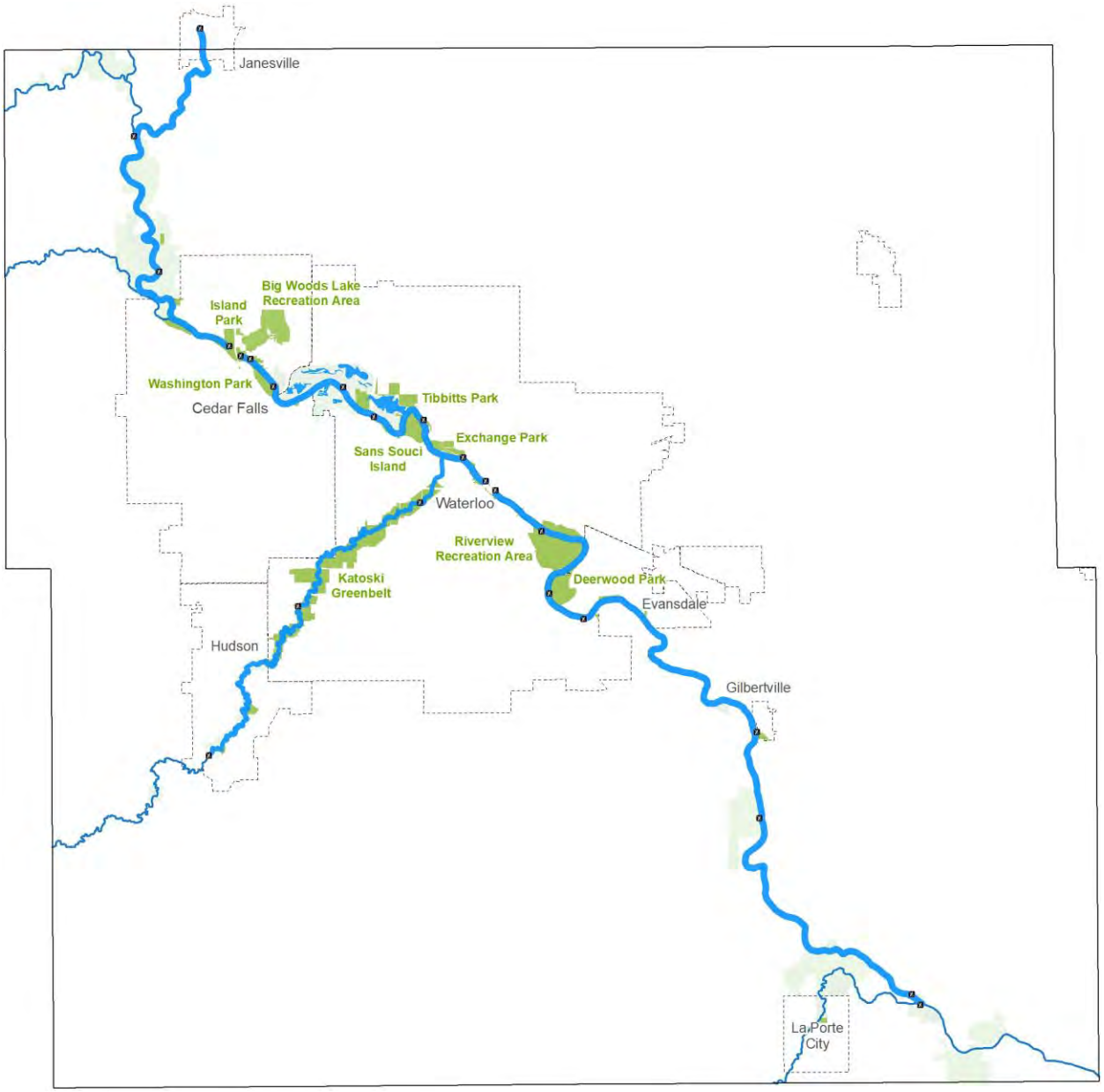
Figure 1-6: Cedar River and Black Hawk Creek Water Trails overview



PARKS

CITY PARKS

Figure 1-7: City parks along the water trails

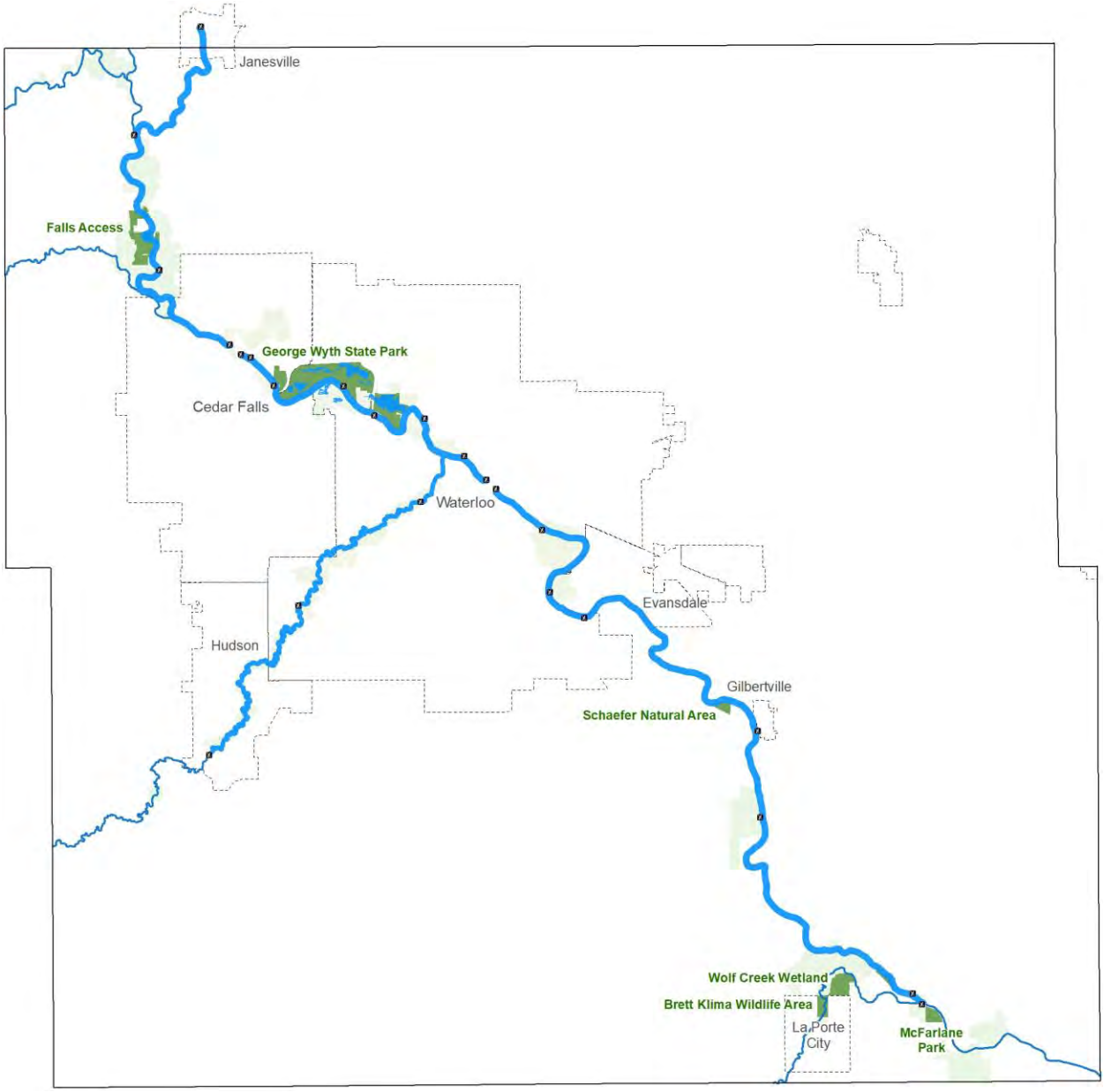


COUNTY PARKS

Figure 1-8: County parks along the water trails

STATE OWNED PARKS

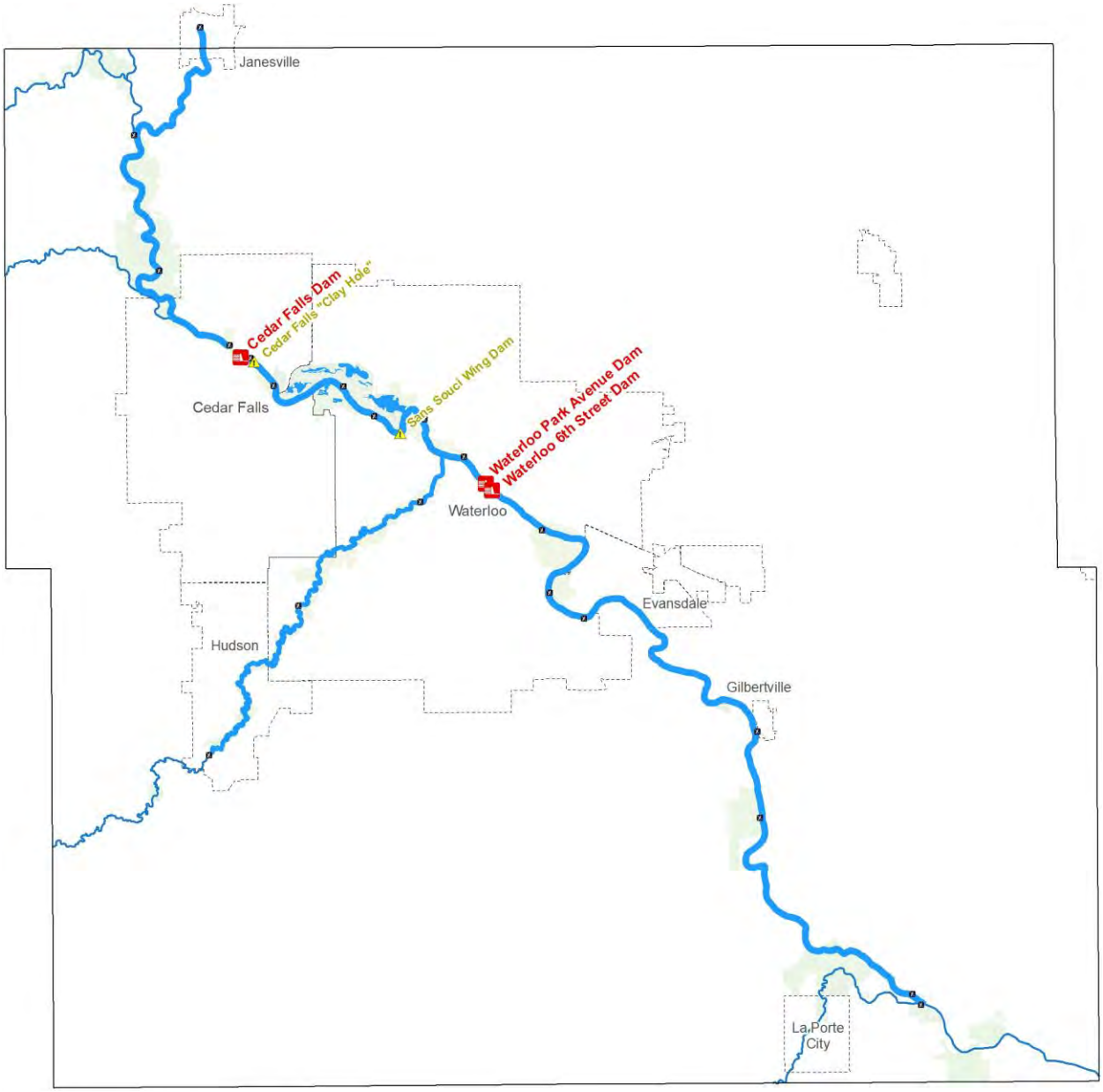
Figure 1-9: State Park land along the water trails



CEDAR VALLEY PADDLERS TRAIL

Figure 1-10: Cedar Valley Paddlers Trail overview

Figure 1-11: Dams and hazards along the Cedar River



CAMPING

Figure 1-12: Public campgrounds near the water trails

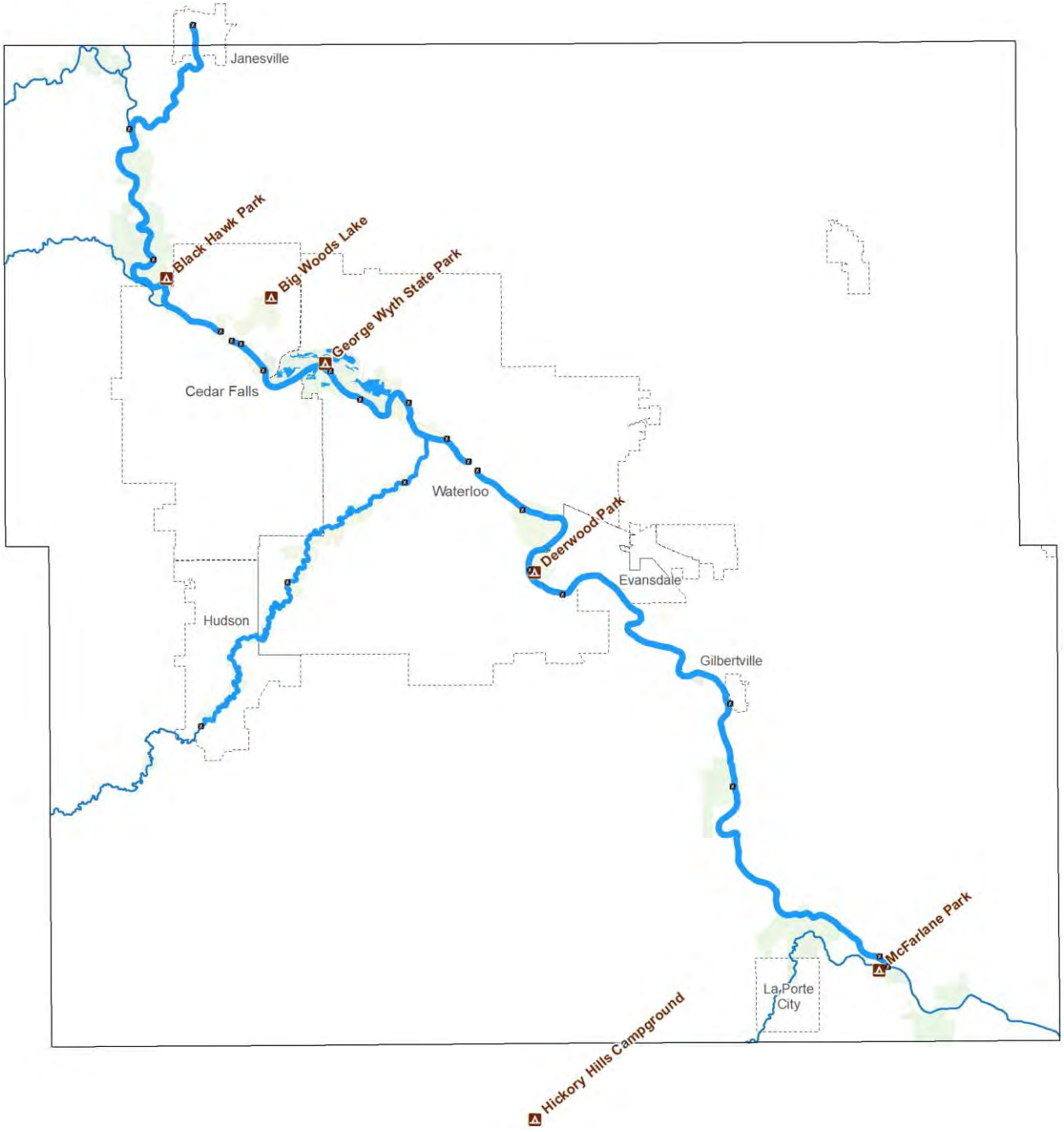


Figure 1-13: Existing paved trails network and bicycle facilities in Black Hawk County

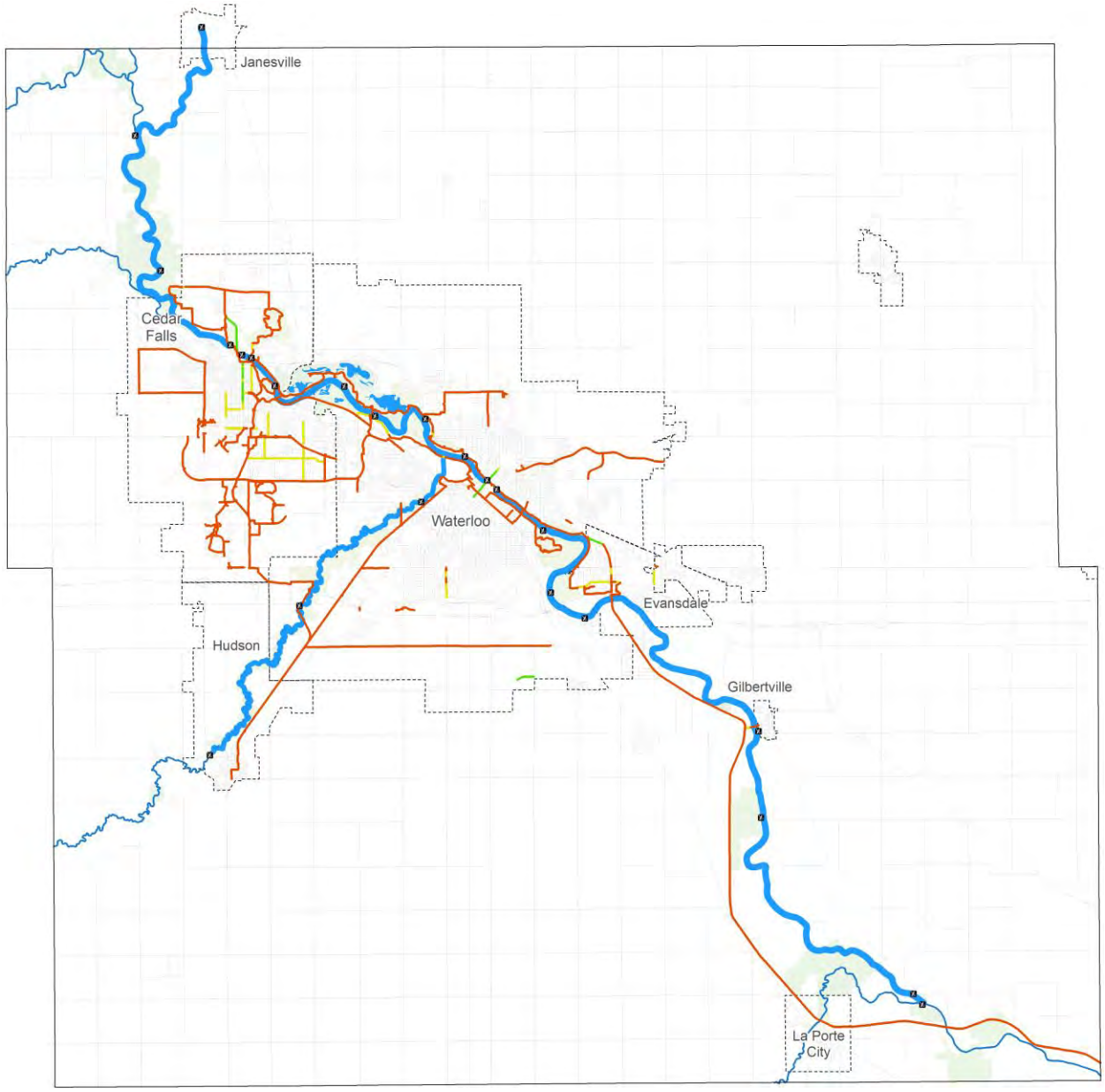
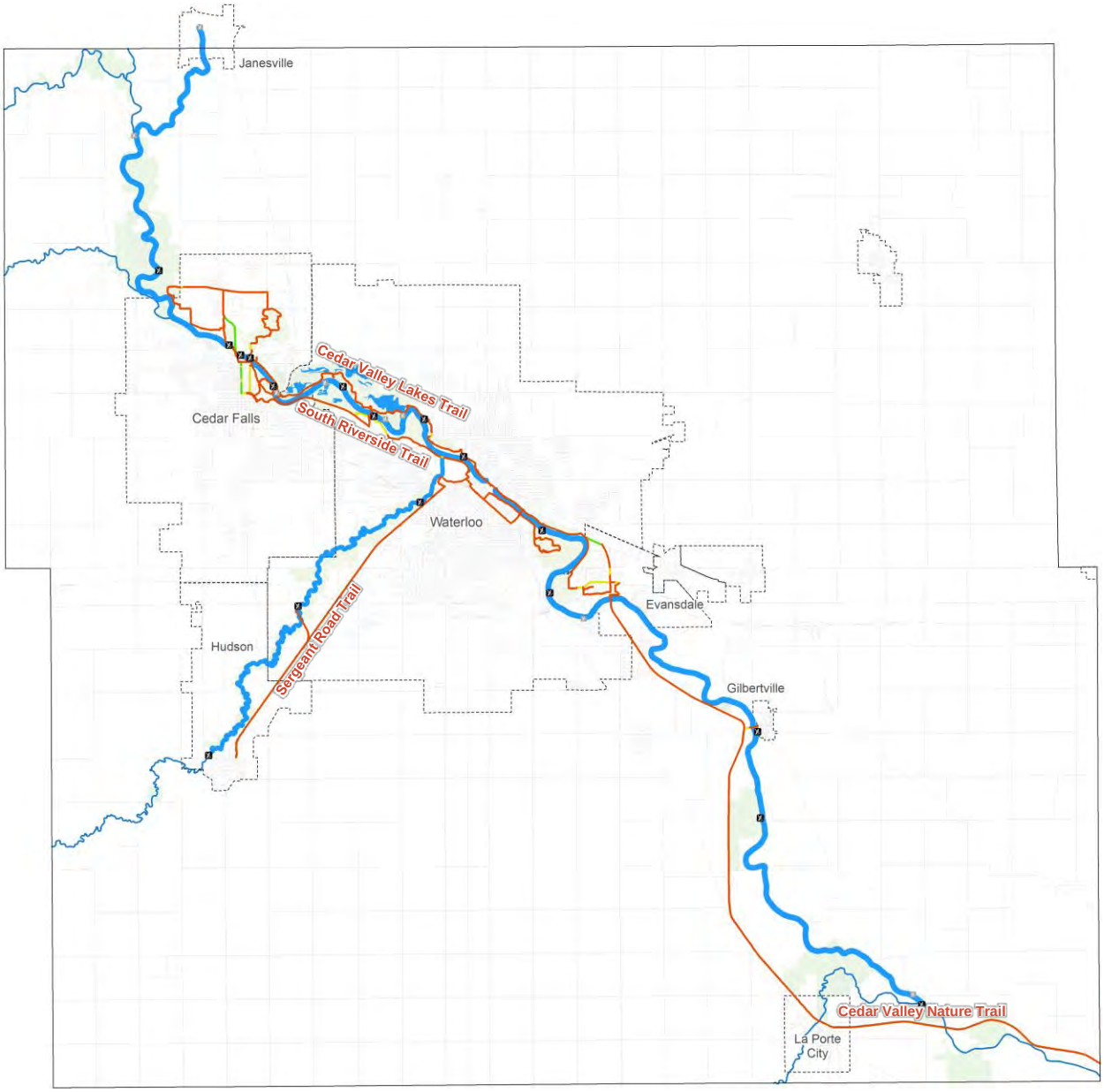
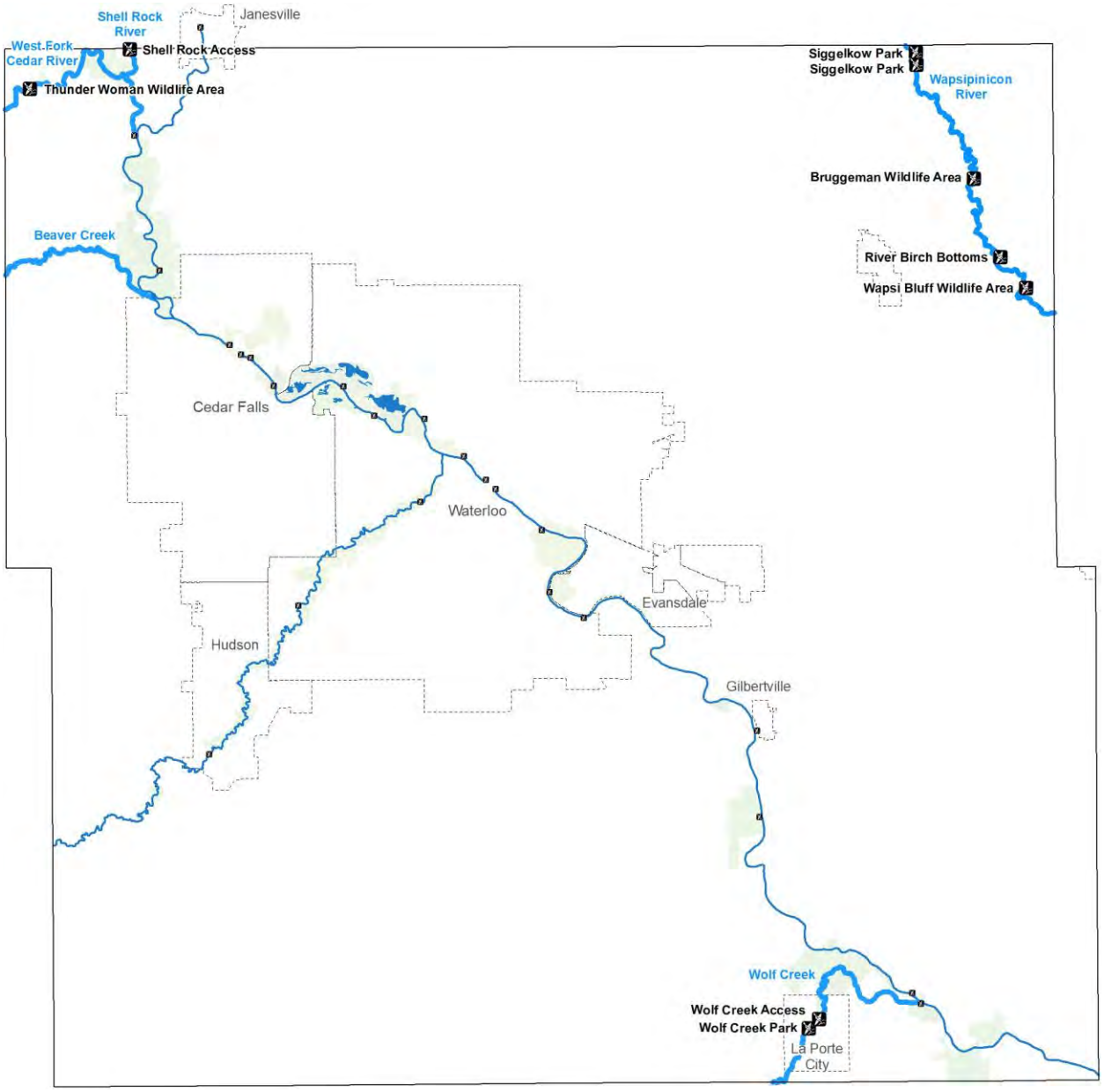


Figure 1-14: Select paved trails and bicycle facilities along the water trails



WATER FEATURES NOT INCLUDED

Figure 1-15: River accesses not included in the Master Plan



EXISTING CONDITIONS

2. EXISTING CONDITIONS

INTRODUCTION TO STATE-DESIGNATED WATER TRAILS

Analysis of existing conditions on the Cedar River and Black Hawk Creek included all of the most recent research related to recreation on Iowa rivers, current access and launch inventory protocols, and established cultural and historic resource data sets. Much of the information presented is derived from a study of potential water trails by the Iowa Department of Natural Resources (DNR) from 2012 to 2014. This study included Black Hawk County as well as Bremer County to the north. However, for the purposes of this document, only information relating to Black Hawk County is included in this chapter. Anecdotal information on river use and conditions were provided by county and city staff, paddlers, landowners, and Iowa Northland Regional Council of Governments (INRCOG) staff.

Rivers become known as water trails when people paddle on them and begin to organize amenities to support paddling such as parking areas and launches. Water trails, in turn, also support uses beyond paddling. River edge amenities also engage anglers, those relaxing near the river, and students studying the ecosystem. We know that river recreation also has a substantial impact on the Iowa economy. A 2009 study by the Center for Agricultural and Rural Development (CARD) at Iowa State University estimated overall economic impact from recreation on the fifty largest rivers in the state for the year. Results concluded that recreational river use by Iowans supported over 6,350 jobs, $824 million in retail sales, and $130 million of personal income.

State designation is reserved for water trails that represent the best paddling experiences in each region of the state. Not every county in Iowa will have a State-designated water trail. A set of criteria established in 2010 is applied to guide classification of State-designated segments in Iowa. This development classification system allows paddlers to match water trail routes with their ability level. These criteria also help water trail managers, sponsors, and trail volunteers select a classification assignment for each segment based on their management resources and abilities. Information presented in this chapter helped determine the development classification for each river segment, and each segment's classification is identified in Chapter Four.

The careful assignment of development classification is one of the most important steps in water trail development. In addition to meeting paddler expectations, a segment's classification is also a driver for development and infrastructure funding.

Altogether, the Water Trails Master Plan for Black Hawk County covers three distinct water trails: The Cedar River Water Trail, the Black Hawk Creek Water Trail, and the Cedar Valley Paddlers Trail. All three water trails have undergone some degree of planning for official State Water Trail status in the past. However, in the early 2010s, the State's planning process was updated to include considerations for maintenance, private land, and environmental impact. Accordingly, a new planning process was required to ensure the State's water trails were developed using a holistic approach.

Figure 2-1: River development classifications

Gateway

Recreational

Challenge

Wilderness

OVERVIEW OF THE RIVERS

The Cedar River runs northwest to southeast through Black Hawk County, bisecting the county almost evenly. The river runs through the cities of Janesville, Cedar Falls, and Waterloo, and along the city limits of Evansdale and Gilbertville. The Cedar River is the widest river in the county by far and offers wide open views of the surrounding wildlife. There is an abundance of public land surrounding the Cedar River, much of which is in the floodplain. For this reason, development along the Cedar River is largely restricted to recreational amenities such as trails, parks, campgrounds, and river accesses.

Black Hawk Creek is a tributary of the Cedar River and is the largest of its tributaries in the county. The creek runs southwest to northeast through the cities of Hudson and Waterloo, with a very short segment also cutting through the southeastern corner of Cedar Falls. Black Hawk Creek provides a unique experience, as nearly all of the land surrounding the creek is publicly owned from Hudson to the confluence with the Cedar River. The result is an intimate, tree-canopied greenbelt that contrasts greatly with the surrounding agricultural and urban landscapes. The surroundings change dramatically near the confluence of the Cedar River, where Black Hawk Creek runs through the John Deere Waterloo Works Foundry and Drivetrain Operations site.

There are several additional tributaries to the Cedar River in Black Hawk County, some of which are navigable by kayak, canoe, or small boat. These include the following, in order from north to south:

- West Fork Cedar River
- Shell Rock River (tributary of West Fork Cedar River)
- Beaver Creek
- Snag Creek
- Dry Run Creek, Cedar Falls
- Virden Creek (subterranean, built over)
- Dry Run Creek, Waterloo (subterranean, built over)
- Elk Run Creek
- Poyner Creek
- Indian Creek
- Miller Creek
- Wolf Creek
- Spring Creek

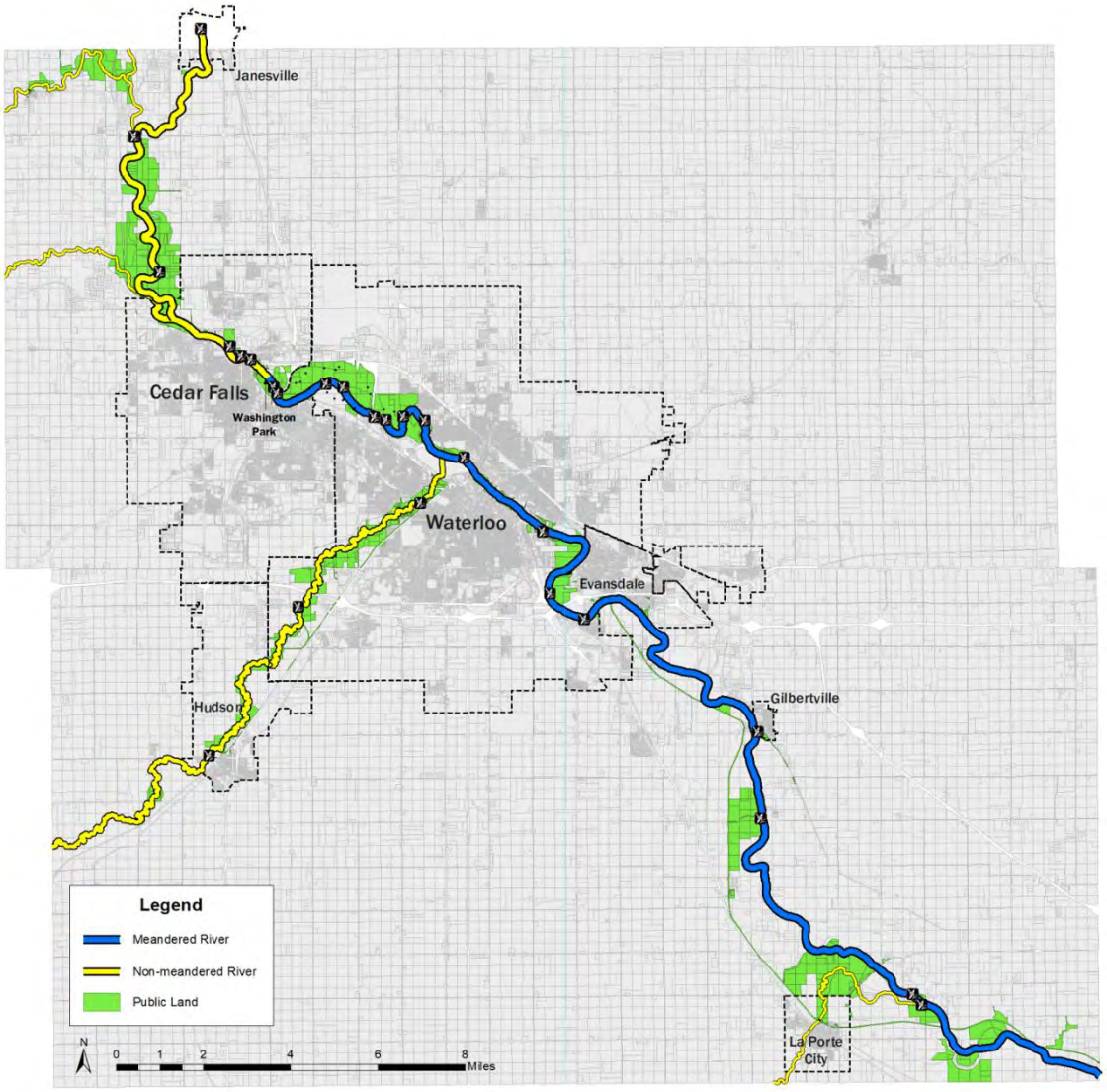
All tributaries of the Cedar River are considered “non-meandered”. This means that the riverbed can be privately owned. Most segments of these tributaries are part of a privately or publicly owned parcel which includes both land and water. In a few areas where part of a non-meandered stream is not included in any parcel, the riverbed is owned by the adjacent property owners. While much of these lands are owned by the respective City or County government, the streams themselves are not inalienable public lands and could theoretically be sold to a private entity.

In contrast, several rivers in Iowa are considered “meandered”. This determination was made over 100 years ago by the original land surveyors in the state. The process of surveying land in the 1800s was unsystematic, as some rivers in the state are not meandered – particularly in western Iowa – even though they are wider or longer than other rivers that are meandered. The main distinction between meandered and non-meandered streams is that meandered streams are unowned and therefore property of the State. Meandered streams are not part of any parcel, as they were never allowed to be owned.

The Cedar River is the only meandered stream in Black Hawk County. However, only part of the river is meandered. The point at which the Cedar River changes from non-meandered to meandered is west line T89N, R13W in Black Hawk County. This north-south line is just upstream from Washington Park in Cedar Falls.

In other words, the Cedar River is meandered – or State-owned – from Washington Park in Cedar Falls all the way down to the confluence with the Iowa River. The entire river upstream of Washington Park is non-meandered and there are more restrictions in place for paddlers. The running water of a non-meandered stream is still considered public, but the riverbed and adjacent lands are owned. Water trails users should not traverse onto privately owned land on non-meandered streams. Figure 2-2 shows the entirety of Black Hawk County including the Cedar River and Black Hawk Creek as well as select tributaries of the Cedar River.

Figure 2-2: Meandered streams and select non-meandered streams in Black Hawk County



There are numerous canoe and kayak outfitters in the vicinity of the Cedar River and Black Hawk Creek water trails. Figure 2-3 describes each outfitter within a 20-mile radius of the water trails:

Figure 2-3: Outfitters within 20 miles of the water trails

Outfitter	Address	Nearest access	Notes
Cook's Outdoors	1910 Center St Cedar Falls, IA 50613	Island Park (0.9 mi)	Kayaks, SUPs, and pedal boats
CrawDaddy Outdoors	207 E Bremer Ave Waverly, IA 50677	Janesville (6.9 mi)	Kayaks, canoes, and SUPs
Maxx Rentals	3659 Wyth Rd Waterloo, IA 50703	George Wyth State Park (0.8 mi)	Kayaks, canoes, tubes, SUPs, and pedal boats. Open seasonally
River Dock Canoe Rentals	Independence, IA (no fixed address)	Gilbertville (20 mi)	Kayaks, canoes, and tubes By phone only
UNI Outdoor Recreation Office	2250 Hudson Rd Cedar Falls, IA 50614	Washington Park (2.4 mi)	Kayaks, canoes, and SUPs Reduced hours during summer

The Black Hawk County Conservation Board is very supportive of State-designation of the water trails and improving conditions on the rivers in general. A variety of meetings and events were held in 2012 to 2014 concerning the Cedar River and Black Hawk Creek study areas. These included visioning meetings, listening sessions for landowners to provide input, and steering committee meetings. Issues raised by landowners included concerns about littering, trespassing, and liability. Much of the land adjacent to the Cedar River in Black Hawk County is publicly owned, whereas the scope of these meetings extended further into Grundy and Bremer Counties where a much larger share of the land is private. For these reasons, Black Hawk County was chosen as the geography for this plan which is the first water trails plan in the area.

WATER QUALITY

Discussions about water quality nearly always focus on the concentrations of various elements such as dissolved oxygen, nutrients, and pesticides. In addition to these chemical characteristics, physical and biological characteristics also factor into the quality of streams, rivers, and lakes. Physical characteristics are the ones we generally can see, smell, or taste such as the temperature or the turbidity (cloudiness) of the water. Biological characteristics include the presence or absence of bacteria as well as the diversity of aquatic insects and fish species. It is increasingly recognized that other physical factors such as wide and shallow channels, channel beds dominated by fine sediments, bed and stream bank instability, and fragmentation by culvert crossings or dams can limit biological diversity.

Measuring the level of water quality involves comparing the concentrations of selected chemical, physical, and biological elements with State standards that define water's suitability for a particular beneficial use such as swimming, aquatic life protection, drinking water source, or fish consumption. Aquatic life in a stream segment is also assessed using rigorous biological monitoring methods that allow ranking of biological quality. Water quality standards are important because they help identify many types of water quality problems. Standards are particularly helpful in assessing and solving water quality problems stemming from point sources of pollution including municipal wastewater discharges, industrial operations, and mining sites. Standards do not currently exist in Iowa for nonpoint source pollutants such as nutrients and sediment.

According to Section 303(d) of the federal Clean Water Act, the beneficial use of a water body is considered "impaired" when the water in the river segment or lake is sampled and fails to meet any one of the standards set to protect that beneficial use. Federal regulations require that all states compile and submit to EPA a list of waters considered "impaired". This list is updated with new data every two years. States must prepare a water quality improvement plan for all Section 303(d)-impaired waters to show how beneficial use can again be fully supported. Only when additional monitoring shows that all standards are met, and the beneficial use is again fully supported, can the impairment be removed. In practice, Iowans are swimming, fishing, and boating in waters whether or not they meet the water quality standards. Figure 2-16 and Figure 2-39 show impaired waters along the Cedar River and Black Hawk Creek respectively as well as their tributaries.

WATER QUALITY FUNDING

Several types of funding mechanisms exist to direct resources toward initiatives on agricultural land in critical watersheds. Examples of these include the USDA-NRCS Mississippi River Basin Healthy Watersheds Initiative (MRBI), the Iowa Water Quality Initiative (WQI), and the Iowa DNR Lake Restoration Program. Prioritized Nutrient Management Strategy Watersheds are an example of critical geographic areas identified for water quality enhancement in the state. Assessments and planning efforts are used to develop strategies for enhancing water quality conditions. Total Maximum Daily Load (TMDLs) and their linked nine-element watershed management plans are examples of these strategies. These strategies are then implemented as funding becomes available. Watershed Management Authorities (WMAs) are a mechanism for cities, counties, Soil and Water Conservation Districts, and stakeholders to cooperatively engage in watershed planning and management including water quality improvement.

Funding sources include federal, state, and local entities as well as private sources. Federal examples include USDA programs such as the Environmental Quality Incentives Program (EQIP) and Conservation Reserve Program (CRP) and EPA Section 319 administered through Iowa DNR. At the state level, important sources include Watershed Protection Funds and Watershed Improvement Review Board (WIRB) grants, both administered through the Iowa Department of Agriculture and Land Stewardship.

WATER QUALITY INITIATIVES

Multiple water quality initiatives are underway in the Cedar River and Black Hawk Creek watersheds. Locally, the Cedar River Cleanup and Festival is an annual event held by the Cedar River Festival Group. In 2017, the group celebrated the 30th anniversary of the cleanup event at Island Park in Cedar Falls. In 2018, the cleanup event began in Deerwood Park in Evansdale. The mission of the Cedar River Festival Group is to educate the community about celebrating and preserving the beauty of the Cedar River as a local natural resource.

2017 Cedar River Cleanup participants in Black Hawk County
Photo: Waterloo-Cedar Falls Courier

Another local initiative is the Black Hawk Creek Water and Soil Coalition. The coalition was formed for the purpose of restoring, improving, preserving, and advocating for water quality, soil health, ecosystems, and recreational opportunities in the Black Hawk Creek Watershed. As shown in Figure 2-41, the watershed of Black Hawk Creek includes portions of Grundy County and Black Hawk County. The coalition is particularly focused on working with farmers to improve soil health over the long-term and reduce sediment runoff into the creek.

Two statewide community-based efforts focus on water quality. Project AWARE (A Watershed Awareness River Expedition) engages volunteers in water quality and aquatic habitat enhancement through an annual seven-day trash removal expedition. IOWATER is a volunteer water quality monitoring program that collects and publishes preliminary monitoring data.

2017 Project AWARE participants on the Upper Cedar River in Mitchell and Floyd Counties
Photo: Project AWARE

Funded water quality initiatives in this study area are limited to three sub-basins in or near Black Hawk County. Efforts in the Dry Run Creek watershed have been awarded $2.3 million between 2006 and 2015, primarily from EPA Section 319 funding. The confluence of Dry Run Creek and the Cedar River is just downstream of Washington Park in Cedar Falls, and water quality improvements for the watershed focus on extensive retrofits related to both urban and agricultural stormwater runoff as well as streambank stabilization.

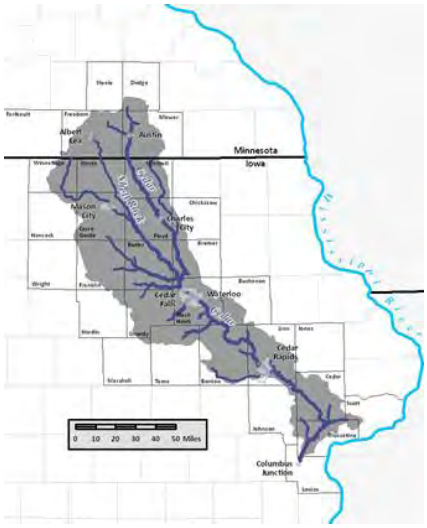
Bioretention cell installed in Cedar Falls as part of the Dry Run Creek Watershed Improvement Project
Photo: Black Hawk Soil and Water Conservation District

The Miller Creek and Casey Lake watersheds were awarded $535,500 between 2005 and 2015. The majority of this funding was directed at agricultural runoff in the Miller Creek watershed and received by the Water Quality Initiative. A demonstration watershed with conservation practices is being implemented to aid in the adoption of in-field, edge-of-field, and off-field practices to reduce nutrient loading in Miller Creek. Casey Lake is located in Hickory Hills Park just south of Black Hawk County. Efforts to explore and maximize phosphorus and sediment reduction were awarded $36,000 from EPA Section 319 program in 2005.

CEDAR RIVER

The Cedar River begins north of Austin, Minnesota and extends to the confluence at the Iowa River near Columbus Junction, Iowa. This drainage of approximately 7,830 square miles continues to flow into the Mississippi River, as shown in Figure 2-4. The segment under consideration in this study is primarily limited to Black Hawk County, starting in the City of Janesville and ending at McFarlane Park. Approximately 40.8 linear miles of the Cedar River comprise the water trail study area, not including portages around dams or alternate routes around islands.

Figure 2-4: Cedar River Watershed



The Cedar River is meandered from a point just north of Washington Park in Cedar Falls all the way to the confluence at the Iowa River. North of Washington Park, the river is non-meandered. Rules governing use of the river and private land differ between meandered and non-meandered streams.

According to the 2009 Iowa Rivers and River Corridors Recreation Study, the Cedar River is the most heavily used river in the immediate area. The Wapsipinicon River is a close second. Around 40 percent of the trips reported in 2009 include use by a form of boat. Figure 2-5 shows the usage of the Cedar River by activity, as identified in the 2009 study:

Figure 2-5: Recreational use reported on the Cedar River, 2009

River Segment	Trips Reported	Fishing	Hunting	Power boat	Kayak or Canoe	Swim, Tubing, Play in Water	Trails	Camping	Relaxing, Picnicking	Wildlife Watching
Cedar River (52): north Mitchell County line to Black Hawk Park	1113	52.3%	9.8%	22.5%	20.4%	24.1%	45.3%	27.9%	58.7%	48.1%
Cedar River (53): Black Hawk Park to Cedar Rapids	994	31.2%	7.9%	19.4%	14.1%	10.6%	54.5%	12.8%	52.9%	34.0%

The Cedar River was originally called the Red Cedar River by the Meskwaki, named after the red cedar trees growing in the area. The river, now simply the Cedar River, is central to the surrounding region known as the Cedar Valley.

There are three major dams located along this segment of the river. These dams are situated in the downtown areas of Waverly, Cedar Falls, and Waterloo. There are also two wing dams – which unlike a conventional dam, extend only partway into the river: one immediately downstream of the Waterloo Dam, and one approximately 2.4 miles upstream from the Waterloo Dam near Sans Souci Island.

The wing dam near Sans Souci Island creates narrow rapids which can be traversed by experienced kayakers but is not recommended for most users. Even experienced kayakers should take note that river recirculation after the rapids can pose a greater safety hazard than the rapids themselves. All river users can bypass this dam easily by paddling or tubing around the other side of Sans Souci Island. Traversing the wing dam just downstream of the Waterloo Dam is not recommended for any user.

Aside from the dams, reported hazards along the Cedar River water trail study area are minimal. Riffles which could impact paddlers at low water levels were noted just downstream of Janesville City Park and just downstream of the Cedar Falls Dam. The riffles in Cedar Falls are occasionally used for whitewater activities when the river reaches an ideal height. For most users, however, avoiding this area entirely is recommended.

The Cedar River Water Trail was reviewed in 2013 and divided into six sections in Black Hawk County. Segments in Bremer County to the north were also reviewed and generally had lower stream speeds and paddling use volumes than the segments in Black Hawk County. Figure 2-6 shows the river conditions for each segment in Black Hawk County:

Figure 2-6: Cedar River Water Trail segments

Segment	Stream Speed	Segment Distance	Paddling Use Volume*	Debris, Trees, Blockage Notes
Janesville Park to Washington Union	Moderate to high	4.0 mi.	Moderate	Small stream, some blockages
Washington Union to Black Hawk Park	Moderate to high	4.1 mi.	Moderate to high	Small stream, some blockages
Black Hawk Park to Island Park	Moderate to high	3.6 mi.	High	Small stream, some blockages
Washington Park to Waterloo Boat House	Moderate (because of dam)	6.3 mi.	High	No major blockage issues
Riverview Recreation Area to Gilbertville Park	Moderate to high	10.2 mi.	Lots of tubing	No major blockage issues
Gilbertville Park to McFarlane Park	High	9.3 mi.	N/A	No major blockage issues

* Use volume estimates are relative only to other segments in the study area and were generated by anecdotal observations

A variety of meetings and events were held from 2012 to 2014 concerning the Cedar River water trail study area. Public outreach programs and efforts include the 25th Annual Cedar River Cleanup and Canoe/Kayak Float, which was held on July 28, 2012 with a festival on July 29. Another cleanup event took place the following August in Bremer County. Also in August, the River Watershed Coalition met and discussed the 40th anniversary of the Clean Water Act. In 2013 and 2014, Field of Dreams Poker Run fundraising events were held involving a kayak ride from Washington Park in Cedar Falls to Exchange Park in Waterloo. On March 22, 2014, the Northeast Iowa Paddle Fest took place among local stakeholders to develop a water trail plan for the Cedar River in Bremer and Black Hawk Counties.

WATER TRAIL ACCESS POINTS

There are 18 existing river accesses along the Cedar River in Black Hawk County. Some accesses are appropriate for motorized boats and others suitable only for canoes, kayaks, and other non-motorized devices. In addition, there are two carry-down areas for portaging around the dams in downtown Waterloo.

Older maps of the Cedar River Water Trail showed two additional accesses, one at Hartman Reserve and the other near Cedar Terrace Park in Waterloo. The Hartman Reserve access was recently closed after completion of the new Sherwood Park access nearby, though the ramp can still be used for portaging from Lake Manatt to the Cedar River as part of the Cedar Valley Paddlers Trail.

River accesses on older maps also used a numbering system that has since been updated. For example, Deerwood Park was previously Access 158, but it is now designated as Access 159. Figure 2-7 shows all the existing accesses using the updated numbering system. The Waterloo Boat House is shown as Access 164B because the City of Waterloo has plans to construct a new river access downtown which will become Access 164A.

Figure 2-7: Existing Cedar River accesses

Access location	Number	Access Owner, Manager	Launch Type
Dort's Landing	183B	City of Janesville	Carry down
Janesville Park	183A	City of Janesville	Motorized boat ramp
Washington Union Access	179	BHCCB	Motorized boat ramp
Black Hawk Park	175	BHCCB	Motorized boat ramp
Island Park	172	City of Cedar Falls	Motorized boat ramps (2)
Tourist Park	171B	City of Cedar Falls	Carry down
Gateway Park	171A	City of Cedar Falls	Carry down
Washington Park	170	City of Cedar Falls	Motorized boat ramp
George Wyth State Park	168	Iowa DNR	Motorized boat ramp
Sherwood Park	167	City of Waterloo	Motorized boat ramp
Cedar Bend Park	165	City of Waterloo	Motorized boat ramp
Waterloo Boathouse	164B	City of Waterloo	Motorized boat ramps (2)
Park Avenue Access	-	City of Waterloo	Carry down, portage
6th Street Access	-	City of Waterloo	Carry down, portage
Riverview Recreation Area	161	City of Waterloo	Motorized boat ramp
Deerwood Park	159	City of Evansdale	Motorized boat ramp
Gilbertville Park	151	BHCCB, City of Gilbertville	Motorized boat ramp
Cedar River Natural Resource Area	149	BHCCB	Motorized boat ramp
Cedar River Access	142B	BHCCB	Motorized boat ramp
McFarlane Park	142A	BHCCB	Motorized boat ramp

Existing motorized boat ramp at Island Park

A range of public facilities are available at water trail access points including public restrooms, drinking water, and other park amenities. Figure 2-8 lists the existing facilities near each river access:

Figure 2-8: Facilities at each Cedar River access

Access Location	Restrooms	Amenities	Water	Camping	Other Points of Interest
Dort's Landing	No	None	No	No	Pedestrian bridge
Janesville Park	Yes, portable	Boat ramp, shelters	Yes	No	Baseball field, basketball court, volleyball court, playground, viewing areas, pedestrian bridge
Washington Union	No	Boat ramp	No	No	None
Black Hawk Park	Yes, pit	Boat ramp, shelter	Yes	Yes	Trails, shooting ranges, playgrounds, grills, viewing areas, showers, cabins
Island Park	Yes, flush	Boat ramp, docks, shelters, beach	Yes	No	Trails, playgrounds
Tourist Park	Yes, pit	Shelter	No	No	Trails, disc golf
Gateway Park	Yes, flush	Shelter	Yes	No	Trails, playground, viewing areas
Washington Park	Yes, flush nearby	Boat ramp, shelters	Yes, nearby	No	Trails, baseball field, playground
George Wyth State Park	Yes, pit nearby	Boat ramp, shelters nearby	Yes, nearby	Yes	Trails, playgrounds, showers, lakes, beach nearby
Sherwood Park	None	Boat ramp, shelter nearby	No	No	Trails
Cedar Bend Park	None	Boat ramp, dock	No	No	Trails
Waterloo Boathouse	Yes, flush, pit nearby	Boat ramp, docks	Yes, nearby	No	Trails, Riverfront Stadium, baseball fields, basketball court, volleyball court, skate park, disc golf, playgrounds, shelters nearby
Park Avenue Access	No	None	No	No	Trails, viewing area
6th Street Access	No	None	No	No	Trails, viewing area
Riverview Recreation Area	Yes, pit	Boat ramp	No	No	Trails, ATV park, lake nearby
Deerwood Park	Yes, flush nearby	Boat ramp, shelters	Yes, nearby	Yes	Trails, baseball fields, basketball court, disc golf, playgrounds, grill, viewing area, lake nearby
Gilbertville Park	Yes, nearby	Boat ramp, shelters nearby	Yes, nearby	No	Baseball fields, Veterans Memorial, playground, pedestrian bridge
Cedar River Natural Resource Area	No	Boat ramp	No	No	Trails, shooting ranges
Cedar River Access	No	Boat ramp	No	No	None
McFarlane Park	Yes, flush nearby	Boat ramp, shelters nearby	Yes, nearby	Yes	Trails, basketball court, volleyball court, playground, grills, showers, cabin nearby

The Cedar River runs through numerous parks, recreational areas, and business districts. Much of the river is surrounded by wetlands situated within the floodplain, creating a unique wilderness experience. The bottomland forests around the Cedar River present abundant opportunities for seeing wildlife including a wide variety of birds as well as deer, turtles, and mussels.

There are several variables to consider when reviewing each river access along the Cedar River:

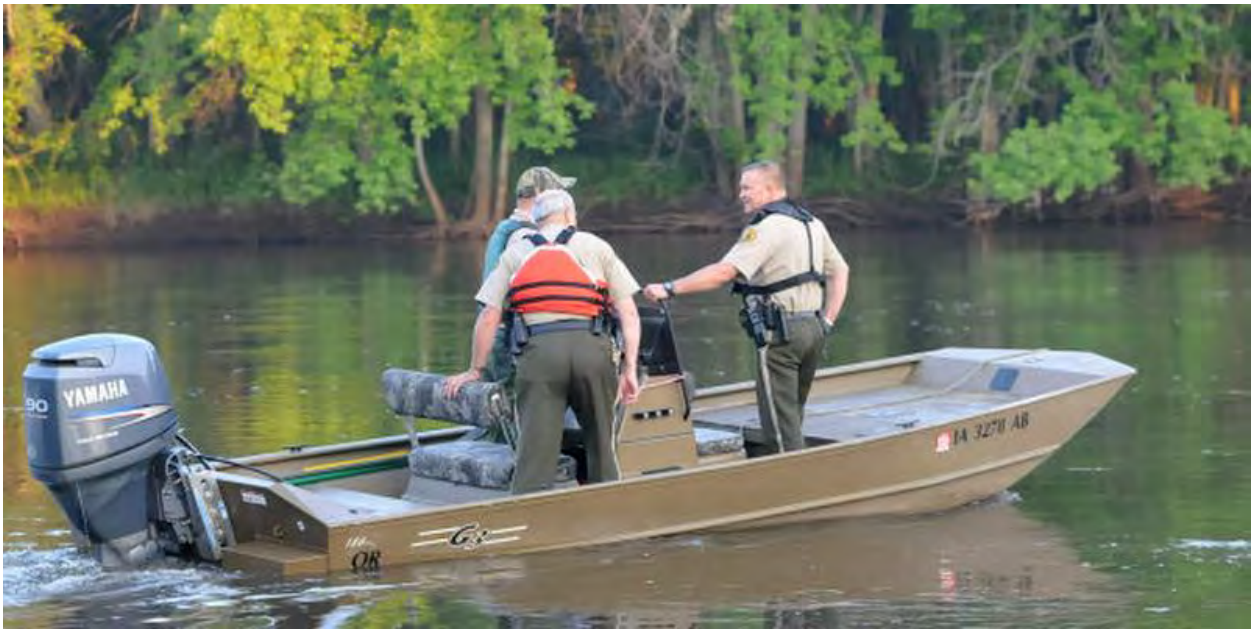
- Number of parking spaces
- Distance between parking and the river
- Slope of the path to the river
- Slope of the launch/ramp into the river
- Angle of the launch/ramp relative to the river

These variables were reviewed on a site-by-site basis by the landscape architect and water trails coordinator. Information about how these variables were considered in planned improvements is described in Chapter Four.

RIVER MANAGEMENT

Law enforcement along the Cedar River is conducted by each jurisdiction's corresponding police department. These include the Black Hawk County Sheriff's Department, Janesville Police Department, Cedar Falls Police Department, Waterloo Police Department, Evansdale Police Department, Gilbertville Police Department, and La Porte City Police Department. Law enforcement and emergency response personnel from one or more jurisdictions along the Cedar River have been involved in responses on the river. However, the river and accesses are not regularly patrolled. Numerous boating accidents and rescues and two drownings have been reported for this segment of the Cedar over the past twenty years. Vandalism, trespassing, and other disturbances have also been reported on this segment of the river. There are three specially trained water rescue teams and several sets of equipment located near the water trail.

A majority of the river segments are located near adjacent roads. Though, some areas are located further away from roadways, making emergency access more difficult.



Black Hawk County Sheriff and Iowa DNR Conservation Officer on the Cedar River

Figure 2-9: Law enforcement and emergency response information

Department	Water Rescue Equipment	Rescue Training	Staff	Response
Black Hawk County Sheriff's Office	Rescue boat, two kayaks, dragging equipment, floating stokes basket, side-scan sonar, probing poles	Extensive search and rescue training, certified officers	102	24/7 response
Black Hawk County Conservation Board	Boat and motor, several gators	None	21	Can provide people and equipment as required
Cedar Falls Fire Rescue	Two flat bottom boats, one Zodiac, two ice rescue devices, numerous PFDs, numerous cold weather immersion suits	Swift water, cold water, low head dam, and ice rescue	33 FT, 12 PT	24/7 response
Evansdale Fire Rescue	One boat and trailer, one gator	Water, swift water, and ice rescue, and search and rescue	2 FT, 22 volunteers	24/7response
Gilbertville Fire and Rescue	One gator, plan to get a new boat	None	22 volunteers	24/7 response
Hudson Fire and Rescue	One gator, snowmobiles	None	36 volunteers	24/7 response
Iowa DNR	Three flat boats, numerous PFDs, side-scan sonar	Swift water, cold water	5 officers, 1 ranger	Depends on day
Janesville Fire Rescue	In process of getting shoreline equipment	Looking into technical rope rescue	25 volunteers	In process of equipping and training for rescue
La Porte City Fire Rescue	Boat, gator, dry suits (all weather), access to kayaks	Some search and rescue experience	25 members, some EMTs	24/7 response
Waterloo Fire Rescue	Two flat bottom boats, one RDC, one Zodiac, dragging equipment	Swift water and ice rescue	108	24/7 response

Another aspect of water trails management is maintaining the condition of the river, such as removal of large obstructions and maintaining the river accesses. There is currently no entity responsible for removal of obstructions in the Cedar River, because it is so wide that obstructions do not span the entire width of the river. Obstructions like wood snags are usually temporary on the Cedar River, as the current eventually pushes them downstream.

Maintenance of each river access is the responsibility of each respective jurisdiction, with two exceptions. The Black Hawk County Conservation Board maintains the parking lot and boat ramp at Sherwood Park in Waterloo and the river access in Gilbertville. In addition, the Iowa DNR maintains the access at George Wyth State Park as well as the portage routes and accesses throughout the park associated with the Cedar Valley Paddlers Trail.

PHYSICAL CONDITIONS

The way a river moves over the landscape across time is of interest to landowners, historians, and researchers. Sections of the Cedar River have been shown to meander back and forth across the flood plain since the mid-1800s and likely prior to that. Accordingly, the Cedar River has one of the highest amounts of measured planform change from the mid-1800s to present of any river studied for potential designation in 2014-2016. The study segment upstream of Waverly in Bremer County is relatively sinuous and has experienced the most dramatic changes over time, while the river downstream of Waverly is noticeably straighter and matches the mid-1800s character drawn in the General Land Office survey. The average lateral channel movement on section lines for the Cedar River study area was 0.16 miles of shift per river segment – the fourth highest average of any of the 12 rivers studied.

Several quantitative methods for estimating channel change are available even with limited data. Historic maps provide the earliest suggestions of river alignment in Iowa. However, river alignment on early maps can't be quantitatively compared with later aerial photography because the maps were drawn with much different accuracy standards. For example, Government Land Office (GLO) surveyors of the mid-1800's as well as the 1875 Andreas Atlas preparers were required to verify the river crossing locations only at section lines. However, important generalizations can be made about historic channel shifts and the extent of modifications using this comparison limitation. The GLO mapping survey for Black Hawk County was completed between 1845 and 1849. The river alignment on section lines from this survey was compared with those on the 1875 Andreas Atlas to provide context for changes during the first fifty years following Euro-American settlement. Aerial photography of the complete channel length was compared between 1939 and 2010. Lastly, the 1840's and 1875 alignments were also compared with the more recent aerial photography.

Figure 2-10: Cedar River channel shifts observed in Bremer County

The pattern of channel shifts observed upstream of Cedar Falls is still very active and has had the greatest change in the past 30 years. Changes include generalized down-valley channel migration and a small amount of side-valley channel migration. These changes are most profound north of Waverly in Bremer County. The average lateral migration measured 80 to 200 feet between 1980 and 2010. Meander scrolls and oxbow lakes, evidence of former channel locations, are also visible on this section. One significant and several small avulsions are also evident. An avulsion occurs when a portion of the channel, usually a bend, is rapidly abandoned during high flows in favor of a shorter, higher gradient channel route. These new channel segments appear as straight segments cutting off a bend in the river. Figure 2-10 shows the avulsion in the Cedar River.

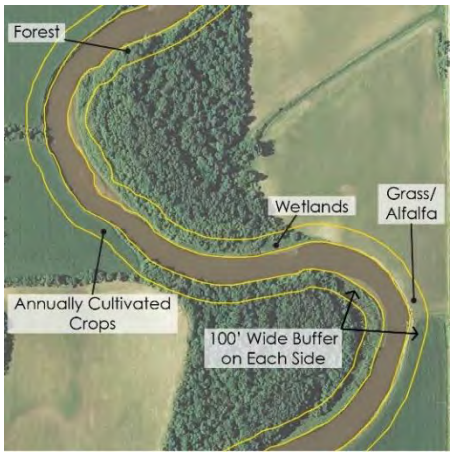
Figure 2-11 summarizes the planform changes measured for each study segment in Black Hawk County. Segments with increases in length between the two timeframes indicate actively meandering channels while those without change indicate a stable channel planform.

Figure 2-11: Cedar River channel characteristics, 1980-2010

Segment	Straight line length (mi)	1980 length (mi)	2010 length (mi)	% change in length between 1980-2010	1980 sinuosity	2010 sinuosity
Janesville to Washington Union Access	3.3	4.00	4.08	+2%	1.2	1.2
Washington Union Access to Black Hawk Park	3.16	4.06	4.22	+4%	1.3	1.3
Black Hawk Park to Island Park	2.6	3.62	3.69	+2%	1.4	1.4
Island Park to Riverview Recreation Area	8.81	10.31	10.53	+2%	1.2	1.2
Riverview Recreation Area to Gilbertville Park	9.01	10.46	10.50	0%	1.2	1.2
Gilbertville Park to Winegar Park	13.5	15.38	15.56	+1%	1.1	1.2

Streambank erosion was not quantitatively measured for this study. However, erosion is apparent at many locations when floating the river. At least ten locations were identified in Black Hawk and Bremer Counties where significant streambank erosion was evident.

Figure 2-12: Example of riparian area



The edge or transition between a waterbody and its upland area is known as the riparian zone. Landcover in a riparian area has a strong influence on water quality, streambank condition, the rate of lateral channel migration, and habitat in the area. Research consistently shows that perennial riparian landcover such as trees, shrubs, and native grasses are more beneficial for all ecosystem services compared to development or annual row crop landcover. A riparian area is often referred to as a "buffer" where perennial landcover is present. The optimal width of riparian buffer vegetation is dependent upon its intended goals. Common buffer designs range from a minimum of 100 feet to more than 500 feet. Existing riparian buffer conditions on the Cedar River are very consistent. Nearly all the riparian area in Black Hawk County is perennial vegetation, which is excellent for buffering water resources.

Riparian areas within 100 feet of the top of the Cedar River streambanks were evaluated using landcover data from 2013 to better understand the presence or absence of beneficial riparian buffer vegetation. Landcover in each of the segments was divided into five types:

- Annually cultivated crops
- Perennial grass and alfalfa
- Forest or predominantly tree cover
- Wetlands
- Other (e.g. pavement, buildings)

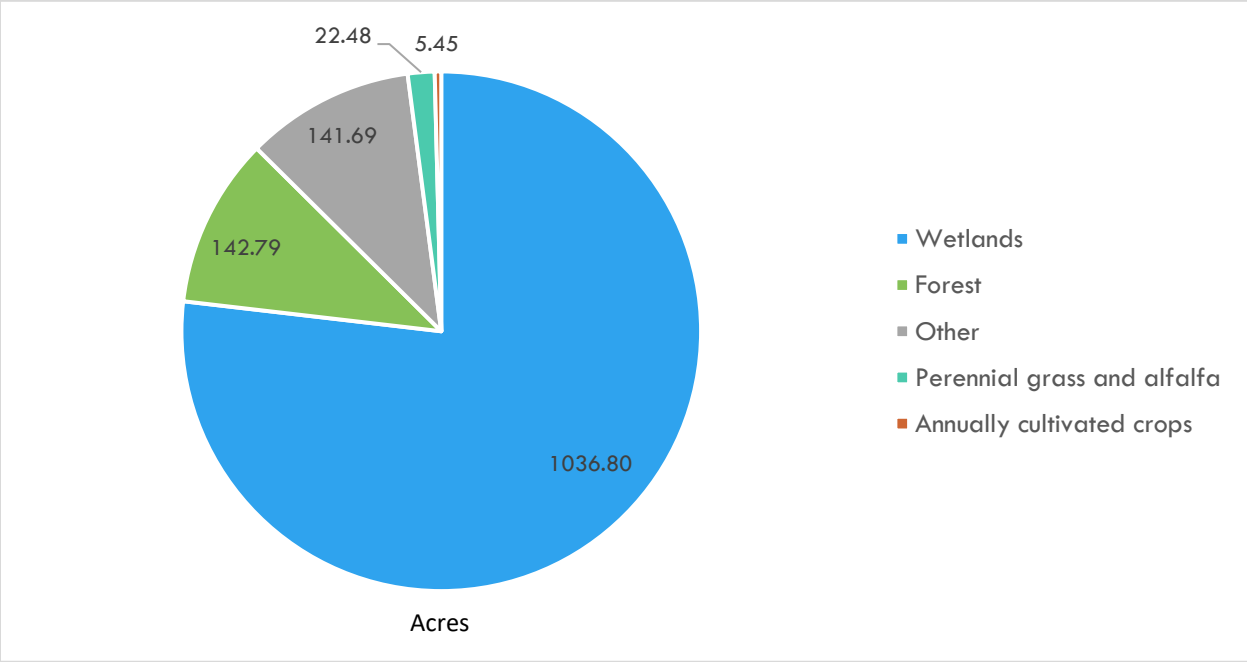
Figure 2-13 shows the total acres of each landcover type for each segment. Among the 12 rivers studied in 2014 for potential water trails designation, the Cedar River buffer area in Black Hawk and Bremer Counties contained the second-largest percentage of urban impervious surfaces and the smallest percentage of annually cultivated crops.

Figure 2-13: Landcover types along the Cedar River in Black Hawk County, by segment

Segment	Annually cultivated crops	Perennial grass and alfalfa	Forest	Wetland	Other	Totals
Janesville to Washington Union Access	1.48 (1%)	1.09 (1%)	6.61 (7%)	80.79 (80%)	11.34 (11%)	101.30 (100%)
Washington Union Access to Black Hawk Park	0 (0%)	1.95 (2%)	0 (0%)	117.89 (98%)	0 (0%)	119.84 (100%)
Black Hawk Park to Island Park	0 (0%)	0 (0%)	0 (0%)	107.55 (89%)	13.56 (11%)	121.12 (100%)
Island Park to Riverview Recreation Area	0 (0%)	0 (0%)	2.54 (1%)	153.91 (61%)	94.90 (38%)	386.09 (100%)
Riverview Recreation Area to Gilbertville Park	3.24 (1%)	6.17 (2%)	63.69 (22%)	190.57 (67%)	21.89 (8%)	285.56 (100%)
Gilbertville Park to Winegar Park	.73 (0%)	13.27 (3%)	69.95 (15%)	386.09 (82%)	0 (0%)	470.04 (100%)

The Cedar River is stunning for the high percentages of forested wetlands in the riparian area. With 75 percent, or 1,581 acres, of forested wetland vegetation, the Cedar River exceeds all of the other river corridors included in the 2014 study. All segments of the Cedar River contain at least 86 percent perennial landcover except between Island Park and the Riverview Recreation Area. As a whole, 90 percent of the total acres have some form of vegetation landcover, while nearly 10 percent are urban impervious surfaces. Less than one percent of the riparian buffer area is annually cultivated row crops.

Figure 2-14: Share of landcover types along the Cedar River in Black Hawk County



Improvements that reduce soil erosion and slow overland flow into the river channel reduce the amount of pollutants entering the river. Figure 2-15 provides information about the riparian areas at each river access existing at the time of the study. Rip rap used in Black Hawk County is typically made up of broken concrete rather than stone.

Figure 2-15: Conditions of riparian areas at Cedar River accesses

Access location	Buffer between parking and river	Streambank conditions	Rip rap present
Janesville Park	30 ft	Minor or no erosion	Yes
Washington Union	20 ft	Minor or no erosion	Yes
Black Hawk Park	15 ft	Minor or no erosion	Yes
Island Park	20 ft	Minor or no erosion	Yes
Tourist Park	100 ft	Very severe erosion	No
Gateway Park	20 ft	Minor or no erosion	Yes
Washington Park	40 ft	Moderate erosion	Yes
George Wyth State Park	65 ft	Minor or no erosion	Yes
Hartman Reserve	n/a	Minor or no erosion	Yes
Sherwood Park	25 ft	Minor or no erosion	Yes
Cedar Bend Park	40 ft	Moderate erosion	Yes
Waterloo Boathouse	25 ft	Minor or no erosion	Yes
Riverview Recreation Area	30 ft	Moderate erosion	Yes
Deerwood Park	55 ft	Moderate erosion	Yes
Gilbertville Park	10 ft	Minor or no erosion	Yes
Cedar River Natural Resource Area	50 ft	Minor or no erosion	Yes
Cedar River Access	30 ft	Moderate erosion	Yes
McFarlane Park	15 ft	Moderate erosion	No

Streambank conditions near Black Hawk Park boat ramp and Riverview Shelter

IMPAIRED WATERS

A majority of the Cedar River in Black Hawk County is included in Iowa's 2012 List of Impaired Waters, also known as the 303(d) List. In addition, multiple tributaries draining into the Cedar River are listed as impaired including the Shell Rock River, West Fork Cedar River, Beaver Creek, Dry Run Creek, Black Hawk Creek, and Wolf Creek.

Nearly all the listed segments of the main channel and several of the tributaries are impaired for primary contact recreation due to levels of indicator bacteria (e.g. E. Coli) that exceed state criteria. This type of impairment is by far the most common of Iowa's rivers and streams. Dry Run Creek in Cedar Falls is listed for biological impairments due to urban runoff.

Figure 2-16: Impaired river segments along the Cedar River and its tributaries

A segment of one tributary to the Cedar River is included on the "Outstanding Iowa Waters" list due to exceptional aquatic diversity. The 7.3-mile segment of Deer Creek is located in Worth County near the Minnesota-Iowa state line. The confluence of Deer Creek and the Cedar River is located in Mitchell County. Water bodies included on the Outstanding Iowa Waters list represent outstanding state resource waters and warrant some protections against future degradation.

The Iowa DNR lists a total of 236 contaminant sources within 0.3 miles of the Cedar River in Black Hawk and Bremer Counties. Figure 2-17 shows the number of contaminant sources by source type. The list includes locations from which contaminants are known to exist but does not imply that contamination of surface water has occurred.

Figure 2-17: Contaminant sources near the Cedar River

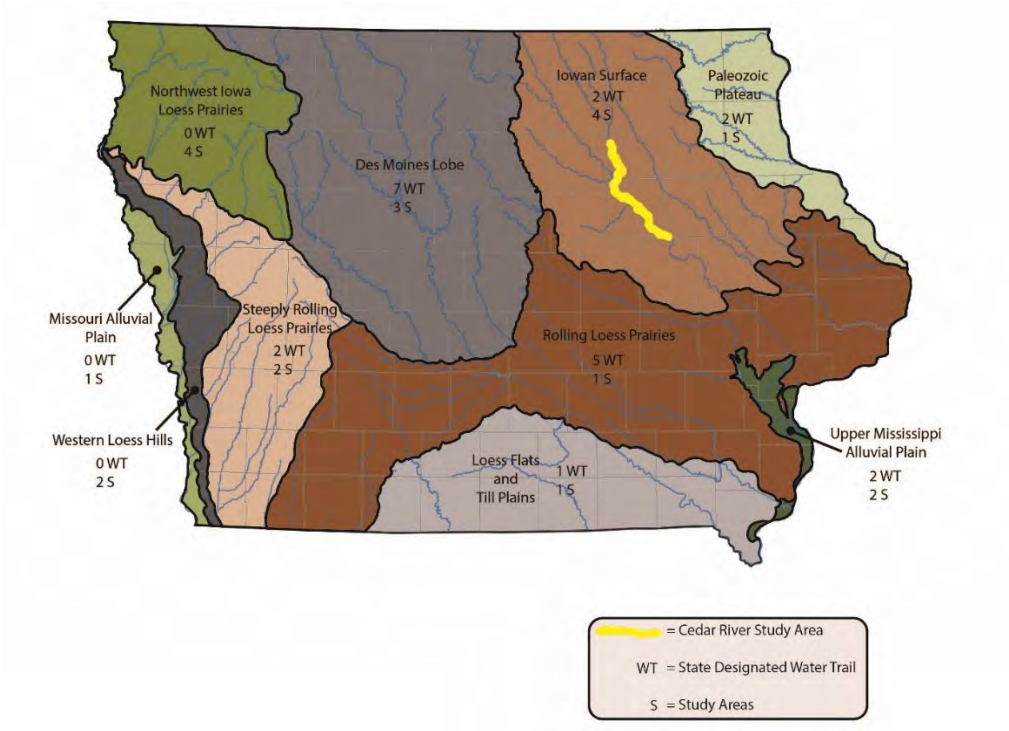
Contaminant source type	Sources within 0.3 miles of river
Underground Storage Tank	85
Leaking Underground Storage Tank	37
Wastewater Outfall	29
Tier II Chemical Storage	18
Contaminated Sites	15
Hazardous Materials Spill	15
Wastewater Treatment Facility	14
Solid Waste Facility	11
Toxic Release Inventory	7
Other Hazardous Waste	2
Land Application Site	1
Large Quantity Hazardous Waste Gen.	1
Wastewater Industrial Contributor	1

Source: Iowa Department of Natural Resources, 2011

WATERSHED CHARACTERISTICS

This study area is located within the Iowan Surface ecoregion in Iowa. Figure 2-18 shows the Cedar River in Black Hawk and Bremer Counties as it relates to the Iowan Surface ecoregion and other ecoregions in the state. There are two State-designated water trails within the Iowan Surface ecoregion, in addition to the small segment of the Cedar River already designated as part of the Cedar Valley Paddlers Trail.

Figure 2-18: Ecoregions of Iowa



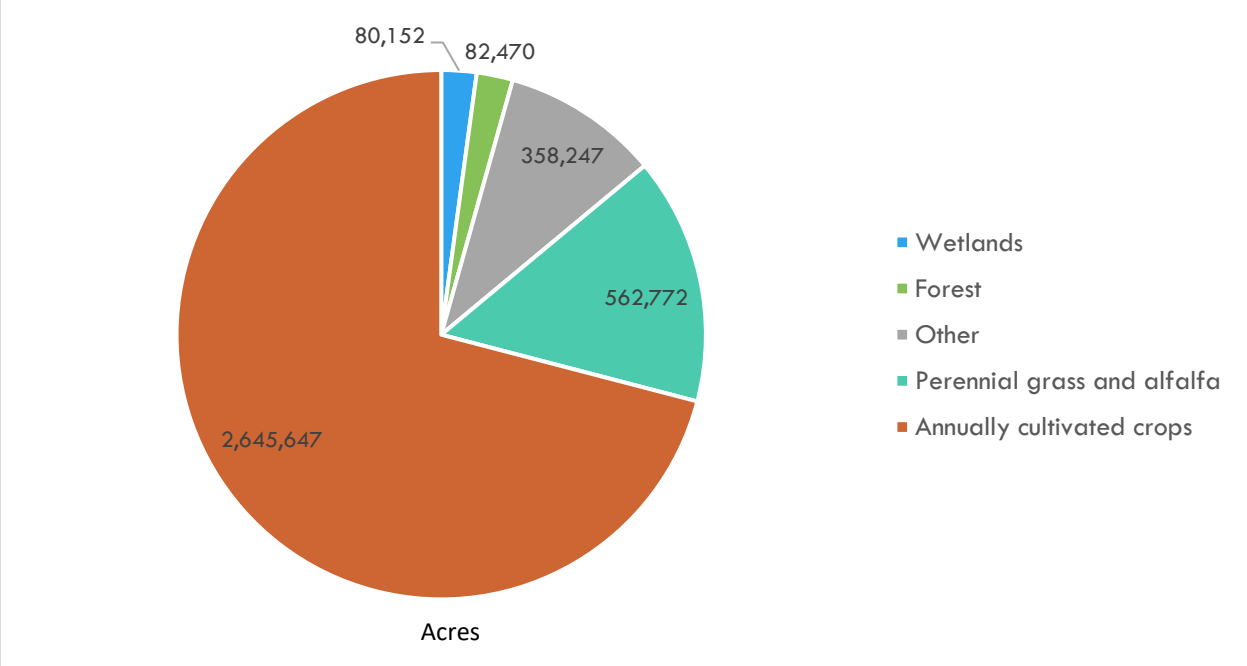
The concept of "ecoregions" is used to characterize and group geographic areas with similar climate, soils, and topography. Together, these three elements result in specific plant and animal patterns and form distinct ecological patterns unique to each ecoregion.

The Iowan Surface ecoregion is distinguished by recent glacial drift landforms of the Des Moines Lobe. There are no natural lakes of glacial origin in this area. The southern and southeastern border of this region is irregular and crossed by major stream valleys. In the northern portion of the region, glacial deposits are thin and shallow limestone bedrock creates karst features.

The drainage area, or watershed, draining into the Cedar River is 3,729,288 acres in total. The vast majority of this watershed is located outside of Black Hawk County. A total of 71 percent of the watershed acres were annually cultivated cropland in 2013. Developed areas including roads, neighborhoods, and buildings made up 10 percent of the watershed. Figure 2-20 shows the share of landcover types throughout the entire Cedar River watershed.

Figure 2-19: Cedar River watershed

Figure 2-20: Share of landcover types throughout the Cedar River watershed



Source: USDA National Agricultural Statistics Service, Cropland Data Layer 2013

Geologically, the Cedar River in Black Hawk County flows primarily above and through Middle Devonian rocks of the Cedar Valley and Wapsipinicon groups. A complex and interesting series of ancient bedrock channels are known collectively as the Bremer Channel, and they join the Cedar River Channel just south of Waterloo. The oldest rocks at the bedrock surface along the Cedar River in this area are Silurian Hopkinton Formation dolomites, deposited about 400 million years ago. These rocks lie in the deepest areas of the underlying bedrock channel and are not exposed in this area.

POPULATION AND DEVELOPMENT

According to 2017 U.S. Census Population Estimates, there are an estimated 248,400 people living in Black Hawk County and surrounding counties (i.e. Benton, Bremer, Buchanan, Butler, Grundy, and Tama). Additionally, U.S. Highway 218 crosses the Cedar River twice, once in Janesville and once in Waterloo. Other major highways that cross the river in Black Hawk County include Interstate 380, U.S. Highway 63, Iowa Highway 57, and Iowa Highway 58. The highest traffic volume recorded was near the Interstate 380 bridge over the Cedar River which had an average annual daily traffic (AADT) volume of 40,900 vehicles in 2014.

Figure 2-21 shows the nearest lodging and camping accommodations to each river access as of 2018. Distances were measured using the shortest practical route by road. However, for several accesses, the distance is notably shorter by paved trail. These include Gateway Park (2.9 miles to camping), Washington Park (3.0 miles to camping), George Wyth Memorial State Park (2.6 miles to lodging), Sherwood Park (1.8 miles to camping), Cedar Bend Park (3.0 miles to camping), and the Waterloo Boathouse (4.3 miles to camping). At two accesses, Gateway Park and Washington Park, it is shorter to bicycle to the George Wyth State Park campground than it is to drive to the Black Hawk Park campground.

George Wyth State Park Campground
(Photo: Pat McGeough)

Figure 2-21: Nearest lodging and camping accommodations to Cedar River accesses

Access	Nearest modern lodging	Distance by road	Nearest camping	Distance by road
Janesville Park	Quality Inn (Waverly)	4.9 miles	Antique Acres	3.0 miles
Washington Union Access	The Blackhawk Hotel (Cedar Falls)	7.7 miles	Antique Acres	2.5 miles
Black Hawk Park	The Blackhawk Hotel (Cedar Falls)	3.6 miles	Black Hawk Park	0 miles
Island Park	The Blackhawk Hotel (Cedar Falls)	0.8 miles	Black Hawk Park	2.3 miles
Tourist Park	The Blackhawk Hotel (Cedar Falls)	0.5 miles	Black Hawk Park	2.7 miles
Gateway Park	The Blackhawk Hotel (Cedar Falls)	0.3 miles	Black Hawk Park	3.4 miles
Washington Park	The Blackhawk Hotel (Cedar Falls)	1.1 miles	Black Hawk Park	4.7 miles
George Wyth Memorial State Park	The Blackhawk Hotel (Cedar Falls)	4.8 miles (2.6 miles*)	George Wyth State Park	0 miles
Sherwood Park	Midway Inn (Cedar Falls)	2.5 miles	George Wyth State Park	4.0 miles
Cedar Bend Park	Motel 6 (Waterloo)	2.4 miles	George Wyth State Park	4.4 miles
Waterloo Boathouse	Courtyard by Marriot, Quality Inn and Suites, and Ramada Inn (Waterloo)	1.4 miles each	George Wyth State Park and Deerwood Park	5.5 miles each
Downtown Waterloo	Quality Inn and Suites and Ramada Inn (Waterloo)	0.3 miles	Lost Island Waterpark KOA	4.2 miles
Riverview Recreation Area	Days Inn (Waterloo)	1.3 miles	Lost Island Waterpark KOA	3.2 miles
Deerwood Park	Super 8 (Waterloo)	2.5 miles	Deerwood Park	0 miles
Gilbertville Park	Days Inn (Evansdale)	4.2 miles	Deerwood Park	7.2 miles
Cedar River Natural Resource Area	Isle Casino Hotel (Waterloo)	7.7 miles	Deerwood Park	9.4 miles
Cedar River Access	Rockwood Hotel (La Porte City)	4.5 miles	McFarlane Park	6.4 miles
McFarlane Park	Rockwood Hotel (La Porte City)	3.3 miles	McFarlane Park	0 miles

CULTURAL AND HISTORICAL RESOURCES

The river was originally named Red Cedar River by the Meskwaki tribe due to the vast quantity of red cedar trees growing along it, and the city of Waterloo was originally known as Prairie Rapids Crossing. Prior to the cultivation of the landscape along the river banks, the Cedar River was crystal clear through much of the year. Fish in the river abounded, and the woodland river banks were heavily vegetated and provided food for animals and humans.

When the region opened to white inhabitants in the 1830s, the Sac and Fox Indians lost their hold on the area following the Black Hawk War of 1832. Settlements were established along water sources such as the Cedar River and Black Hawk Creek for their timber and other natural resources.

The area was first settled in the mid-1840s. In December 1945, the first newspaper was published – the Iowa State Register and Waterloo Herald.[1] The first bridge over the Cedar River was built in Waterloo at Fourth Street in 1859. Prior to that, settlers had to cross the river by fording it, or later in the 1850s by ferry. The first dam in Black Hawk County, built of brush and logs, was built in Cedar Falls in 1848. The second dam was completed in 1854 in Waterloo, and a sawmill was constructed at the same time.[2]

The Office of the State Archaeologist (OSA) completed a Phase IA archeological reconnaissance survey along the route of the water trail in 2015. Their investigation compiled and summarized prior archaeological investigations, previously recorded archaeological sites and architectural resources, National Register of Historic Places, known cemeteries, and unrecorded historical properties of possible interest. The purpose of this investigation was to develop priority areas for further study due to possible future development, and to provide information to assist with development of interpretive materials in the water trail corridor.

The OSA study corridor included both Black Hawk Creek and the Cedar River, primarily within Bremer, Black Hawk, and Grundy Counties but also including small segments of Butler, Buchanan, and Benton Counties. There have been at least 216 separate archaeological investigations in the overall study area. Known cultural resources include 258 recorded archaeological sites. A total of 46 of the sites are situated within 100 meters (330 feet) of the Black Hawk Creek or Cedar River banks. Recorded prehistoric site types include habitation, isolated burials, isolated find, lithic scatter, mound(s), resource procurement, scatter, and village.

Figure 2-22 lists developed historic sites available for the public to visit near the Cedar River. All sites are listed on the National Register of Historic Places (NRHP). Museums are denoted with an asterisk (*).

Figure 2-22: Historic sites along the Cedar River in Black Hawk County

Attraction	Information	Nearest city	Miles to river
Round Barn	The Round Barn, located in Washington Township, was built in 1917 and measures 60 feet around. The structure is constructed in clay tile and features an aerator and two-pitch roof.	Cedar Falls	1.0
Cedar Falls Ice House Museum*	Built in 1921 after the first ice house was destroyed by fire. This building has been used as a bank, livestock barn, and home to the boat club before being renovated in 1978 as a museum.	Cedar Falls	0.1
Cotton Theater	Also known as the Regent Theatre and Oster Regent Theatre, this historic site was named for Cedar Falls resident Frank Cotton who built the theater in 1909 and 1910. Original theater had seating for 1,000 people.	Cedar Falls	0.1
Black Hawk Hotel	This hotel has occupied the same site since the early 1850s under several different names. During the time of redesign, by John Ralston in 1914, the hotel acquired its current name.	Cedar Falls	0.1
Cedar Falls Independent Order of Odd Fellows	Also known as the Odd Fellows Temple or 4th and Main Building, the Renaissance styled building was designed by architects, Alban and Fisher in 1902.	Cedar Falls	0.2
Cedar Falls Post Office	Designated in 2016, the former Cedar Falls Post Office on Washington Street has been restored and now houses Bike Tech, a bicycle retailer and repair shop in downtown Cedar Falls	Cedar Falls	0.2
Dunsmore House	Built in 1866, this two-story house is situated along U.S. Highway 63 and was designed by architect Thomas Chadwick.	Waterloo	0.8
Rensselaer Russell House*	Named after the architect, Rensselaer Russell, this late Victorian styled building is part of the Grout Museum and one of the oldest homes in Black Hawk County.	Waterloo	0.4
Snowden House*	Also, part of the Grout Museum, this Victorian Italianate can be rented for weddings, receptions, musical recitals and other parties.	Waterloo	0.4
Walnut Street Baptist Church	Designed in 1908 by architect, Clinton Shockley, the congregation worshiped in the facility until 1970 and later sold it to Faith Temple Baptist Church.	Waterloo	0.4
Emerson School	In 1904, Emerson School extended educational facilities beyond the Original Town Plat. The location reflected the residential development tied to the Third Street streetcar line.	Waterloo	0.5

1 - Western Historical Company. (1878). The History of Black Hawk County, Iowa, Containing a History of the County, its Cities, Towns, Etc. Chicago: Western Historical Company. P.383.
2 - Hartman, J.C. (1915). History of Black Hawk County, Iowa and its People, Volume 1. S.J. Clarke Publishing Company. P.372-378.

Waterloo Masonic Temple	Completed in 1928 and externally designed by John G. Ralston, a dedicated Mason himself.	Waterloo	0.2
Master Service Station	The Master Service Station is now home to Experience Waterloo (formerly the Waterloo Convention and Visitors Bureau)	Waterloo	0.2
Overland Waterloo Company Building	Built in 1916 as a multi-story automobile distributorship, this building has been the home of KWWL since 1958.	Waterloo	0.3
Waterloo East Commercial Historic District	28 buildings contribute to the Waterloo East Commercial Historic District. Streets included are 128-329 E 4th, 612-616 Mulberry and 501-632 Sycamore.	Waterloo	0.2
The Fowler Company Building	Built in 1884, the Fowler Company Building is currently the home to The Screaming Eagle bar and grill, the Silos and Smokestacks offices and three lofts.	Waterloo	0.1
Black Hawk County Soldiers Memorial Hall	Also known as Veterans Memorial Hall, this classical revival was built from 1915-1916 as a memorial to soldiers who died in the American Civil War.	Waterloo	0.1
Waterloo West Commercial Historic District	23 buildings contribute to the Waterloo West Commercial Historic District. Streets include 200-300 W 4th, 600 block of Jefferson and 313-315 W 5th St.	Waterloo	0.2
Grace Methodist Episcopal Church	Built in 1911, this former Methodist Episcopal Church is now home to the Mount Moriah Missionary Baptist Church.	Waterloo	0.5
YMCA Building	The first YMCA was built for $12,950 and was demolished in November 1930. The new YMCA, present building of River Plaza, was built on the same sight and designed by Mortimer B. Cleveland in 1931.	Waterloo	0.2
Waterloo Public Library (East Branch)	Designated in 1906 by architect J.G. Ralston, and funded with grant money from Andrew Carnegie, this building is one of two libraries originally constructed.	Waterloo	0.3
Waterloo Public Library (West Branch)	Designated in 1906 by architect J.G. Ralston, and funded with grant money from Andrew Carnegie, this second library is now the location of Swisher & Cohrt law offices.	Waterloo	0.3
Marsh-Place Building	Marsh-Place Building was designed in 1910 by architects Hallett & Rawson. This six-story office building was intended to rent to local businesses and now offers one or two bedroom apartments.	Waterloo	0.1
Hotel Russell-Lamson	Designed by architects Marshall & Fox, this building sits next to Fire Station No.2 and consists of 90 remodeled apartment homes.	Waterloo	0.1
Henry Weis House	A manufacturer, Henry Weis, built a $16,000 frame house in 1902 designed by architects Murphy & Ralston. It is now the Wellington Bed & Breakfast.	Waterloo	0.5
Fire Station No.2	Designed by architect, John Ralston, it can be found on Commercial Street with its Renaissance/Romanesque style.	Waterloo	0.1
Highland Historical District	Designed by architect Cleveland Mortimer in the early 1900s, this can be found bound by Independence Ave, Steely, Idaho, and Vine Sts.	Waterloo	1.0
Rath Packing Company Administration Building	This late gothic revival was opened in 1881 as a meat packing plant. In 1941, this packing house had grown into the nation's single largest meatpacker in the U.S.	Waterloo	0.2
Dr. Jesse Watson Building	This Late Victorian is also known as Knights of Pythisa Lodge. The building was constructed in 1878 and is the only stone building in La Porte City.	La Porte City	2.0
La Porte City Station	This building, originally significant in transportation, is now home to City Hall for La Porte City.	La Porte City	2.0
Syndicate Block	Designed by architect Albert L. Day, this Late Victorian building held significance with specialty stores and meeting hall space. It can be found between 206-216 Main St.	La Porte City	2.0
Chapple and Young Block	Built in 1892, this Romanesque building is located between 316-320 Main St and was once a former bank and hardware store, now barber shop and a salon.	La Porte City	2.0
La Porte City Town Hall and Fire Station*	La Porte City's former city hall and fire station. This building is also known as the F.F.A. Agricultural Museum	La Porte City	2.1

There are also numerous public lands and recreation areas near the Cedar River, in addition to the above-mentioned parks with river accesses. Several of these areas are County-owned wildlife and natural areas which are generally left undeveloped. Figure 2-23 outlines each recreation area and the activities available at each location.

FIGURE 2-23: RECREATION FACILITIES NEAR THE CEDAR RIVER

	Miles from River	Hunting	Fishing	Paddling	Wildlife Viewing	Hiking Trails	Multi-Use Trail	Modern Amenities	Accessible Facilities	Other
STATE RECREATION FACILITIES										
George Wyth State Park	0.1		X	X	X	X	X	X	Several shelters, lodge, campsites	Playground, beach, dock, jetties, boat ramp
COUNTY RECREATION FACILITIES										
West Fork Wildlife Area	1.6	X	X		X	X				
Turkey Ridge Wildlife Area	1.5	X	X		X	X				
Thunder Woman Wildlife Area	2.1	X	X		X	X				Bow hunting; old suspension bridge, boat ramp
Potratz Natural Area	2.3	X	X		X	X				Bow Hunting
Rotary Reserve	0.1	X				X			Lodge	Cedar River
Railroad Lake Access	0.5	X	X		X	X				
Beaver Valley Wetland Wildlife Refuge	0.9				X					Observation deck
Beaver Creek Access	0.2	X	X		X	X				Carry-down access
Black Hawk Park	0.1	X	X		X	X	X	X	Two campgrounds, four shelters	Boat ramp
Big Woods Lake Campground	1.3		X	X	X		X	X	Cabins, campsites, shelter	Trail loop
Hartman Reserve Nature Center	0.4			X	X	X	X		Interpretive Center and Program Center	Trails to shelter, beach, and meadow, hacking tower, and bayou deck
Casebeer Natural Area	0.1		X		X	X				Carry-down access, accessible only by foot
Schaefer Natural Area	0.1		X		X	X				Cedar Valley Nature Trail, gazebo
Gilbertville Park	0.1		X	X	X					Boat ramp
Cedar River Natural Resource Area	0.1	X	X		X					Cedar Valley Nature Trail, rifle range, and trap shooting station
Brett Klima Wildlife Area	0.8	X	X		X	X	X			Cross-country skiing, horseback riding
McFarlane Park	0.1	X			X	X	X	X	Campsites, playground, restrooms, showers	Cedar Valley Nature Trail, playground, cabin, shelter, basketball, volleyball, horseshoes, picnic tables, grills
Cedar Island Wildlife Area	0.1	X			X	X				
Spring Creek Flats	0.1	X	X		X	X	X			
Spring Creek Geologic Study Area	3.3	X			X	X				Rock quarry containing fossil specimens
Spring Creek Prairie	3.5	X			X					Access to historical cemetery, wild flowers and prairie species
Twin Springs Natural Area	0.2	X	X		X	X				Limestone outcrop, streams

	Miles from River	Hunting	Fishing	Paddling	Wildlife Viewing	Hiking Trails	Multi-Use Trail	Modern Amenities	Accessible Facilities	Other
MUNICIPAL RECREATION FACILITIES										
Ulrich Park	0.1		X		X	X		X		
Island Park	0.1		X				X	X	Beach House, five shelters	Beach, mooring area, two boat ramps, playground
Tourist Park	0.1		X				X		Shelter	Disc golf course
Gateway Park	0.1		X				X	X	Two shelters	Playground, heated restrooms, trail
Washington Park	0.1		X				X	X	Six shelters	Boat ramp, ball diamond, playground, trail loop
Pfeiffer Springs Park	0.2						X	X	Two shelters	Ball diamonds, basketball court, playground, trail
Sherwood Park	0.1		X			X	X		Shelter	Boat ramp, trail
Exchange Park / Waterloo Boathouse	0.1		X				X	X	Boathouse, several shelters	Boat ramp, dock, disc golf course, ball diamonds, sand volleyball, playground, trail
Downtown Waterloo RiverLoop	0.1						X			Amphitheater, splash pad, river trail loop, boat docks
Riverview Recreation Area	0.1		X	X	X		X	X	Two shelters	Boat ramp, ATV Park
Meyers Lake & Angels Park	0.4		X	X			X	X	Shelter	Dock, playground, picnic tables, four gazebos
Deerwood Park	0.1		X	X			X	X	Campsites, two shelters	Boat ramp, ball diamonds, playground, basketball court, horseshoe pits

Several cultural attractions are also located near the Cedar River including over a dozen museums. Several of these destinations are situated immediately next to the river, such as the Ice House Museum in Cedar Falls and Phelps Youth Pavilion in Waterloo. The proximity of downtown Cedar Falls and downtown Waterloo to the Cedar River make the water trail a unique experience combining remote wilderness areas with historic urban centers. Figure 2-24 describes various art museums and outdoor destinations situated near the Cedar River.

More information on attractions in the Cedar Valley can be found on the following websites:

- Experience Waterloo: www.experiencewaterloo.com
- Cedar Falls Tourism and Visitors Bureau: www.cedarfallstourism.org

EXPERIENCE waterloo

CEDAR FALLS
CEDARFALLSTOURISM.ORG

FIGURE 2-24: ATTRACTIONS NEAR THE CEDAR RIVER

Attraction	Description	Nearest city	Miles to river
MUSEUMS AND THE ARTS			
Ice House Museum	Built in 1921, this circular building once stored ice cut from the Cedar River. The museum now features interactive displays that tell the ice harvesting story and how the Cedar River shaped business, culture and daily life.	Cedar Falls	0.1
Victorian Home & Carriage House Museum	Built by Azel D. Barnum in 1863, this Italianate-style home is filled with furnishings, photographs and everyday objects from the 1880s-1900s. The attached Carriage House features the William J. Lenoir Model Railroad, archives and changing exhibits.	Cedar Falls	0.3
UNI Museum	Origins date back to the 1890s with an initial focus on geology and zoology. Today the collection numbers over 100,000 items in Biology, Geology, History and World Cultures/Anthropology. The museum also administers the Marshall Center School, an authentic one-room school moved to campus from Laurens, Iowa in 1987.	Cedar Falls	1.6
Little Red Schoolhouse Museum	Originally painted white and built in 1909, it was known as "Center School" because of its location used as the voting place for the township. The old school was moved to Black Hawk Park in 1968 and restoration work was undertaken to preserve the building. The schoolhouse is equipped with a bell tower and bell, blackboards, pot-bellied stove, old desks, books and other furnishings. The building was again moved in 1988 to its current location.	Cedar Falls	0.1
Iowa Band Museum	Constructed in the 1870s, was originally two separate buildings. Now the last remaining municipal band hall in Iowa, it continues to provide a home for the oldest municipal band in the state. Touring the upstairs showcases the "Golden Band Age" of 1860-1940.	Cedar Falls	0.2
Viking Pump Museum	Celebrating more than a century of business that began with the first rotary pump developed by Jens Nielsen in 1904. Exhibits focus on new technology and solution-driven engineering.	Cedar Falls	0.2
Hearst Center for the Arts	Home to two galleries, three classrooms, a gift shop and a sculpture garden. Viewing the exhibitions is free and classes for both adult and children are offered regularly. More than two million visitors have walked through the doors since 1989.	Cedar Falls	1.1
Gallagher Bluedorn Performing Arts Center	A $23 million, 100,000 square foot complex features three state-of-the-art concert halls, a soaring glass-walled lobby and dozens of teaching and rehearsal spaces. Enabled by the generosity of Cedar Valley residents Ed and Cathy Gallagher and Carl and Peggy Bluedorn, as well as the university, the state and 1,400 donors across Iowa. Open since 2000, this was the first major center to open in Iowa in 20 years.	Cedar Falls	1.8
Waterloo/Cedar Falls Symphony Orchestra	Founded in 1929, it was first named the "Waterloo Symphony Orchestra." The first concert was held at East High School in 1930. There have been 16 conductors since its founding nearly nine decades ago and continues to be an entertainment mainstay and advocate for music education.	Cedar Falls	1.8
John Deere Tractor & Engine Museum	Open since 2014, the 27,000 square foot newest addition to John Deere attractions, this museum highlights the history and contribution of John Deere Waterloo Works in both the Cedar Valley and John Deere, itself, through its nearly 100-year history.	Waterloo	0.1
National Wrestling Hall of Fame Dan Gable Museum	Named in honor of Waterloo native, legendary wrestler, 1972 Olympic Gold Medalist, and coach Dan Gable, the museum features Olympic, collegiate and professional wrestling history.	Waterloo	0.2
Bluedorn Science Imaginarium	Part of the Grout Museum District, science comes alive in the three-floor, interactive science center. Open since 1993 in response to the increased interest in science programs. Exhibits focus on light and electricity, momentum, liquids, gases and sound.	Waterloo	0.4
Grout Museum	Founder Henry Grout, a Waterloo native, was curious about the world around him. The history collection focuses on the time period from 1833-present when Iowa was opened for settlement and present. Both permanent and continually changing exhibitions of area history and the only public planetarium in Northeast Iowa hold weekly shows.	Waterloo	0.4
Waterloo Center for the Arts	Programming began in 1922 and houses the largest collection of Haitian Art in the country, works by Grant Wood & Thomas Hart Benton, Mexican Folk Art, International Folk Art and more. This center includes over 100 classes and workshops and changing exhibitions in 11 art galleries.	Waterloo	0.1

Phelps Youth Pavilion	Opened in 2008 as part of the Waterloo Center for the Arts, the interactive children's museum features over 40 hands-on exhibits related to art and culture. Exhibits feature experiences that take kids around the world.	Waterloo	0.1
Rensselaer Russell House Museum	Named after the architect, Rensselaer Russell, this late Victorian styled building is part of the Grout Museum and one of the oldest homes in Black Hawk County.	Waterloo	0.4
Sullivan Brothers Iowa Veterans Museum	The $11 million museum opened in 2008 to preserve the stories and related artifacts of those who have served our country since the Civil War to present.	Waterloo	0.4
Galleria de Paco	Paco spent four months painting his version of the Sistine Chapel using spray paint onto the ceiling of his galleria. While viewing his art, patrons can enjoy lavish décor, an exceptional menu of wines and indulge in culinary tastes fused with Euro-American ingredients.	Waterloo	0.1
FFA Historical and Ag Museum	8,000 square feet of innovative and education exhibits that celebrate history, art and culture of the local community, state and nation. The newest exhibit feature is the Rural Iowa Heritage Center dedicated to pioneer heritage.	La Porte City	2.0
OUTDOOR ATTRACTIONS			
Hearst Sculpture Garden	Started by farmer poet James Hearst, and also exhibiting regional, national and international exhibitions, the Sculpture Garden offers a fresh, unique perspective on the arts.	Cedar Falls	1.1
Hartman Reserve Nature Center	Over 300-acre wooded isle and six miles of trails lead to lakes, prairies, forest, Cedar River and the American Discovery Trail.	Cedar Falls	0.4
Cedar Valley Arboretum & Botanic Gardens	Voted the 2014 Organization of the Year at the Cedar Valley Tourism Awards. This non-profit was founded in 1996 and serves as a public resource for the study of plants, a cultural center for the community and showcases Iowa's rich heritage with the land.	Waterloo	3.0

NATURAL RESOURCES

Most of the Cedar River in Black Hawk and Bremer Counties is considered a priority for conservation by the Iowa Wildlife Action Plan. This is due to several factors: The Nature Conservancy's designation of the Cedar River as an aquatic habitat priority, the existence of two 2000-acre complexes of land conserved, and the designation of the two Important Bird Areas described later.

The above average biological diversity in the Cedar River basin is explained in part by the features of the Iowan Surface ecoregion. This ecoregion occupies much of the northeast corner of the state and has gently rolling topography, relatively shallow or no loess covering, an abundance of glacial gravels, and bedrock relatively near the surface – especially in stream valleys. In addition, post-glacial colonization of Ozarkian fish fauna (e.g., American brook lamprey, gravel chub, Ozark minnow, banded darter) found the post-glacial northern Iowa streams inhabitable, compared to the more turbid streams of southern Iowa with higher rates of erosion, steeper topography, and deeper loess soils.

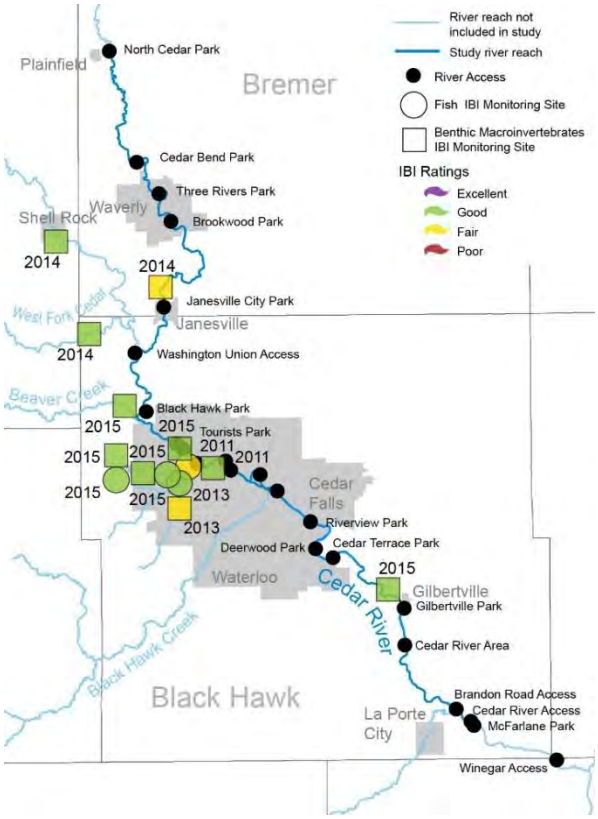
AQUATIC SPECIES

Organisms living in the river ecosystem are one of the most obvious wildlife-related resources associated with a water trail. Various types of standard assessments quantify fish as well as benthic macroinvertebrates. Benthic macroinvertebrates are organisms without backbones we can see without magnification living on, in, or near a river or lake. As described earlier, the aquatic species found living in a water body are directly related to its water quality and riparian condition.

Statewide analysis of the presence and absence of aquatic species was conducted in 2000. This analysis used Iowa's Ambient Water Monitoring data which includes the highest quality species monitoring and water quality sampling data available. Fifteen years of monitoring data from reference sites were used to generally characterize conditions statewide based on ecoregion areas. From this analysis, the greatest diversity of native fish species and the highest number of macroinvertebrate species, on average, were found in the Iowan Surface ecoregion. The Cedar River is located in the Iowan Surface ecoregion.

General fish species maps generated by Iowa DNR in 2010 as a part of the Iowa Dams Plan included 24 species known to occur in the Cedar River corridor. These species included Bigmouth Shiner, Black Crappie, Bluegill, Bluntnose Minnow, Bullhead Minnow, Channel Catfish, Common Carp, Golden Redhorse, Green Sunfish, Highfin Carpsucker, Johnny Darter, Largemouth Bass, Moxostoma, Northern Hog Sucker, Orangespotted Sunfish, Quillback Carpsucker, River Carpsucker, Sand Shiner, Shorthead Redhorse, Silver Redhorse, Smallmouth Bass, Spotfin Shiner, and Walleye. More detailed inventory assessments of both benthic macroinvertebrates on the Cedar River in Bremer and Black Hawk Counties identified a mix of "good" and "fair" conditions for fish.

Figure 2-25: Biotic integrity along the Cedar River



Additionally, Iowa DNR mussel survey data from 2013 identified a range of between three and 10 living species in the study segment. Only six of 12 proposed water trail study corridors have mussel data. Of these six, the Cedar River had the second highest number of species found. Only the Iowa River in Johnson and Louisa Counties had a higher number of species recorded.

Figure 2-26: Mussel species identified in the Cedar River

Mussel Species	Living Mussel	Mussel Shell	Notes
Giant Floater	X		
Creeper	X		Threatened species in Iowa, rare in Iowa, declining populations
Elktoe	X		Uncommon in Iowa
White Heelsplitter	X		
Fluted-shell	X		Species of greatest conservation need, rare in Iowa
Mapleleaf	X		
Fatmucket	X		
Plain Pocketbook	X		
Pimpleback	X		
Threeridge		X	
Wabash Pigtoe	X		
Mucket	X		
Hickorynut	X		Species of greatest conservation need, uncommon in Iowa
Fragile Papershell	X		
Black Sandshell	X		
Yellow Sandshell		X	Endangered species, rare in Iowa, declining populations

Two State-Threatened fish species, the American Brook Lamprey (Lethenteron appendix) and the Western Sand Darter (Etheostoma clarum) are also known to exist in the Cedar River within the corridor of the proposed water trail.

BIRD SPECIES

Breeding birds is of great interest to many Iowans. The Breeding Bird Atlas is a source of breeding bird data used throughout the United States and Canada. Each atlas project within a state or province uses approximately 20 hours per study block of observation time to record breeding activity over a course of five years. Study blocks include three-by-three-mile blocks systematically selected across the state. These atlas project survey areas record evidence of breeding. The Breeding Bird Atlas has been compiled twice in Iowa with the most recent compilation from 2008 to 2012.

Eight study blocks were located on the Cedar River in this study area. Two blocks are upstream of Waverly, three between Janesville and Island Park in Cedar Falls, and three downstream of Cedar Terrace Park in Waterloo.

The number of bird species identified in the study blocks as well as the number of Species of Greatest Conservation Need (SGCN) were both in the average range for rivers of this size included in this study. A total of 106 species were present, and 24 of these are included on Iowa's SGCN list. Figure 2-27 lists SGCNs identified breeding on or near the Cedar River. A full list of species reported in these study blocks is included in Appendix C.

Figure 2-27: Bird species of greatest conservation need (SGCN) along the Cedar River

Species	Endangered	Threatened	Special concern	SGCN
American Woodcock				X
Bald Eagle			X	X
Bell's Vireo				X
Black Tern			X	X
Black-billed Cuckoo				X
Bobolink				X
Canvasback				X
Chimney Swift				X
Common Nighthawk				X
Dickcissel				X
Eastern Meadowlark				X
Field Sparrow				X
Grasshopper Sparrow				X
Henslow's Sparrow		X		X
Least Flycatcher				X
Prothonotary Warbler				X
Red-headed Woodpecker				X
Red-shouldered Hawk	X			X
Sandhill Crane				X
Sedge Wren				X
Trumpeter Swan				X
Willow Flycatcher				X
Wood Thrush				X
Yellow-billed Cuckoo				X

Two Important Bird Areas (IBA) intersect the study corridor: The Cedar Valley Nature Trail and George Wyth State Park/Hartman Reserve. These special designations are non-regulatory and are meant to highlight the unique value of the areas designated and encourage conservation efforts to sustain their value to wildlife and people.

In addition to Red-shouldered Hawk nests, the Cedar River Corridor contains several Bald Eagle Nest Sites. In general, river corridors are high potential areas for Bald Eagle Nest Sites and Colonial Waterbird Rookeries (e.g., Great Blue Heron, Double-crested Cormorant).

PLANT SPECIES

State-Threatened plant species expected within the corridor include Sweet Indian Plantain (Cacalia suaveolens) and Kitten Tails (Besseya bullii).

State-Special Concern plant species include Bent Milkvetch (Astragalus distortus), Glade Mallow (Napaea dioica), and Ledge Spikemoss (Selaginella rupestris). Sweet Indian Plantain and Glade Mallow occur on riverbanks, on floodplains, and in riparian forests. Kitten Tails, Bent Milkvetch, and Ledge Spikemoss occur on sandy soils that are open or partially shaded. Sparta and Chelsea soil series are good predictors of potential habitat.

OTHER SPECIES

The Endangered Blue-Spotted Salamander (Ambystoma laterale), and the State-Endangered Wood Turtle (Clemmys insculpta) are also known to exist along the Cedar River study area.

VISUAL RESOURCES

The quality of what paddlers look at while on the river is an important element in designating a state water trail. Views of the surrounding landscape near the river and the top of the streambank are the most widely seen elements beyond the water surface. Much of the Cedar River water trail study area is well-treed with wide riparian forest zones. The floodplain is large and flat with feeder streams – possibly drainage ditch water – coming in on both sides.

The abundant wildlife in this area adds to the study area's visual resources. Berry shrubs treat paddlers in the later summer months to views of many fruit-eating bird species. Wildlife from birds to deer can be seen in both the undeveloped and the urban sections of this water trail study area.

A firsthand account of the visual resources and wildlife along the Cedar River was recorded by wildlife biologist Dr. James Pease, and it is included in Appendix D.

Cedar River between downtown Cedar Falls and downtown Waterloo

BLACK HAWK CREEK

Black Hawk Creek is a meandering stream beginning in Grundy County and travelling northeast into Black Hawk County before ultimately draining into the Cedar River. The portion of the river being studied as a potential State-designated water trail begins at Franck Park in Hudson and ends at the creek's confluence with the Cedar River. The total length of the creek within Black Hawk County is 21.3 miles, and the total length being considered for State-designation is 13.8 miles. The watershed area draining into Black Hawk Creek is 215,597 acres, which makes up approximately 5.8 percent of the total Cedar River watershed area.

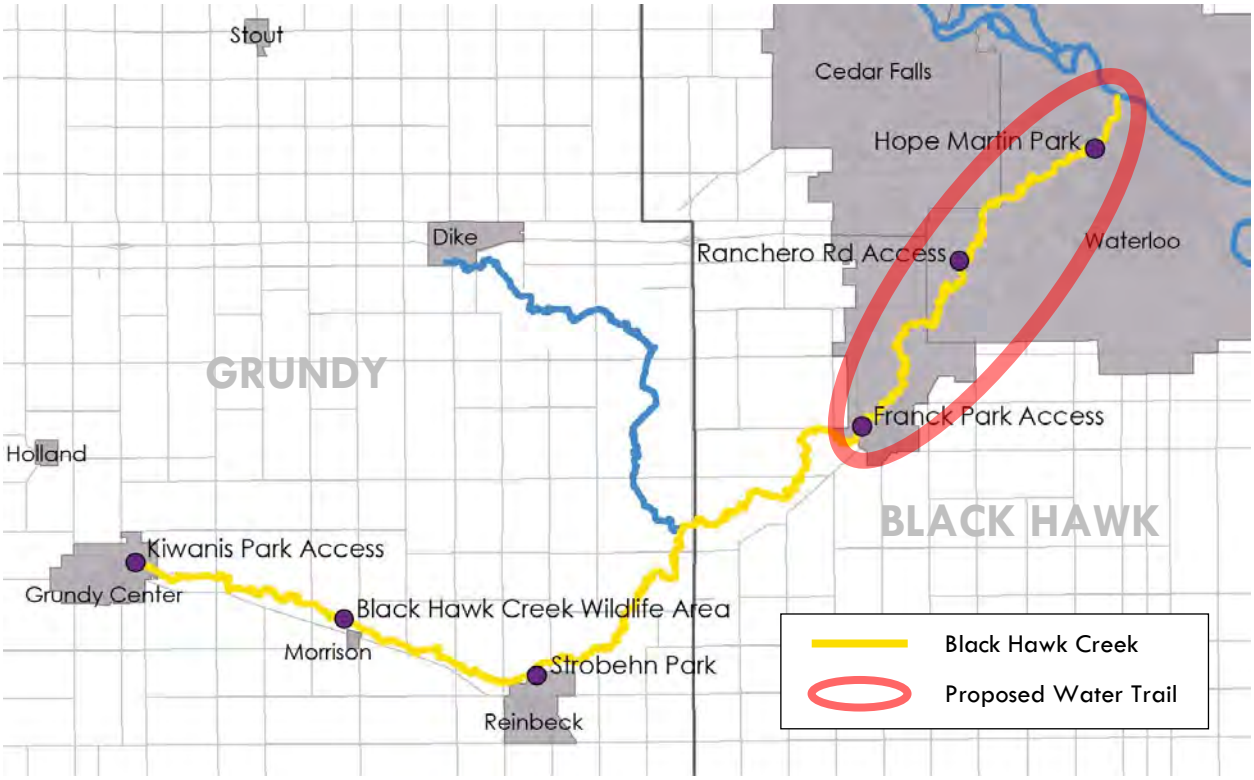
The creek is a popular destination for kayaking and canoeing. However, it is important to note that Black Hawk Creek includes a number of safety hazards including rapids, deadfalls, and snags, and **it is not recommended for beginner paddlers**.

Due to the relatively small size of Black Hawk Creek and its watershed, this stream was not included in the 2009 Iowa Rivers and River Corridors Recreation Study by Iowa State University. Therefore, no data exists on the amount of recreational use of the creek. Many larger rivers near Black Hawk Creek including the Cedar River, West Fork Cedar River, and Wapsipinicon River all indicate high recreational use.

Black Hawk Creek is a popular route for paddling enthusiasts in part due to its increase in flow over the last 30 years. However, this increase in flow also contributes to an increase in erosion and deadfalls in the creek. In addition, nutrient levels on the creek have also risen over the years, and opportunities to spot wildlife have decreased in turn.

Black Hawk Creek near Hope Martin Park

Figure 2-28: Black Hawk Creek in Grundy and Black Hawk Counties



Black Hawk Creek is very winding and mostly wooded on both banks. There are a few places where the bank opens up to a farm field or other development, particularly near the confluence with the Cedar River. The creek's width is relatively consistent and ranges from 30 to 60 feet wide, with most sections between 40 and 55 feet wide. Water depths along the creek are very favorable for paddlers, in part due to the bladder dam along the Cedar River just downriver from the confluence.

Due to the wooded nature of the creek banks, deadfalls in the creek are common. Local volunteers currently maintain a passageway through the creek by cutting fallen trees with a chainsaw. Without this volunteer effort, the creek would have been closed off to paddlers long ago. No dams are located along Black Hawk Creek.

The 13.8 miles of creek under consideration for State-designation can be divided into three segments separated by each of the river accesses.

Figure 2-29: Black Hawk Creek Water Trail segments

Segment	Stream Speed	Segment Distance	Paddling Use Volume*	Debris, Trees, Blockage Notes
Franck Park Access to Ranchero Rd Access	Slow	7.24 miles	Low	Fallen trees and debris likely
Ranchero Rd Access to Hope Martin Park	Slow	5.12 miles	Low	Fallen trees likely
Hope Martin Park to Cedar River	Slow	1.36 miles	Low	Fallen trees possible

* Use volume estimates are relative only to other segments in the study area and were generated by anecdotal observations

WATER TRAIL ACCESS POINTS

Each of the three access points along the Black Hawk Creek water trail study area exist within a city. The public land surrounding the creek in Hudson is owned by Black Hawk County, while the lands in Waterloo are owned by the City of Waterloo. In Waterloo, these lands are known collectively as the Katoski Greenbelt.

Figure 2-30: Existing Black Hawk Creek accesses

Access location	Number	Access Owner, Manager	Launch Type
Frank Park	14	City of Hudson	Carry down
Ranchero Road	7	City of Waterloo	Carry down
Hope Martin Park	2	City of Waterloo	Carry down

Public facilities and amenities are limited along the water trail. All three accesses include a granular surface parking lot. The Ranchero Road access has two additional parking lots about 1,000 feet from the access. A paved trail that parallels Black Hawk Creek to the south is also adjacent to the Ranchero Road river access. Hope Martin Park has the greatest number of amenities including play equipment, a picnic shelter, water fountains, restrooms, picnic tables, and an open grassy area. Because of its open space and proximity to surrounding neighborhoods, the access at Hope Martin Park presents an ideal location for visible improvements and promotional amenities such as signage, public art, and infrastructure.

Figure 2-31: Facilities at each Black Hawk Creek access

Access Location	Restrooms	Amenities	Water	Camping	Other Points of Interest
Franck Park	No	None	No	No	None
Ranchero Road	No	None	No	No	Trails
Hope Martin Park	Yes	Shelter	Yes	No	Trails, playground nearby

There is potential for additional river accesses along the creek. These include Popp Wildlife Area southwest of Hudson, the West Shaulis Road dead-end on either side of the creek in Waterloo, Katoski Greenbelt Park on Ridgeway Avenue in Waterloo, and Greenbelt Lake Park in Waterloo. However, there are currently no plans to create additional access at these locations.

Black Hawk Creek is a winding creek with average depths ranging from four to six feet, with some areas as shallow as one foot. The creek has some cut banks and sandbars which are normal for winding creeks like this. In a few locations, concrete and other construction debris has been dumped by private landowners along the streambank. This will eventually cause safety concerns for paddlers and will need remediation. However, the majority of the creek is natural with heavy vegetation. In some instances, fallen trees have floated to the banks of the creek effectively providing streambank protection along the shoreline. However, these fallen trees can also present a safety hazard for paddlers. Caution is recommended particularly during periods of low water levels.

The existing river accesses may pose challenges for some users. The river access at Franck Park is particularly notable as there is a four to six-foot drop to the creek depending on the water level. Launches that are too steep – generally exceeding 15 percent – pose use limitations for the elderly, small children, and those with disabilities. Walking or carrying a paddle craft down a launch grade this overly steep can also be compounded by a surface that is either too smooth or loose (resulting in slipping) or too rough (resulting in tripping).

The angle of the launch as it relates to the river alignment often impacts the amount of sediment deposition that occurs on the launch. Those built perpendicular to the channel generally collect the most sediment and debris, and launches built on the outside bend of a river are also vulnerable to damage when lateral channel migration occurs.

There are several variables to consider when reviewing each access to Black Hawk Creek:

- Number of parking spaces
- Distance between parking and the river
- Slope of the path to the river
- Slope of the launch/ramp into the river
- Angle of the launch/ramp relative to the river

These variables were reviewed on a site-by-site basis by the landscape architect and water trails coordinator, and information about how these variables were considered in planned improvements is described in Chapter Four.

RIVER MANAGEMENT

Law enforcement along Black Hawk Creek is conducted by the Black Hawk County Sheriff's office, the Waterloo Police Department, and the Hudson Police Department. All three jurisdictions work with the Black Hawk County Emergency Management Coordinator based in Waterloo. The Black Hawk County Sheriff's Department is the primary law enforcement agency in the unincorporated areas along Black Hawk Creek. The Sheriff's Department has approximately 102 sworn deputies. The Waterloo Police Department has over 100 sworn officers, and Waterloo Fire Rescue is staffed by an average of 34 firefighters per shift at six different fire stations.

The Hudson Police Department employs four full-time officers and four part-time officers, and the Hudson Fire Department has approximately 40 volunteer firefighters. In addition to the standard firefighting responsibilities, the Hudson Fire Department is also a Certified Provisional Paramedic Service. Natural resources law enforcement is provided by Iowa DNR District Two which has two Conservation Officers assigned to Black Hawk County.

There has been at least one incident recently when Waterloo Fire Rescue responders needed to rescue kayakers stuck in Black Hawk Creek. This particular incident took place between the Ranchero Road access and Hope Martin Park access. Law enforcement does not regularly patrol the accesses.

Waterloo firefighters rescuing stranded kayakers in Black Hawk Creek, 2015

Figure 2-32: Law enforcement and emergency response information

Department	Water Rescue Equipment	Training	Staff	Response
Black Hawk County Sheriff's Office	Rescue boat, two kayaks, dragging equipment, floating stokes basket, side-scan sonar, probing poles	Extensive search and rescue training, certified officers	102	24/7 response
Black Hawk County Conservation Board	Boat and motor, several gators	None	21	Can provide people and equipment as required
Hudson Fire Department	One gator	None	40 volunteers	24/7 response
Iowa DNR	Three flat boats, numerous PFDs, side-scan sonar	Swift water, cold water	5 officers, 1 ranger	Depends on day
Waterloo Fire Rescue	Two flat bottom boats, one RDC, one Zodiac, dragging equipment	Swift water and ice rescue	108	24/7 response

PHYSICAL CONDITIONS

The way a river moves over the landscape across time is of interest to landowners, historians, and researchers. The character and form of Black Hawk Creek remains similar to that illustrated on the 1875 Andreas Atlas, as shown in Figure 2-33.

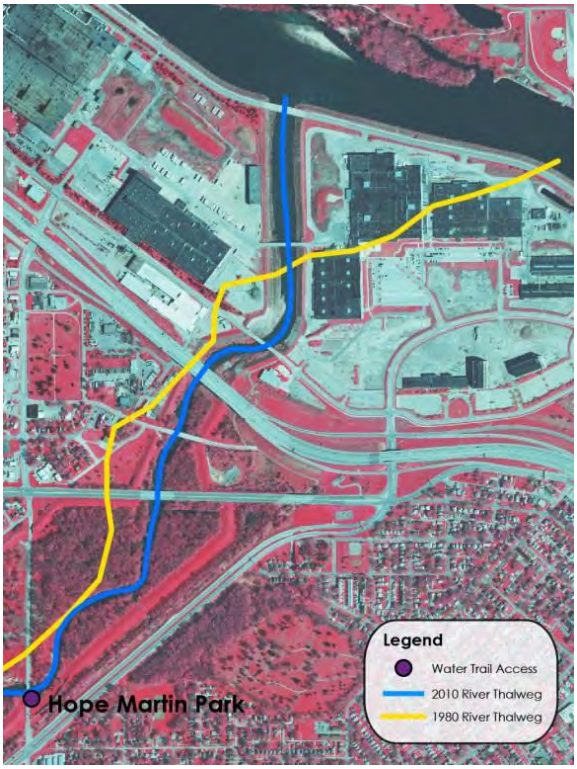
A majority of the study segment has been consistently represented as an actively meandering river. The only obvious human modification of the channel and riparian area is located near Black Hawk Creek's confluence with the Cedar River. The last 1.3 miles of the channel, between Hope Martin Park and the confluence, was realigned and ditched between the 1960s and 1970s.

The former backwater channels and low-lying floodplain areas near the Cedar River were subsequently drained and filled to allow for industrial development. This area is now occupied by the John Deere Waterloo Works Foundry and Drivetrain Operations. This shift in river alignment decreased the length of the channel by 0.3 miles and shifted the confluence point approximately 0.5 miles upstream from its original position in the 1875 Andreas Atlas.

Figure 2-33: Segment of Black Hawk Creek in Grundy County, 1875

Several quantitative methods for estimating channel change are available even with limited data, as described earlier. Overall, based on section line measurements, a moderate and average amount of measured planform change has been observed from the mid-1800s to present when compared to other rivers studied for potential State-designation in 2014. The average lateral channel movement on section lines for Black Hawk Creek during this time was 0.08 miles of shift.

Figure 2-34: Realignment of Black Hawk Creek



A pattern of across-valley and down-valley channel migration is occurring and is visible when comparing stream planform between 1980 and 2007. This pattern likely accounts for large streambank erosion rates. The most common lateral (across-valley) channel migration at outside bends was 40 to 80 feet through the entire study segment. Down-valley meander migration rates were typically 80 to 120 feet over the 27-year period on the most upstream segment. Figure 2-35 summarizes the planform changes measured for the study segment. Despite extensive streambank erosion and woody debris blockages, Black Hawk Creek includes well-developed point bars on almost every meander.

Prior to the Clean Water Act, rivers were commonly straightened by dredging a new straighter and much shorter channel to replace the original meandering planform of the river. The channelization on the lower reaches of Black Hawk Creek is a classic example of this former practice. River management today has moved away from channelization and filling low lying floodplain areas for development because of the long-term negative impacts to the waterbody and surrounding landscape as well as the vulnerability to flood damage. Federal and State permits are now required prior to most river modifications.

Figure 2-35: Black Hawk Creek channel characteristics, 1980-2007

Segment	Straight line length (mi)	1980 length (mi)	2007 length (mi)	% change in length between 1980-2010	1980 sinuosity	2007 sinuosity
Franck Park Access to Ranchero Rd Access	4.31	6.84	7.26	+6%	1.6	1.7
Ranchero Rd Access to Hope Martin Park	3.83	5.37	5.46	+2%	1.4	1.4
Hope Martin Park to Cedar River	1.22	1.29	1.30	+1%	1.1	1.1

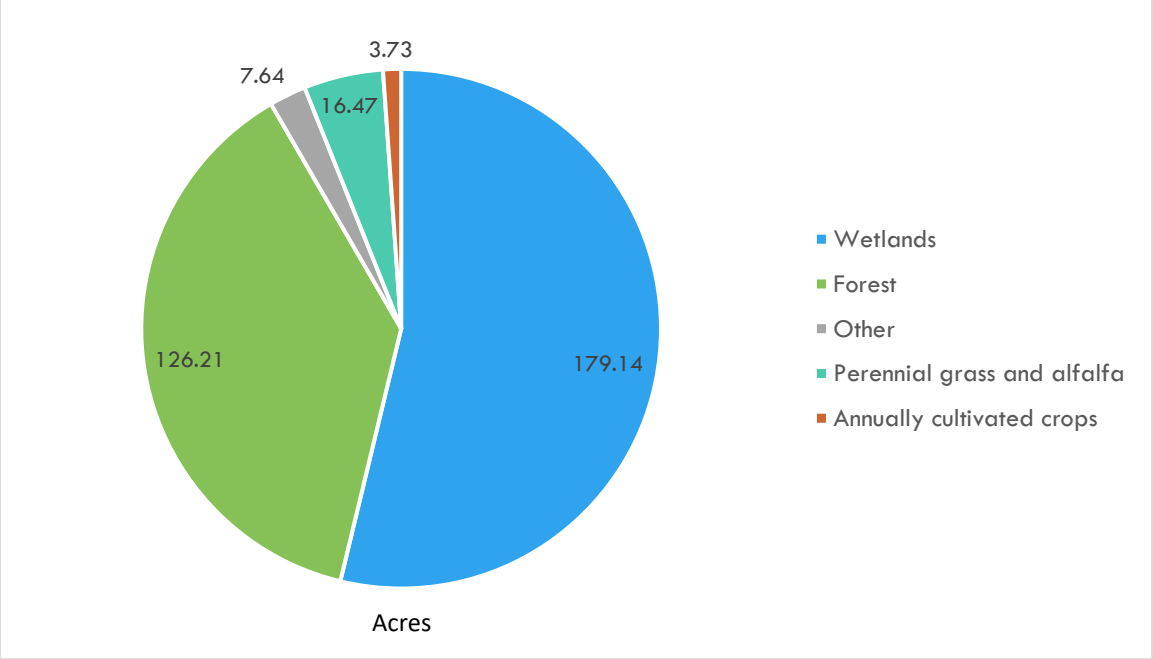
Existing riparian areas on Black Hawk Creek contain a high percentage of perennial vegetation which is excellent for buffering water resources. Riparian areas within 100 feet of the top of streambanks on both sides of Black Hawk Creek were evaluated using landcover data from the 2013 cropping year to better understand the presence or absence of beneficial riparian buffer vegetation. Landcover on each segment of the creek was divided into five types as shown on Figure 2-36.

Figure 2-36: Landcover types along Black Hawk Creek in Black Hawk County, by segment

Segment	Annually cultivated crops	Perennial grass and alfalfa	Forest	Wetland	Other	Totals
Franck Park Access to Ranchero Rd Access	2.93 (2%)	1.00 (1%)	37.55 (22%)	128.64 (75%)	0.27 (0%)	170.40 (100%)
Ranchero Rd Access to Hope Martin Park	0.80 (1%)	0 (0%)	76.11 (58%)	50.50 (38%)	3.80 (3%)	131.22 (100%)
Hope Martin Park to Cedar River	0 (0%)	15.47 (49%)	12.55 (40%)	0 (0%)	3.57 (11%)	31.59 (100%)

Black Hawk Creek stands out from the 12 rivers studied in 2014 for consideration for state water trail designation. One segment, Hope Martin Park to the Cedar River, includes a high percentage of urban development i.e. impervious cover in the riparian buffer area. Conversely, several segments have high percentages of wetland landcover, including the area between Franck Park and the Ranchero Road access. Looking at the river study area as an entire unit, 97 percent of the total area is perennial landcover while 3 percent is either annually-cultivated crops or urban impervious cover.

Figure 2-37: Share of landcover types along Black Hawk Creek in Black Hawk County



Improvements that reduce soil erosion and slow overland flow into the river channel reduce the amount of pollutants entering the river. Figure 2-38 provides information about the riparian areas at each river access existing at the time of the study. Rip rap used in Black Hawk County is typically made up of broken concrete rather than stone.

Figure 2-38: Conditions of riparian areas at Black Hawk Creek accesses

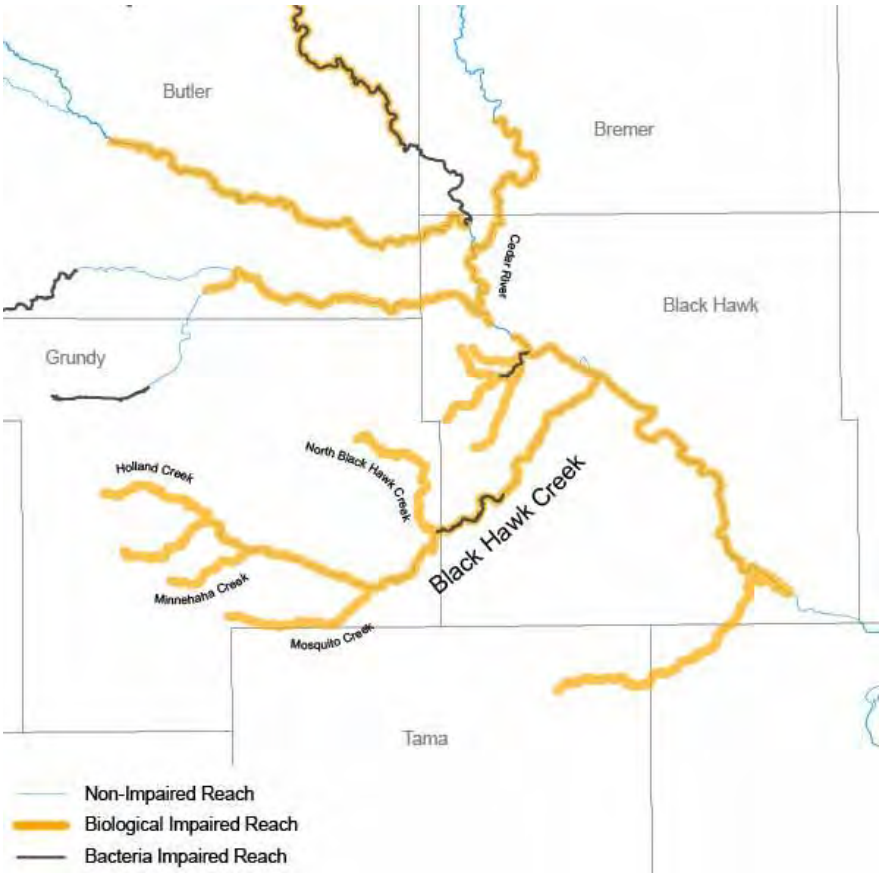
Access location	Buffer between parking and river	Streambank conditions	Rip rap present
Franck Park	30 ft	Minor or no erosion	No
Ranchero Road	50 ft	Moderate erosion	Yes
Hope Martin Park	130 ft	Moderate erosion	No

IMPAIRED WATERS

The entire length of Black Hawk Creek in both Black Hawk and Grundy Counties is included on Iowa's 2012 List of Impaired Waters, also known as the 303(d) List. In addition, all tributaries draining into Black Hawk Creek are listed as impaired including Holland Creek, Minnehaha Creek, Mosquito Creek, and North Black Hawk Creek.

The most upstream segment of Black Hawk Creek in Black Hawk County is also impaired for primary contact recreation due to high levels of indicator bacteria (E. coli) that exceed state criteria.

Figure 2-39: Impaired river segments along Black Hawk Creek and its tributaries



Despite the bacteria impaired water conditions in the creek, little targeted funding has been awarded in Black Hawk County. The Soil and Water Conservation District obtained 2009-2010 funding to monitor 14 sites in Black Hawk and Grundy Counties to determine potential sources of human and agricultural waste polluting the creek. A total of $1,000 was awarded for this effort.

The Iowa DNR lists a total of 45 contaminant sources within 0.3 miles of Black Hawk Creek in Black Hawk and Grundy Counties. Figure 2-40 shows the number of contaminant sources by source type. The list includes locations from which contaminants are known to exist but does not imply that contamination of surface water has occurred.

Figure 2-40: Contaminant sources near Black Hawk Creek

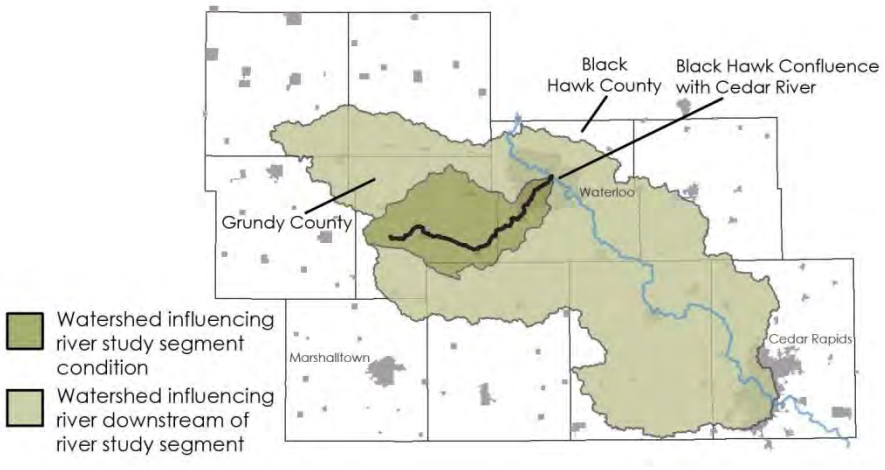
Contaminant source type	Sources within 0.3 miles of river
Leaking Underground Storage Tank	13
Underground Storage Tank	12
Wastewater Outfall	8
Tier II Chemical Storage	3
Other Hazardous Waste	2
Solid Waste Facility	2
Toxic Release Inventory	2
Wastewater Treatment Facility	2
Hazardous Materials Spill	1

Source: Iowa Department of Natural Resources, 2011

WATERSHED CHARACTERISTICS

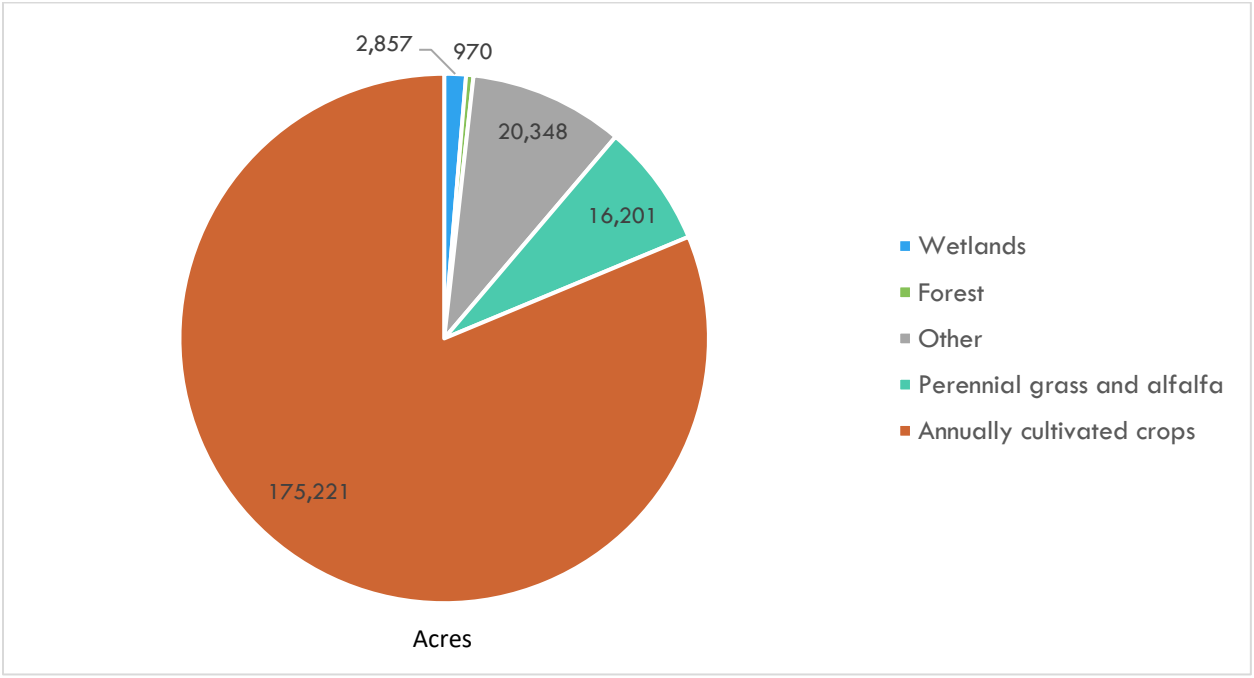
The watershed area draining into Black Hawk Creek is 215,597 acres. Nearly all of this area, 96 percent, is located in Black Hawk and Grundy Counties. A majority of the watershed acres, 81 percent, was annually cultivated cropland in 2013. Developed areas including roads, neighborhoods, and buildings made up nine percent of the watershed. Figure 2-42 shows the share of landcover types throughout the entire Black Hawk Creek watershed.

Figure 2-41: Black Hawk Creek Watershed



Ranchero Road facing south
Forested area surrounding Black Hawk Creek shown on left, farmland on right

Figure 2-42: Share of landcover types throughout the Black Hawk Creek watershed



Source: USDA National Agricultural Statistics Service, Cropland Data Layer 2013

Geologically, Black Hawk Creek is underlain primarily by rocks of the Cedar Valley Group, transitioning to Lime Creek Formation rocks further upstream. The southern part of Black Hawk Creek shows a good example of an abandoned, braided stream channel. The terrace surface is crisscrossed by a network of narrow channels separated by slightly higher, lozenge-shaped bars. This braided pattern formed under full glacial conditions when the lowan Surface was actively forming and delivering huge amounts of water and sediment into the Black Hawk Valley. A high bluff to the northwest, rising about 40 feet above the valley surface near U.S. Highway 20 has cut into the southeast end of a paha, the remnant of which extends about a mile to the northwest across the uplands.[3]

3 - Carlson, R.J., Peterson, C.L. (2014). Phase IA Cultural Resources Reconnaissance of the Cedar River and Black Hawk Creek Water Trail Corridor through Portions of Benton, Black Hawk, Bremer, Buchanan, Butler, and Grundy Counties, Iowa.

POPULATION AND DEVELOPMENT

According to 2017 U.S. Census Population Estimates, there are an estimated 248,400 people living in Black Hawk County and surrounding counties (i.e. Benton, Bremer, Buchanan, Butler, Grundy, and Tama). A total of 14 bridges cross Black Hawk Creek in Black Hawk County, including six bridges within one mile of the confluence with the Cedar River. U.S. Highway 20 and 218 both cross the creek, as well as Iowa Highway 58 and University Avenue (formerly Iowa Highway 934). The Cedar Prairie Trail also crosses the creek near the Ranchero Road river access.

Figure 2-43 shows the nearest lodging and camping accommodations to each river access as of 2016. Distances were measured using the shortest practical route by road. The Sergeant Road Trail runs parallel to Black Hawk Creek, and each access is a short distance to the trail – particularly the Ranchero Road access.

Figure 2-43: Nearest lodging and camping accommodations to Black Hawk Creek accesses

Access	Nearest modern lodging	Distance by road	Nearest camping	Distance by road
Frank Park	Best Western Plus (Cedar Falls)	4.8 mi	Lost Island Waterpark KOA	9.3 mi
Ranchero Road	Howard Johnson Inn (Waterloo)	2.4 mi	Lost Island Waterpark KOA	7.5 mi
Hope Martin Park	Courtyard by Marriot (Waterloo)	1.5 mi	George Wyth State Park	6.1 mi

CULTURAL AND HISTORICAL RESOURCES

All of the destinations on the National Register of Historic Places (NRHP) within one mile of Black Hawk Creek are located in Waterloo, with the majority being downtown near the Cedar River. The closest Historic Place is the former Whittier School approximately 3,000 feet or just over one-half mile from the creek. Black Hawk Creek itself was never used for navigation or shipping, and the areas adjacent to the creek are largely undeveloped due to being situated within the floodplain.

The last bison reported in Black Hawk County were seen along the Black Hawk Creek near Hudson in 1852 as recorded by Hiram Luddington, Hudson's first settler.[4] The City of Hudson, platted in 1857, was built along Black Hawk Creek as it provided a steady source of water. The city was also situated along a stagecoach route from Eldora to Waterloo. A mill was built along the creek in the late 1850s and was used mainly as a flour mill and later as a feed mill. In the 1880s, the Wisconsin, Iowa and Nebraska Railroad was constructed along Black Hawk Creek. Since then, the rail line has been abandoned and converted into a multi-use paved trail. In the late 1940s, city leaders decided a better bridge into Hudson needed to be built, as the existing bridge was prone to flooding. The new bridge was built on dry land, and Black Hawk Creek was rerouted afterward to channel the creek underneath the new bridge. Throughout the later 1900s and early 2000s, a system of levees was constructed around Black Hawk Creek in Waterloo extending from north of Ridgeway Avenue to the confluence with the Cedar River.

In 2015, the Office of the State Archaeologist (OSA) completed a Phase IA archeological reconnaissance survey along Black Hawk Creek and the Cedar River. A total of 258 archeological sites are known to exist in the study area, including 46 sites within 100 meters (330 feet) of the Black Hawk Creek or Cedar River banks. Of the 46 sites identified, three prehistoric sites run along Black Hawk Creek along with five historic sites.

Figure 2-44 shows seven historically significant places within approximately one mile of Black Hawk Creek. This is only a list of attractions open to the public, and does not include historically significant places under private ownership. Museums are denoted with an asterisk (*).

4 - Luddington, H. Reminiscences of Hiram Luddington. University of Northern Iowa. http://www.uni.edu/historyofblackhawkcounty/peoppioneers/Luddington.htm. Accessed May 30, 2016.

Figure 2-44: Historic sites along the Black Hawk Creek in Black Hawk County

Attraction	Information	Nearest city	Miles to river
Black Hawk County Soldiers Memorial Hall	Also known as Veterans Memorial Hall, this classical revival was built from 1915-1916 as a memorial to soldiers who died in the American Civil War.	Waterloo	1.0
Master Service Station	The Master Service Station is now home to the Waterloo Convention and Visitors Bureau	Waterloo	0.9
Waterloo West Commercial Historic District	23 buildings contribute to the Waterloo West Commercial Historic District. Streets include 200-300 W 4th, 600 block of Jefferson and 313-315 W 5th Sts.	Waterloo	1.0
YMCA Building	The first YMCA was built for $12,950 and was demolished in November 1930. The new YMCA, present building of River Plaza, was built on the same sight and designed by Mortimer B. Cleveland in 1931.	Waterloo	1.1
Henry Weiss House	A manufacturer, Henry Weis, built a $16,000 frame house in 1902 designed by architects Murphy & Ralston. It is now the Wellington Bed & Breakfast.	Waterloo	0.9
Snowden House*	Also part of the Grout Museum, this Victorian Italianate can be rented for weddings, receptions, musical recitals and other parties.	Waterloo	0.4
Rensselaer Russell House*	Named after the architect, Rensselaer Russell, this late Victorian styled building is part of the Grout Museum and one of the oldest homes in Black Hawk County.	Waterloo	0.4

There are also numerous public lands and recreation areas near Black Hawk Creek, in addition to the previously mentioned parks with river accesses. An estimated 9,472 acres of land, either publicly held or held with a permanent conservation easement, exists within 10 miles of Black Hawk Creek in Black Hawk and Grundy Counties.

Figure 2-23 shown earlier in this chapter outlines recreational areas near the Cedar River and activities available at each location. Two additional recreational areas exist adjacent to Black Hawk Creek: Popp Wildlife Area and the Black Hawk Creek Greenbelt. Popp Wildlife Area is a 76-acre floodplain forest upstream of Franck Park and includes an access to Black Hawk Creek, a small prairie, picnic area, and hiking trails. The Black Hawk Creek Greenbelt represents the county-owned property along both sides of the creek, primarily in Hudson. Hunting, fishing, and wildlife viewing are suitable activities at both recreational areas.

Popp Wildlife Area near Hudson

Figure 2-24 shows the cultural attractions located near the Cedar River which are also in close proximity to Black Hawk Creek. One additional cultural destination is Hansen's Dairy Farm in Hudson. The farm offers walk through tours and hands-on educational tours for families and classrooms. The farm also has a Tour Center, completed in 2012, which can be rented for gatherings up to 90 people. Located at 8461 Lincoln Road, Hansen's Dairy farm is less than one mile from Black Hawk Creek and is 1.5 miles from the Franck Park access.

OTHER NATURAL RESOURCES

AQUATIC SPECIES

The access at Popp Wildlife Area on Black Hawk Creek has been used by the Iowa DNR as a biological monitoring site four times between 1996 and 2012. Conditions have ranged from "good" to "fair" compared to other streams in the Iowan Surface ecoregion. Figure 2-45 shows the scores recorded for both fish and aquatic organisms. There is no mussel survey data available from the Iowa DNR for Black Hawk Creek.

Figure 2-45: Biological monitoring data at Popp Wildlife Area

Investigation Type	1996	2002	2004	2012
Fish	51 (good)	61 (good)	44 (fair)	61 (good)
Benthic Macroinvertebrates	50 (fair)	64 (good)	41 (fair)	65 (good)

Source: Iowa Department of Natural Resources BIONET

General fish species maps generated by the Iowa DNR in 2010, as part of the Iowa Dams Plan, included 30 species known to occur in Black Hawk Creek between Franck Park and the Cedar River confluence. These species included Bigmouth Shiner, Black Crappie, Blackside Darter, Bluegill, Bluntnose Minnow, Central Stoneroller, Channel Catfish, Common Carp, Common Shiner, Creek Chub, Fathead Minnow, Golden Redhorse, Green Sunfish, Highfin Carpsucker, Hornyhead Chub, Johnny Darter, Largemouth Bass, Moxostoma, Northern Hog Sucker, Northern Pike, Orangespotted Sunfish, Quillback Carpsucker, Sand Shiner, Shorthead Redhorse, Silver Redhorse, Slenderhead Darter, Smallmouth Bass, Spotfin Shiner, Stonecat, and White Sucker.

BIRD SPECIES

Only one Breeding Bird Atlas study block, at Franck Park, was located along Black Hawk Creek. A total of 70 bird species were identified in this block. 11 of these are included on Iowa's Species of Greatest Conservation Need (SGCN) List. One bird in each of endangered and threatened categories is included. This bird diversity is the lowest of any river studied for potential designation in 2014. Figure 2-46 lists SGCNs identified breeding on or near Black Hawk Creek. All birds shown on this list have also been identified as breeding near the Cedar River. A full list of species reported in this study block is included in Appendix C.

Figure 2-46: Bird species of greatest conservation need (SGCN) along Black Hawk Creek

Species	Endangered	Threatened	Special concern	SGCN
Bobolink				X
Chimney Swift				X
Common Nighthawk				X
Dickcissel				X
Eastern Meadowlark				X
Henslow's Sparrow		X		X
Least Flycatcher				X
Red-headed Woodpecker				X
Red-shouldered Hawk	X			X
Sedge Wren				X
Yellow-billed Cuckoo				X

PLANT SPECIES

No recent site-specific records were identified in the Black Hawk Creek water trail corridor by the Iowa DNR, based on state records of rare species and significant natural communities. Glade Mallow (Napaea dioica), however, is a State-Special Concern plant which has been documented along Black Hawk Creek upstream of Hudson and may occur within the project corridor as well. Glad mallow occurs on riverbanks, on floodplains, and in riparian forests.

VISUAL RESOURCES

This winding creek is bordered primarily by trees. Several sections open up to farmland along the banks. There are also several places where water flows from tile outlets. A small dam near Franck Park appears with rapids going through the center. As paddlers travel towards Waterloo, they will notice the Shaulis Road Bridge dismantled but the uprights and approaches are still present. The only other notable visual landmarks along Black Hawk Creek are a few houses that you encounter as paddlers approach the Ridgeway Avenue Bridge along with powerlines that cross over the Creek in one location. Many gravel bars and sandbars can be seen throughout the stretch of Black Hawk Creek from Franck Park to Hope Martin Park. Lastly, while not along Black Hawk Creek, the bladder dam downstream along the Cedar River is notable for its impact on the water level, navigation, and habitat of the creek.

View of Black Hawk Creek between Ranchero Road and Hope Martin Park

PUBLIC INPUT

3. PUBLIC INPUT

PUBLIC MEETING FORMAT

Two public meetings were held to gather input on the Water Trails Master Plan. Meetings were held at the Island Park Beach House in Cedar Falls on July 31, 2018, and the Waterloo Boathouse on August 2, 2018. The meetings were open-house format, and the same materials were presented at each meeting. A total of 75 individuals attended the two meetings according to the sign-in sheets. Each meeting space was divided into four sections:

1. **Sign-in and informational handouts**
   A minimum of one staff member was seated at the sign-in table to greet attendees during each meeting. Several informational handouts were available on the topics of land ownership, emergency response, planned whitewater courses, issues with dredging, and general water trails information.

2. **Pushpin activity**
   Meeting attendees were then shown a map of Black Hawk County and given five pushpins each representing some amount of money (e.g. $10,000). Attendees were then prompted to place the pushpins at locations in the County where they would invest in river-related improvements.

3. **Interactive map and discussion**
   A laptop and projector were set up displaying the interactive map of the Black Hawk County water trails. The map shows existing river accesses, public lands, water trails, campgrounds, parking, and other information useful to paddlers planning a trip.

4. **Input surveys**
   Paper survey forms were available for attendees which included nine questions on one side and a drawing activity on the other side. The drawing activity asked respondents to identify their favorite day trip for a specified activity.

In addition, several displays were situated throughout each meeting space. These displays covered a variety of topics related to water trails topics:

- Meandered and non-meandered rivers
- River classifications (development classification and skill level)
- The Cedar Valley Paddlers Trail
- Ongoing local projects
- Parking considerations
- Signage

Discussions took place between meeting attendees and staff throughout the meeting space. This provided attendees the opportunity to learn more about the water trails process before filling out their survey form.

Meeting materials including the input surveys, informational handouts, and displays are shown in Appendix A.

SURVEY RESULTS

As described previously, meeting attendees were given multiple ways of providing input including the pushpin activity, survey form, and drawing activity. The results of these surveys are shown below.

The survey form and activities were also available online. The online surveys were promoted on the Cedar Valley Water Trails website and Facebook page. The pushpin activity and drawing activity were presented in the form of multiple-choice questions. In addition, a mock run-through of the public input meetings was held on July 30, 2018, and members of the steering committee were encouraged to provide their input on the activities and survey forms.

Altogether, 92 individuals participated in the survey process. This does not include two additional individuals who contacted the Water Trails Coordinator directly via phone and email. Figure 3-1 shows where the responses were collected from, and Figure 3-2 shows where each survey respondent is from.

Figure 3-1: Survey retrieval methods

July 30, 2018	Steering committee	9 responses
July 31, 2018	Island Park Beach House	31 responses
August 2, 2018	Waterloo Boathouse	13 responses
August 6-21, 2018	Online surveys	39 responses

Figure 3-2: Home jurisdiction of survey respondents

Cedar Falls	45 respondents
Waterloo	30 respondents
Hudson	4 respondents
Black Hawk County	2 respondents
Evansdale	2 respondents
Janesville	2 respondents
La Porte City	2 respondents
Denver	1 respondent
Gilbertville	1 respondent
Grundy County	1 respondent
Jesup	1 respondent
Readlyn	1 respondent

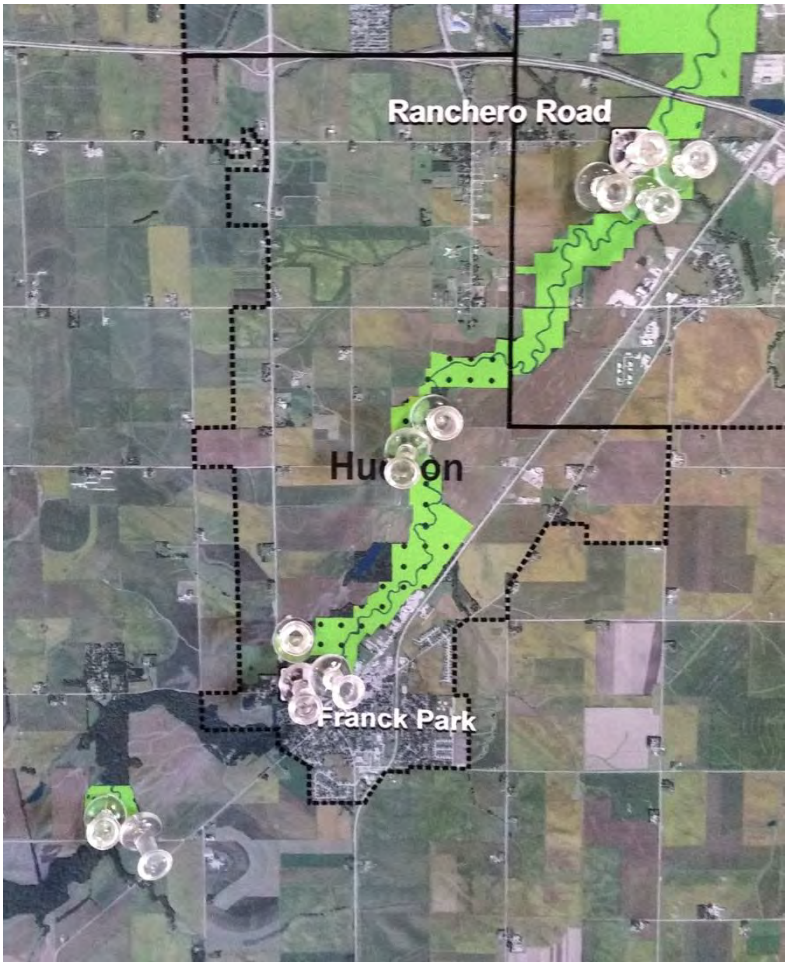
PUSHPIN ACTIVITY

The first activity at the public input meetings was the pushpin activity where attendees identified five places they would like to see investments made along the water trails. In the online surveys, this was asked as Question 2: "If you could make five investments in Black Hawk County to improve paddling and boating, where would you make these investments? You may type the same area more than once." A link to the map shown in Appendix A was also provided.

Several responses provided online were not suitable for this exercise, such as "Cedar River" or "Improved access", and therefore were not included in the final results.

Altogether, 354 pins were counted in total. Of the 137 responses given online, 118 were included in this analysis. A total of 167 pins were counted from the meeting in Cedar Falls, and 69 pins were counted from the meeting in Waterloo. Results from the Steering Committee meeting were not included in this analysis.

The size of the physical pushpins became problematic at the public meetings. After about a half-dozen pins were placed at a particular access, it became impossible for additional pins to be placed at the same location. Accordingly, some liberties were taken in the analysis, particularly along the section of the Cedar River between the Washington Union access and George Wyth State Park. Many pins in this area were assigned to the nearest river access or lake. If this exercise is used in the future, smaller pushpins or fewer pushpins per respondent would alleviate this problem.



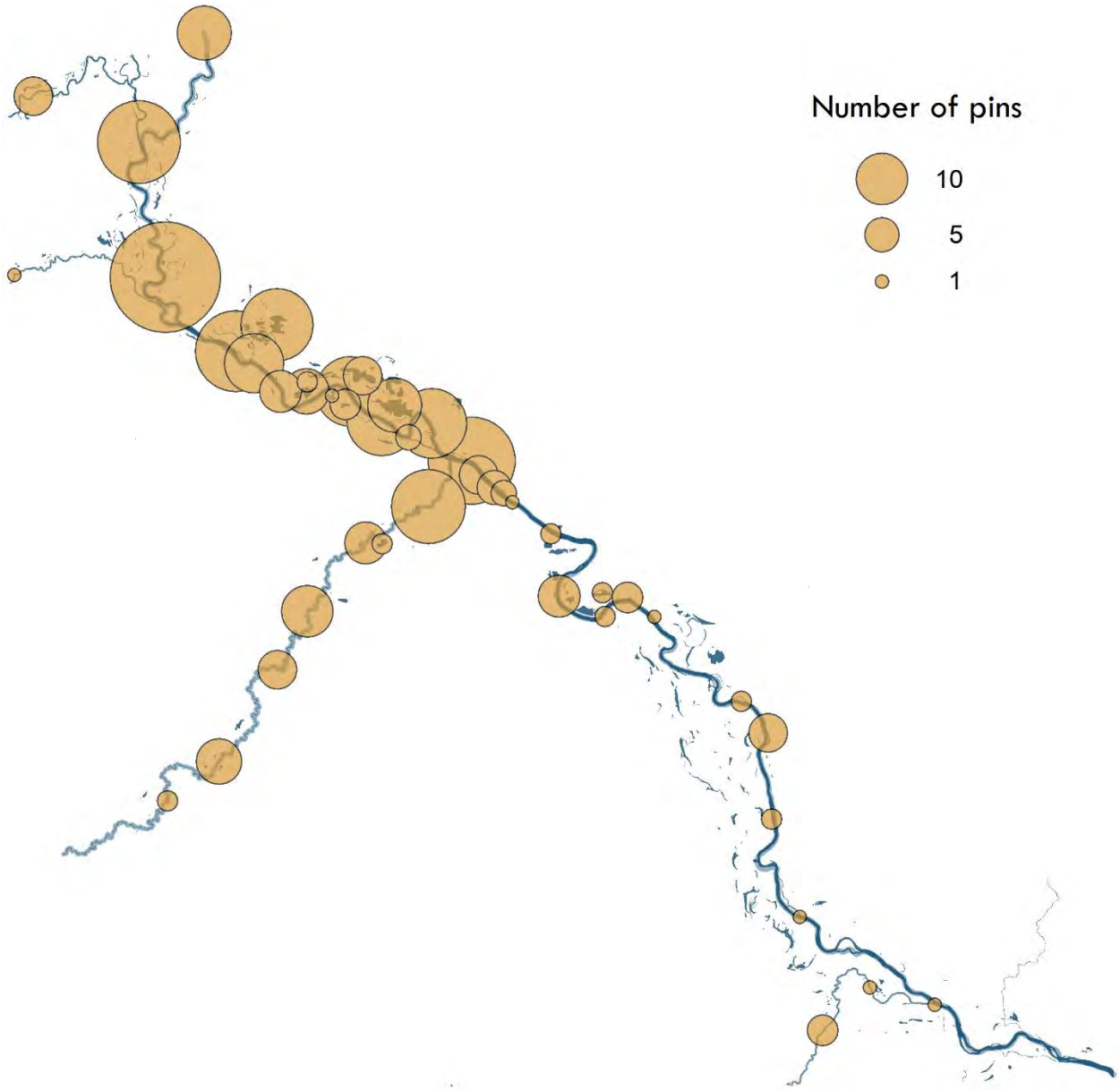
Portion of the pushpin activity map at the Island Park Beach House meeting

Figure 3-3 shows the top areas identified in this exercise, arranged by jurisdiction. These results are likely influenced in part by the location of the public input meetings. Figure 3-4 shows these results graphically on a simple map of the water trails.

Figure 3-3: Pushpin activity results

Location and number of responses		Water trail	Jurisdiction
Black Hawk Park	38	Cedar River	Black Hawk County
Waterloo Boathouse	25	Cedar River	Waterloo
Washington Union	23	Cedar River	Black Hawk County
Island Park	22	Cedar River	Cedar Falls
Hope Martin Park	19	Black Hawk Creek	Waterloo
Big Woods Lake	18	None	Cedar Falls
George Wyth State Park area	17	Cedar River, Paddlers Trail	Iowa DNR
Sherwood Park	17	Cedar River	Waterloo
Cedar Bend Park	17	Cedar River	Waterloo
Gateway Park/Tourist Park area	13	Cedar River	Cedar Falls
Janesville	11	Cedar River	Janesville
Brinker Lake	11	Paddlers Trail	Iowa DNR
Ranchero Road	10	Black Hawk Creek	Waterloo
Franck Park	8	Black Hawk Creek	Hudson
Alice Wyth Lake	8	Paddlers Trail	Iowa DNR
Washington Park	7	Cedar River	Cedar Falls
Deerwood Park	7	Cedar River	Evansdale
Between Ranchero Road and Hope Martin Park	7	Black Hawk Creek	Black Hawk County
Thunder Woman Natural Area	6	None	Black Hawk County
Waterloo Marina area	6	Cedar River	Waterloo
Gilbertville	6	Cedar River	Gilbertville
Between Franck Park and Ranchero Road	6	Black Hawk Creek	Black Hawk County, Hudson
George Wyth Lake	6	Paddlers Trail	Iowa DNR
Park Avenue/4th Street area	5	Cedar River	Waterloo
Elk Run Access	4	Cedar River	Evansdale
Wolf Creek	4	None	La Porte City
Lake Manatt	4	Paddlers Trail	Black Hawk County
Sans Souci Island wing dam	3	Cedar River	Waterloo
6th Street	3	Cedar River	Waterloo
Mitchell Sand Pits/Riverview Recreational Area	2	Cedar River	Waterloo
Cedar Terrace Park	2	Cedar River	Waterloo
Just north of Gilbertville	2	Cedar River	Black Hawk County
Cedar River Natural Resource Area/Miller Creek	2	Cedar River	Black Hawk County
Bopp Access	2	Black Hawk Creek	Black Hawk County
Greenbelt Lake	2	None	Waterloo
Fisher Lake to Alice Wyth Lake	2	Paddlers Trail	Iowa DNR
Meyers Lake	2	None	Evansdale
Beaver Creek	1	None	Black Hawk County
11th Street	1	Cedar River	Waterloo
Casebeer Heights	1	Cedar River	Evansdale
South of Cedar River Natural Resource Area	1	Cedar River	Black Hawk County
McFarlane Park	1	Cedar River	Black Hawk County
Brandon Road Bridge over Wolf Creek	1	None	Black Hawk County
Shirey Lake	1	Paddlers Trail	Black Hawk County

Figure 3-4: Map of pushpin activity results



DRAWING ACTIVITY

Survey forms at each public meeting were double-sided with a drawing activity on one side and a questionnaire on the reverse side. The drawing activity asked respondents to select one activity (e.g. kayaking, power boating) and highlight their favorite day-trip on the map. There were some inherent challenges with this activity, as many respondents highlighted more river segments than could reasonably be part of a one-day trip. Instead of including only those responses that followed the instructions, it was decided to include all of them to maximize the response rate for this activity.

In contrast to the pushpin activity which identified points along the water trails, the drawing activity prompted respondents to highlight segments between access points. The drawing activity map is shown in Appendix A.

Figure 3-5 shows the number of times each segment was highlighted, by activity selected. If a respondent selected multiple activities, the drawn route was counted for each activity. Some liberties were taken to ascertain whether different segments applied to different activities. For these reasons, totals are not shown in this table, as that would skew results towards those respondents who selected more than one activity. The number of responses is underlined for segments that are the most popular for a given activity. Figures 3-6 through 3-10 show these results geographically by activity type.

Figure 3-5: Drawing activity results

	Canoeing	Kayaking	Pontoon Boating	Power Boating	Rowing	Other
Janesville to Washington Union	4	9	1	0	0	0
Washington Union to Black Hawk Park	**5**	**18**	6	2	0	3
Black Hawk Park to Island Park	3	**15**	**7**	**4**	0	1
Tourist Park to Gateway Park	1	5	3	1	0	1
Gateway Park to Washington Park	2	7	3	1	0	1
Washington Park to George Wyth State Park	2	10	5	1	0	2
George Wyth State Park to Sherwood Park	3	11	**7**	1	2	3
Sherwood Park to Cedar Bend Park	3	10	**7**	2	2	2
Cedar Bend Park to Waterloo Boathouse	3	11	**7**	2	**3**	2
Waterloo Boathouse to Park Avenue	1	3	6	1	2	1
Riverview Recreation Area to Deerwood Park	0	3	0	0	0	1
Deerwood Park to Cedar Terrace Park	0	8	0	0	0	0
Cedar Terrace Park to Gilbertville	1	7	0	0	0	1
Gilbertville to Cedar River Natural Resource Area	0	6	0	0	0	1
Cedar River Natural Resource Area to Cedar River Access/McFarlane Park	0	5	0	0	0	0
Franck Park (Hudson) to Ranchero Road	0	8	0	0	0	0
Ranchero Road to Hope Martin Park	1	**13**	0	0	0	0
Hope Martin Park to Waterloo Boathouse	0	6	2	1	0	1
Brinker Lake	1	4	0	**4**	0	0
George Wyth Lake	2	**15**	0	1	0	0
Fisher Lake	1	3	0	1	0	0
Alice Wyth Lake	1	7	0	1	0	0
Shirey Lake	1	0	0	0	0	0
Lake Manatt	1	1	0	0	0	0
Big Woods Lake	1	**17**	0	2	0	1

Figure 3-6: Map of drawing activity, canoeing trips

Canoeing

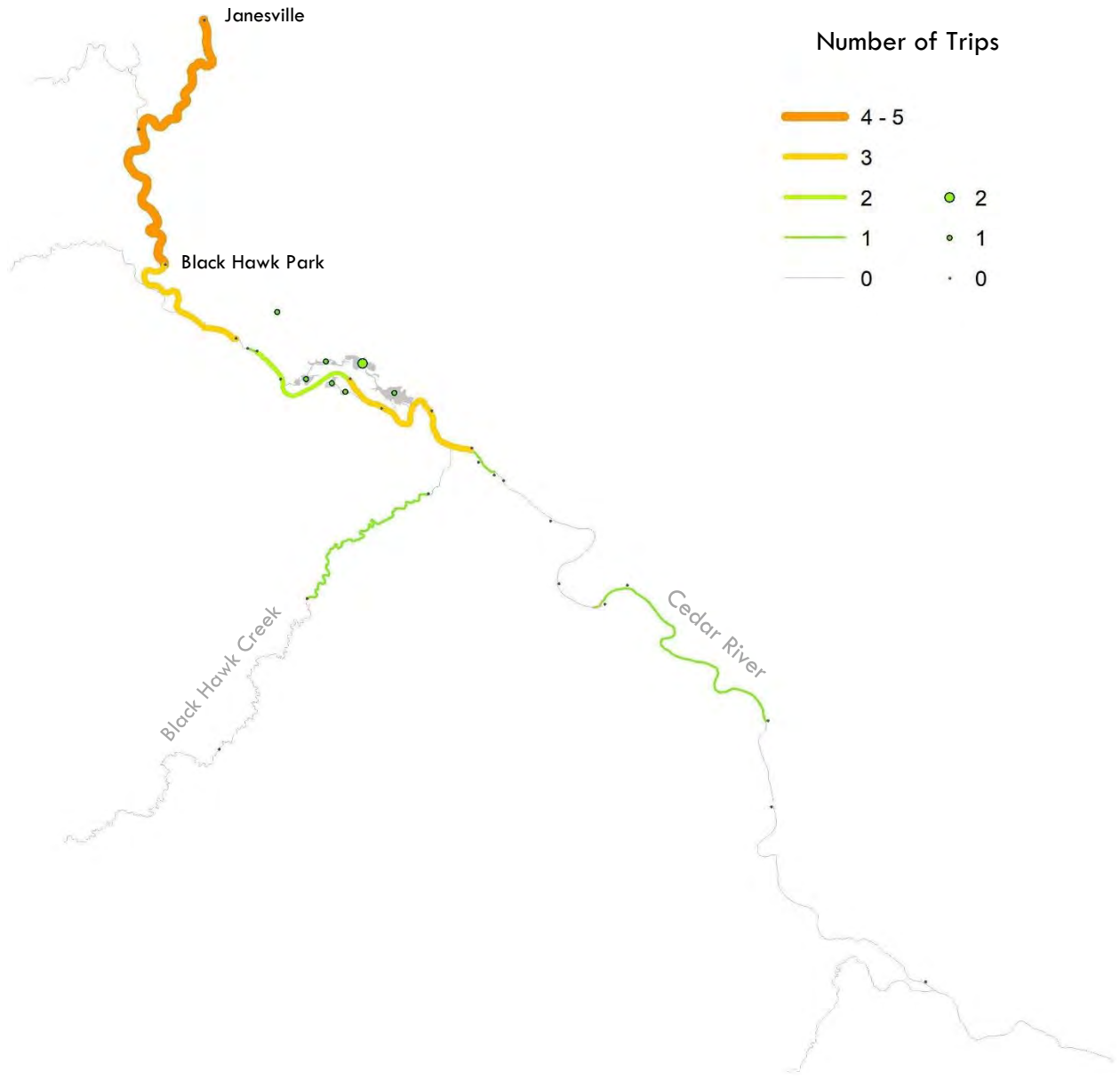


Figure 3-7: Map of drawing activity, kayaking trips

Kayaking

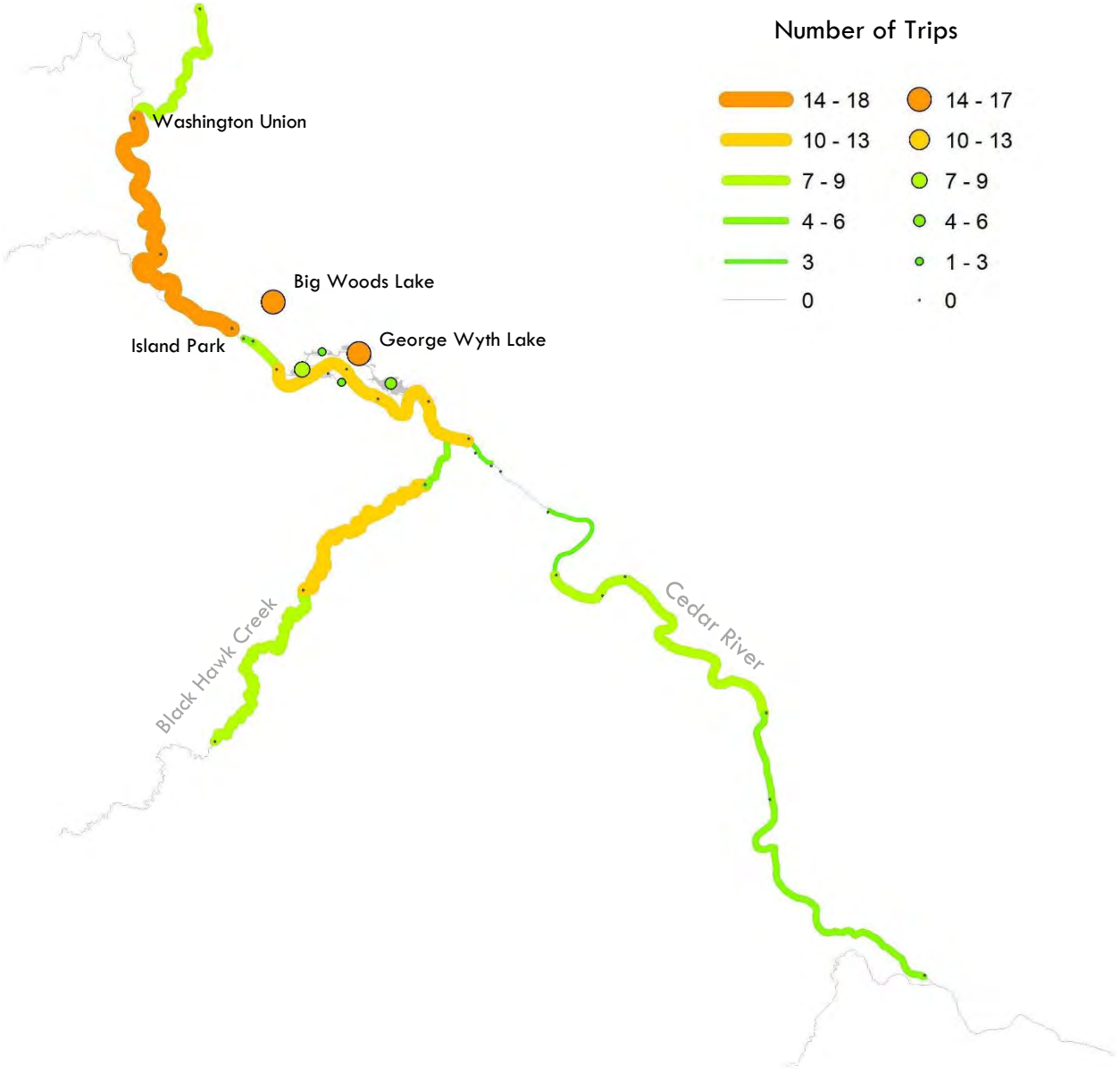


Figure 3-8: Map of drawing activity, pontoon trips

Pontoon Boating

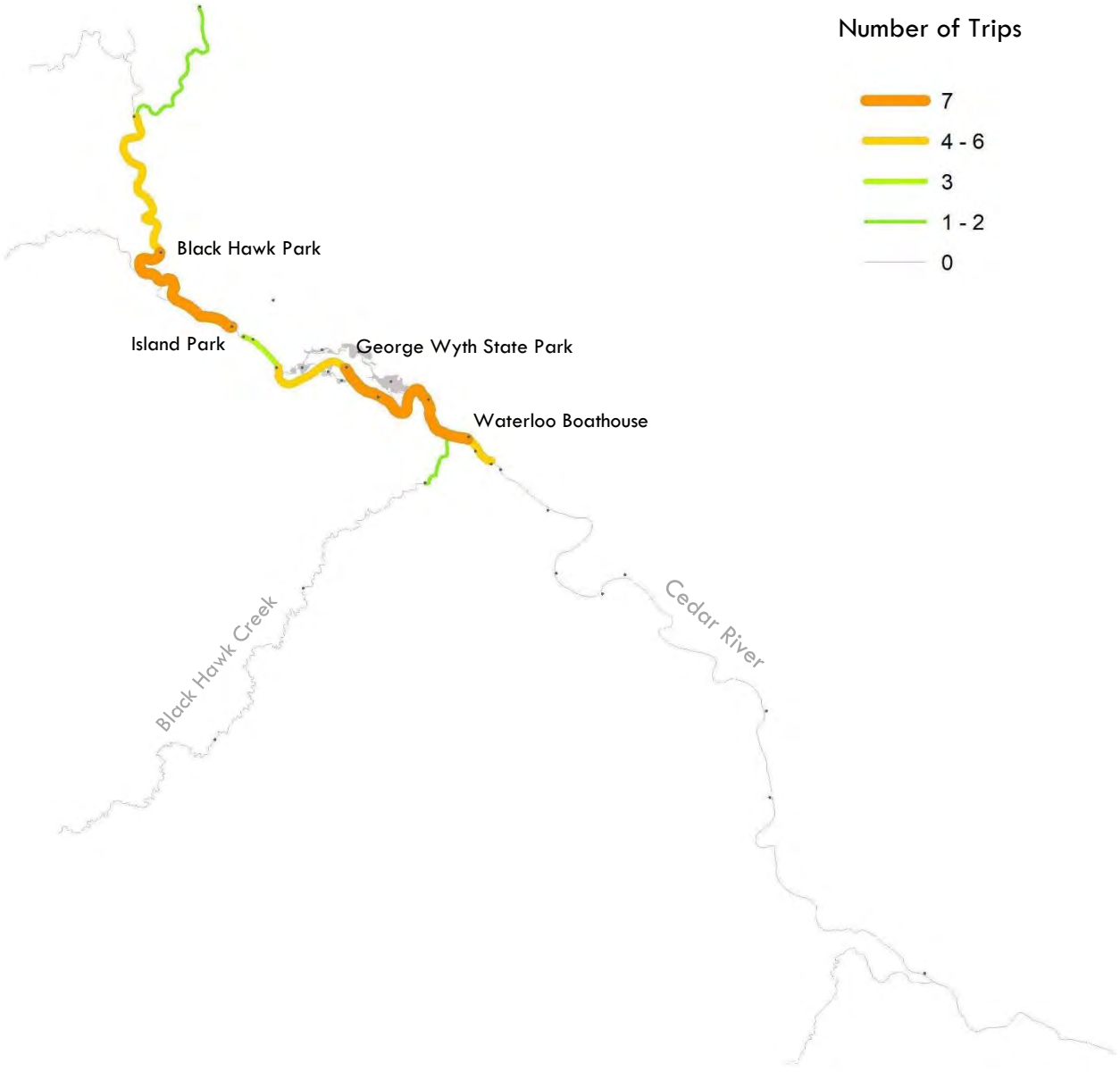


Figure 3-9: Map of drawing activity, power boat trips

Power Boating

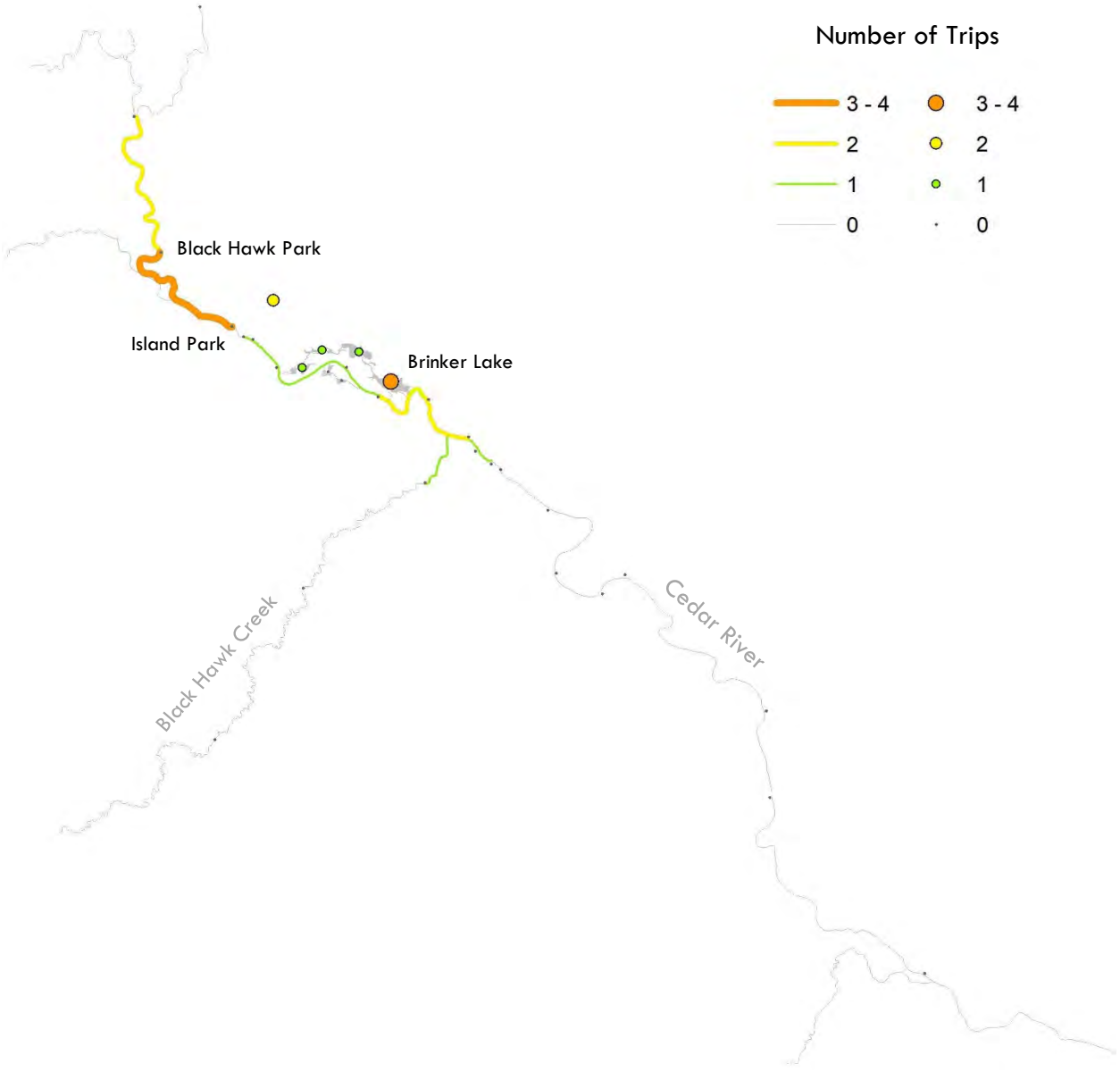
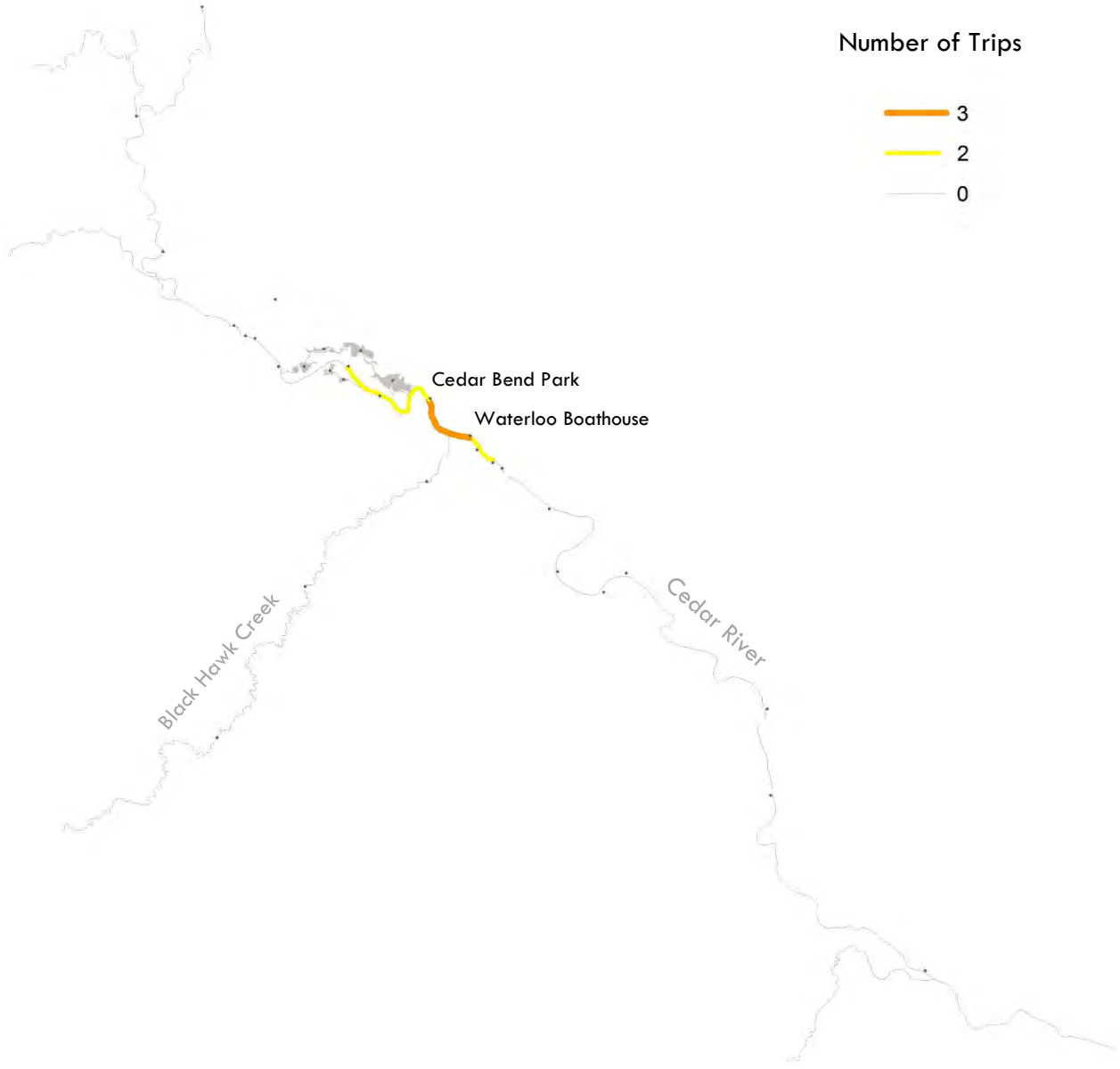


Figure 3-10: Map of drawing activity, rowing trips

Rowing



QUESTIONNAIRE

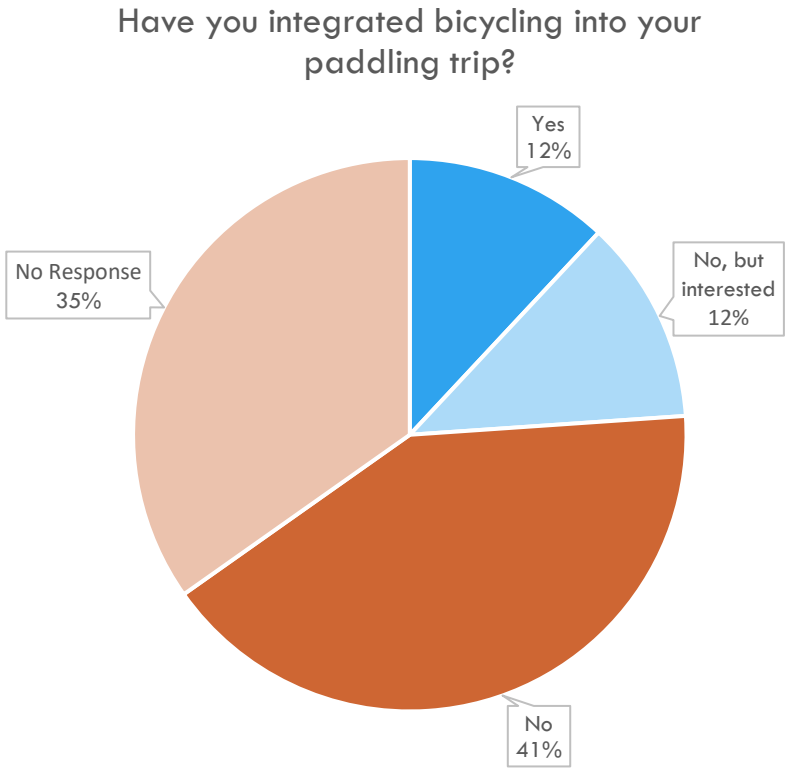
All remaining public input received at the public meetings was obtained using the survey forms shown in Appendix A. The first question on the questionnaire asked what city the respondent lives in. The next three questions asked the following:

- Are there any maintenance problems you are aware of at any river access area in Black Hawk County?
- Is there anywhere you would have liked to use the restroom, but there was none available? If so, where?
- Is there anywhere you would have liked fresh drinking water, but there was none available? If so, where?

There was a wide variety of responses to these three questions. Each response was site-specific to a particular river access area or lake. Accordingly, these responses are included for each respective area described in Chapter Four.

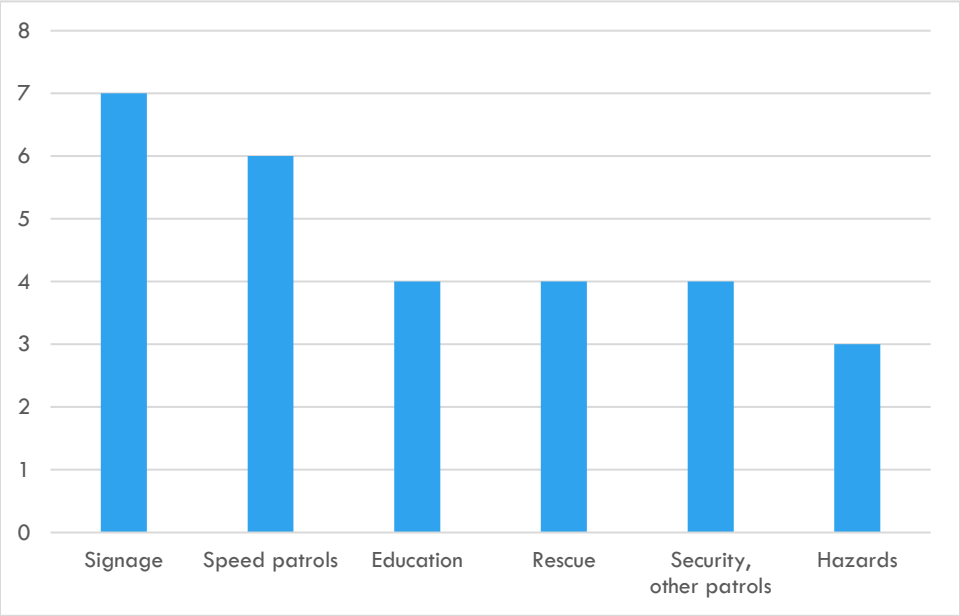
The next question asked, "Have you ever integrated bicycling into your paddling trip? If so, where?" The results of this question are shown in Figure 3-11:

Figure 3-11: Percentage of respondents who have integrated bicycling and paddling



The next question on the surveys asked, "Is there anything law enforcement and emergency response officials should consider to improve their service and the safety of the rivers?" This question was added after coordinating with the Black Hawk County Sheriff. A variety of responses were received and are included in Appendix C. These responses can be grouped together by overall theme. Figure 3-12 shows the themes respondents addressed in their answers to this question.

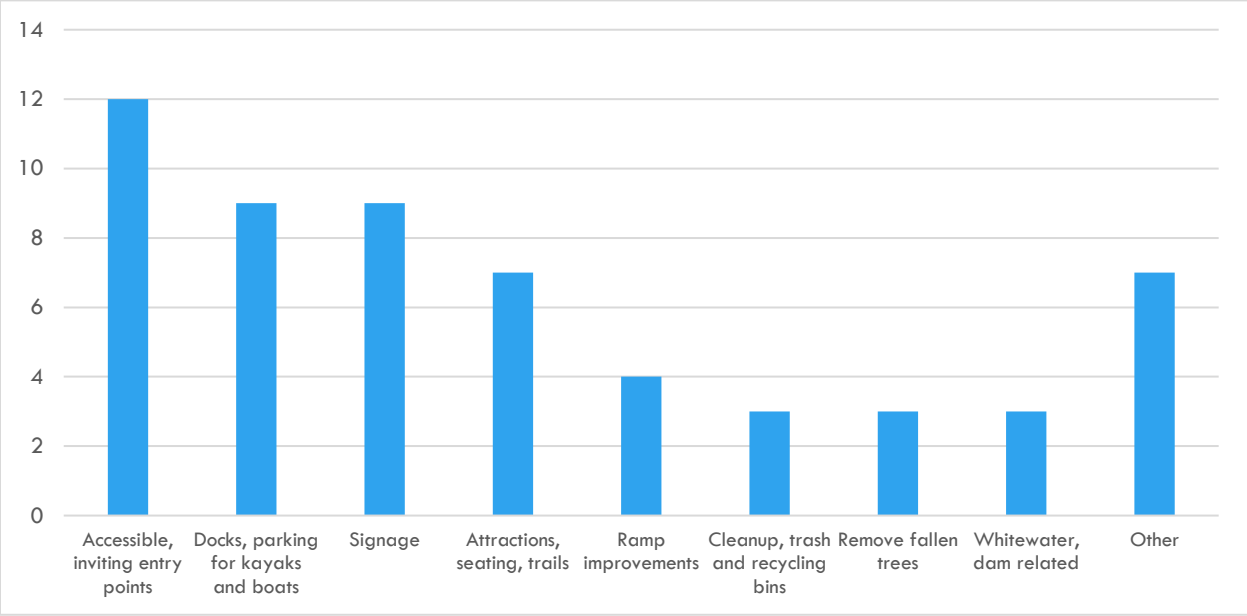
Figure 3-12: Respondents recommendations for law enforcement and emergency response



Respondents were then asked if they would participate in an "Adopt and Access" program and volunteer to clean up the access areas on a regular basis. In all, 17 respondents provided their contact information to offer to volunteer. Several other respondents indicated they already clean up access areas. Individual responses to this question are not included in this document.

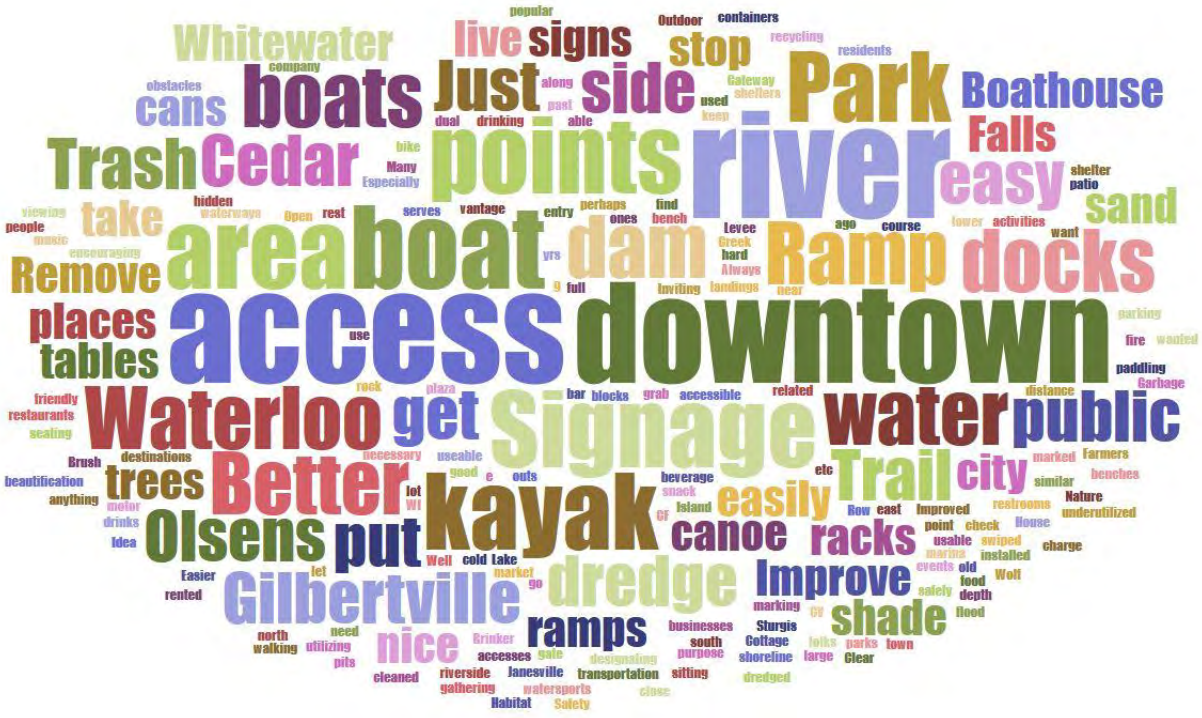
The next question asked, "What improvements would be most beneficial to you between the river and your city's downtown area?" This question in particular was added to identify potential additions to the proposed projects in downtown Waterloo and downtown Cedar Falls, though the results can also be applied to other communities' downtown areas including Gilbertville, Hudson, and Janesville. A variety of responses were received for this question as well, and they are included in Appendix C. Responses can be grouped together by the following themes shown in Figure 3-13:

Figure 3-13: Respondents recommendations for downtown river improvements



Results of this question can also be displayed as a word cloud. A word cloud takes every written response and scales each word by the number of times the word was used. This can show common themes among responses. Figure 3-14 shows a word cloud for the question, "What improvements would be most beneficial to you between the river and your city's downtown area?"

Figure 3-14: Word cloud of recommendations for downtown river improvements

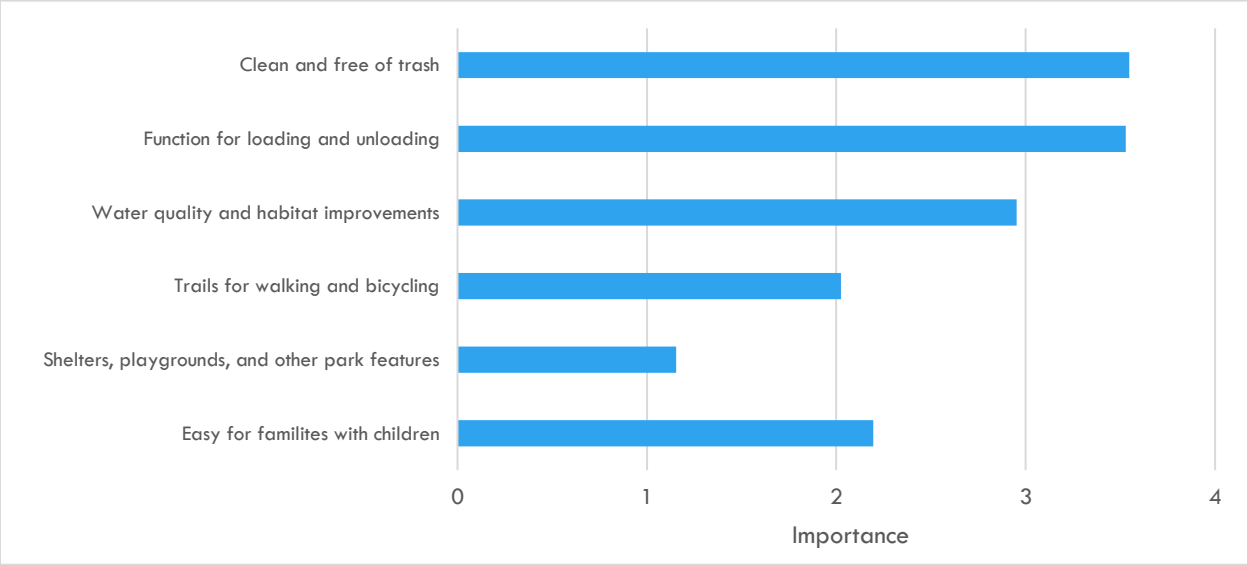


The last question of the survey asked respondents to rank the following list in order of what is most important to them:

- River accesses are clean and free of trash
- River access areas function well for loading and unloading
- River access areas include water quality and habitat considerations
- River access areas include trails for walking and bicycling
- River access areas include shelters, playgrounds, disc golf, and other park features
- River improvements are inviting and easy for families with children

Figure 3-15 shows the results of this question. Some respondents did not provide a ranking for all six categories. In those cases, the responses they gave were included in the analysis, and non-responses were not included and do not affect the average rankings.

Figure 3-15: Ranking of river access priorities



Overall, respondents valued accesses that are clear and free of trash and that function for loading and unloading. Water quality and habitat improvements also ranked highly among the six options.

PROJECTS RECOMMENDED BY THE PUBLIC

A number of recommendations from the public were mentioned in various parts of the survey. The following lists include all recommendations provided by the public. This list does not show public comments in their entirety, but rather a summary of each recommendation overall. Duplicate recommendations have been removed. The list also does not include responses to the questions regarding restrooms or drinking water, as they would overwhelm the rest of the recommendations. **This is not a list of final project recommendations.**

GENERAL RECOMMENDATIONS

General Projects

- Install signs showing public accesses
- Install mile marker signs along the riverbanks
- Install on-river signs for accesses and portages
- Install signs on bridges
- Install "no wake" signs for boaters
- Install "no staggering" signs for paddlers
- Install signs with distances to the next river access
- Install accessible fishing areas from shore
- Install kayak/canoe racks similar to bike racks
- Install areas to stop and rest along rivers with seating
- Install geolocator information at accesses
- Install blue light emergency phones with safety kits

Cedar River

- Establish a new access at Park Drive parking lot near South Riverside Trail
- Dredge the river from Waterloo to Gilbertville, and north of Island Park
- Add reservable wilderness camping on Cedar River between Washington Union Access and Black Hawk Park

Black Hawk Creek

- Establish a program to remove fallen trees and log jams
- Install a new kayak access between Hudson and Ranchero Road

Cedar Valley Paddlers Trail

- Install trails and markings for portages
- Reduce portage distance by relocating put-ins and take-outs
- Create navigable passage for paddlers between Cedar River and Brinker Lake
- Establish boat ramp to Brinker Lake on Donald Street

CEDAR RIVER ACCESSES

Janesville

- Improve boat ramp at Janesville access

Washington Union

- Expand size of Washington Union access
- Install a new boat ramp on southeast side of bridge

Black Hawk Park

- Improve the Black Hawk Park boat ramp

Island Park

- Install kayak docks at Island Park

Downtown Cedar Falls

- Install whitewater features
- Install more boat parking (i.e. docks)
- Improve Olsen's Boat House site for kayak and boat parking
- Install a dock on south side of Cedar Falls dam
- Install a boat ramp at Gateway Park

Sherwood Park

- Install a boat dock at Sherwood Park
- Add 10 or 15 feet of concrete to the Sherwood Park boat ramp

Cedar Bend Park

- Open the Cedar Bend Park boat ramp
- Install boat dock at Cedar Bend Park

Waterloo Boathouse

- Improve existing docks with decking and floats or replace with new docks
- Install cleats to tie up boats for loading and unloading
- Install another dock at the Waterloo Boathouse
- Expand parking lot for large trucks and trailers
- Install cameras at the trailer parking lot
- Use Waterloo Boathouse as a restaurant

Downtown Waterloo

- Install whitewater features
- Install river access Downtown Waterloo
- Install accessible ramp below dams
- Open floodwalls to improve river access

Gilbertville

- Install kayak dock at Gilbertville access
- Install signage to Gilbertville access
- Establish a new access near Gilbertville Depot

BLACK HAWK CREEK ACCESSES

Franck Park

- Install concrete ramp at Franck Park

Hope Martin Park

- Replace ramp at Hope Martin Park

OTHER WATERBODIES

Big Woods Lake

- Widen the sand ramp on the south side of Big Woods Lake
- Install more docks like the south dock at Big Woods Lake
- Restore wetland connection between Big Woods Lake and Alice Wyth Lake

Meyers Lake

- Install a kayak ramp on Meyers Lake

Wolf Creek

- Install walking trail along Wolf Creek from La Porte City to Cedar Valley Nature Trail

RECOMMENDATIONS

4. RECOMMENDATIONS

SITE DESIGN CONSIDERATIONS

DEVELOPMENT CLASSIFICATIONS

The development classification for each river access was determined through discussions with park managers and information presented in the Existing Conditions: Chapter 2. Each classification corresponds with the development goals, maintenance, stream character, and paddlers expectations of a particular river segment.

Gateway accesses are the showcase entry points for paddlers, particularly those new to the area. Gateway accesses can be designed for beginners in areas with predictable water conditions, or they can be designed as a destination for advanced paddling such as a whitewater park with riverfront seating and viewing areas.

Recreational accesses provide a typical Iowa water trail experience appropriate for family and group trips. These are river segments that require some boat control and are intended for users with some paddling experience.

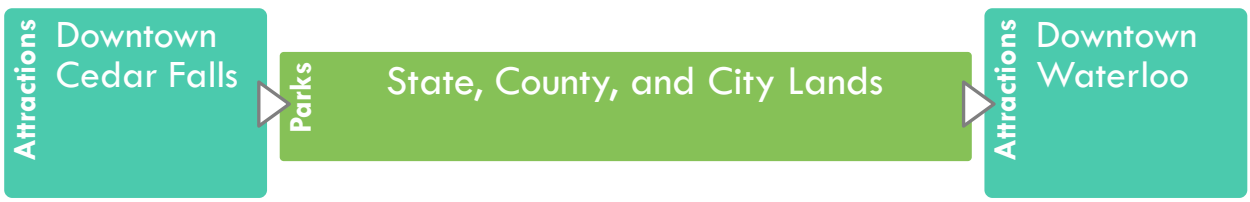
Challenge accesses may include risks such as rapids and obstructions, and users are expected to manage risk in hands-on ways. Access areas are generally developed with minimal impacts to the landscape. Only experienced paddlers should navigate these water trail segments.

Wilderness accesses are the most remote and undeveloped of all the classifications. These river segments offer some degree of solitude, quiet, and wildlife-viewing for paddlers, and the distance between river accesses can be significantly longer than other classifications. Development activities should be limited to habitat restoration and maintaining healthy riparian corridors. Paddling endurance and skill are required for segments classified as wilderness.

Draft development classifications were assigned to each river segment and displayed at the public input meetings, as shown in Appendix A. The skill level of each river segment was also shown, which is not the same as its development classification. In general, the development classification describes the long-term planned character of a river segment and its development patterns, while the skill level describes the difficulty of each river segment for paddlers.

The majority of the Cedar River in Black Hawk County is classified as Recreational. However, the stretch from downtown Cedar Falls to downtown Waterloo has been assigned the Gateway classification. The majority of this seven-mile section is surrounded by a mix of city, county, and state parks including George Wyth State Park and Hartman Reserve. In addition, major development projects designed to attract paddlers are planned in both downtown Cedar Falls and Waterloo. The result is analogous to a barbell, as shown in Figure 4-1.

Figure 4-1: Gateway route concept for the Cedar River



Black Hawk Creek, on the other hand, largely fits the description of either a Challenge or Wilderness classification. Large sections of Black Hawk Creek have challenging features including rapids, logjams, strainers, fast-moving water, and tight turns in the stream. Elements of a Wilderness classification are also present including dirt walking trails along the greenbelt, small granular-surfaced parking areas, and minimal development along the water trail. Future improvements along Black Hawk Creek will continue these low-impact practices.

GENERAL RECOMMENDATIONS

The access areas along the water trails all have varying degrees of amenities and accessibility. Along the Cedar River, there are a total of 17 existing and planned access areas with a motorized boat ramp, six areas with carry-down access only, and one planned boat tie-up area. All three access areas along Black Hawk Creek are carry-down only. Some accesses have paved parking areas while the majority have granular parking areas. Three accesses currently have boat docks – Island Park, Cedar Bend Park, and the Waterloo Boathouse. Lastly, the usability of some ramps depends on the river water level. Some sections of the water trail are too shallow for motorized boats during low water, whereas some river accesses prone to flooding cannot be used during high water.

Existing boat ramp at George Wyth State Park

For the majority of accesses, the point where users enter and exit the water trails is the boat ramp. Some boat ramps experience very few maintenance problems and are ideal in most conditions as-is. Other boat ramps can become muddy and slippery after heavy rain and flood events. Island Park in particular becomes inundated with up to three feet of sand after floods, requiring significant ongoing maintenance. Another problem at some sites is the boat ramp itself becomes undermined by the river current. For the purpose of this plan, maintenance and modification of the boat ramps is the responsibility of each respective jurisdiction. This plan does not include detailed recommendations for the boat ramps themselves. However, park managers need to be aware of five elements of boat ramp design:

- Armoring edges of the launch to protect against scouring and erosion
- The vertical slope of the launch, which should be as close to 8% as possible
- The horizontal alignment, or angle of the launch relative to the river
- The transition and push-in section of the launch
- Height of the water during various conditions

Almost all site plans for the Cedar River and Black Hawk Creek Water Trails include parking improvements, and all site plans include signage. Three signs are planned for each access area:

- State-designated water trail identification sign
- Next downstream launch identification and distance sign
- On-river access sign

State-designated water trail identification signs are already installed at the Black Hawk Creek accesses and the Cedar Valley Paddlers Trail accesses at Fisher Lake and Alice Wyth Lake. These signs were installed during previous water trails planning efforts described in Chapter One. The next downstream launch sign displays the access number of the launch and the distance in miles to the next access. This sign is situated closest to the boat ramp or carry-down access. Lastly, on-river access signs indicate to paddlers that a take-out location is present. These signs are particularly helpful for beginners, for paddlers new to the area, and at areas where vegetation can obscure the visibility of an access.

Existing State-designated water trail identification sign at Fisher Lake

The recommendations outlined in this document will also create some uniformity among the river access areas, which will help users navigate to and within each area. In addition to the signs described on the previous page, wayfinding signs are also planned along public roadways leading to each river access.

Parking islands are planned at the majority of parking areas to help define the parking spaces and improve traffic flow. On granular-surfaced parking lots, these vegetated parking islands may include native plantings, pollinator plantings, and/or trees. On paved parking lots, parking spaces and islands can be delineated with paint striping.

ACCESSIBILE DESIGN

The Americans with Disabilities Act (ADA) is a set of Federal civil-rights laws that prohibit discrimination based on disability. ADA standards apply to a wide variety of public settings including paved trails, handicapped parking spaces, public restrooms, schools, and restaurants. While ADA standards do not currently exist for boat launch design, universal design principles are applicable to this plan. Universal launch design specifications include surface slope and smoothness, launch width, and near-water transfer areas. Another design standard is the use of two side-by-side ramps, one for pedestrians and another for vehicles.

Accessible parking stalls include 10 by 10-foot staging areas at all sites feasible. These are usually situated in one of the two vegetated parking islands. Additional staging areas are also included near the boat launches, which can be used by people with disabilities or for general loading and unloading of canoeing and kayaking equipment.

Park managers should consider using compacted limestone fines for accessible sections of unpaved parking areas. Materials that have been used successfully include a gradation of ¾-inch rock to fines spread, compacted, and wetted in layers.

PLANTINGS AND BUFFER STRIPS

A variety of native and pollinator plantings can be included at each of the river access areas. Cost estimates developed for this plan include native plant plugs at the cost of $4 per plug. The majority of sites plans include a line item for native plantings. Five site plans include more than 4,000 native plant plugs: Cedar Bend Park, New Evansdale Access, Washington Park, Gilbertville Park, and Hope Martin Park.

All of the river accesses along the Cedar River and Black Hawk Creek experience flooding in some capacity on a regular basis. Accordingly, plantings must be suitable for flood-prone areas and adaptable to wet conditions. Figure 4-2 lists a variety of plants, grasses, and sedges park managers should consider when making improvements to river access areas:

Native plant plug

Figure 4-2: Native flowering plants, grasses, and sedges suitable for flood-prone areas

Common Name	Botanical Name	Height (ft)	Conditions	Light Requirements
Flowering Plants				
Ironweed	Veronia fasciculata	4'-6'	mesic/wet	full sun - semi-shade
White Wild Indigo	Baptisia lactea	3'-6'	mesic	full sun
Meadow Rue	Thalictrum dasycarpum	3'-6'	mesic/wet	part shade
Prairie Blazing Star	Liatris pycnostachya	3'-5'	mesic/wet	full sun
Blue Vervain	Verbena hastata	3'-5'	mesic/wet	full sun
Swamp Milkweed	Asclepias incarnata	3'-4'	mesic/wet	full sun - semi-shade
Purple Coneflower	Echinacea purpurea	3'-4'	mesic	full sun - semi-shade
Wild Bergamot	Monarda fistulosa	3'-4'	dry/mesic/wet	full sun - semi-shade
Culver's Root	Veronicastrum virginicum	3'-4'	mesic	full sun
New England Aster	Aster novae-angliae	2'-5'	mesic/wet	full sun - semi-shade
Spiderwort	Tradescantia ohiensis	2'-4'	dry/mesic/wet	full sun - moderate shade
Canada Milkvetch	Astragalus canadensis	2'-3'	dry/mesic/wet	full sun
Rattlesnake Master	Eryngium yuccifolium	2'-3'	dry/mesic/wet	full sun
Foxglove Beardtongue	Penstemon digitalis	2'-3'	mesic	full sun - part shade
Plains Coreopsis	Coreopsis tinctoria	1'-3'	mesic	full sun - shade intolerant
Yellow gentian	Gentiana alba	1'-3'	mesic	part shade
Golden Alexander	Zizia aurea	1'-3'	mesic/wet	full sun
Canada Anemone	Aster oblongifolius	12"-24"	mesic/wet	full sun - part shade
Prairie Phlox	Phlox pilosa	12"-24"	dry/mesic/wet	full sun
Grasses and Sedges				
Canada Wildrye	Elymus canadensis	3'-4'	dry/mesic/wet	full sun - part shade
Prairie Cordgrass	Spartina pectinata	3'-8'	wet	full sun
Baltic Rush	Juncus balticus	1'-3'	wet	full sun
Three-square Rush	Scirpus americanus	1'-3'	wet	full sun
Dark Green Bulrush	Scirpus altrovirens	3'-5'	wet	full sun
Wool Grass	Scirpus cyperinus	3'-5'	wet	full sun
Bottlebrush Sedge	Carex comosa	1'-2'	wet	full sun
Fringed Sedge	Carex crinita	2'-5'	wet	full sun - full shade
Hop Sedge	Carex lupulina	1'-4'	wet	full sun - part shade
Lurid Sedge	Carex lurida	1'-3'	wet	full sun
River Wildrye	Elymus riparius	3'-4'	wet	part shade
Virginia Wildrye	Elymus virginicus	2'-4'	mesic/wet	part shade

PEDAL PADDLE

Cedar Prairie Trail at the Ranchero Road access to Black Hawk Creek

The majority of river accesses in this plan are within close proximity to a paved recreational trail. Manual trail counts conducted by the Iowa Northland Regional Council of Government (INRCOG) in 2014 found that the majority of trail users in the Black Hawk County metropolitan area were bicyclists. Altogether, 61.0 percent of trail users were adults on bicycles, 35.1 percent were walkers or runners, and 3.5 percent were children on bicycles. Remote locations saw relatively higher shares of bicyclists, while locations close to a city center experienced a higher proportion of walkers and runners.

This relationship between the water trails and the paved trails network creates a unique opportunity of pedal paddle trips. Of the 27 access areas described in this plan, only five accesses are not within close proximity to a paved recreational trail. The remaining 22 accesses are either near a paved trail or, in some areas such as the Ranchero Road access, on the trail itself. Figure 1-13 shows a map of the paved recreational trails network.

Pedal paddle trips can be conducted solo or with multiple people. The process of a pedal paddle trip can be described in five steps, as shown in Figure 4-3:

1. Drop off bicycle at downstream access
2. Drive to upstream access and begin paddling
3. Take out at downstream access and secure canoe or kayak
4. Pedal back to vehicle parked at upstream access
5. Load bike to vehicle and drive to downstream access to retrieve canoe or kayak

Figure 4-3: Example of a pedal paddle trip

On a pedal paddle trip with multiple people, someone can wait at the take-out access after Step 3 while the other participant(s) pedal back to the vehicle. This eliminates the need to secure the canoe or kayak to a fixed object. It also provides more options for individual paddlers, as some individuals may decide to wait and rest while others may want the additional exercise of a bicycle ride.

Bike racks are included in the site plan recommendations for areas that will function as take-out accesses. However, almost every access could conceivably function as a take-out for a pedal paddle trip. The only accesses where bike parking may not be useful for pedal paddle trips are Tourist Park in Cedar Falls and the proposed Pioneer Park access in Waterloo due to their proximity immediately downstream of a dam.

Park managers should also consider further security improvements, such as surveillance cameras, bicycle lockers, and special parking areas for canoes and kayaks. Typically, paddlers will use a long cable lock to tie-up their canoe or kayak to a fixed object such as a tree, similar to the way a bike would be tied to a bike rack.

Bike locker near a transit station in Minneapolis

Bike lockers provide additional security, which may be desired in both remote and urban settings. Typically, bike lockers are administered by public transit authorities for use by transit passengers. However, the potential exists to include these at select river accesses where high volumes of bicyclists are anticipated. Some examples may include Black Hawk Park, Island Park, the Waterloo Boathouse, and the proposed marina in downtown Waterloo.

RECOMMENDATIONS OVERVIEW

BASIS FOR COST ESTIMATES

This plan includes upward of $2.4 million in proposed improvements to access areas along the Cedar River and Black Hawk Creek. **These planned improvements are concept-level recommendations**, and additional planning, permitting, and engineering may change the final design of these access areas. The plan also acknowledges local projects underway in Cedar Falls and Waterloo which altogether could exceed $10 million in investment along the Cedar River.

Cost estimates were developed using a few assumptions. The first assumption is that the parking lot improvements will include the cost of completely reconstructing the parking lot. This includes the costs associated with excavation, grading, compaction, a new subbase, and new road stone. Park managers may find that it is unnecessary to reconstruct the entire parking area at a particular site, which would reduce the total project cost in turn.

Parking lot costs also include the expense of wooden bollards, which are designed to limit the surface area impacted by automobiles while also allowing stormwater to flow into vegetated areas. In many areas, wooden bollards are the single greatest expense of an entire project. Most site plans also include an LED solar light near the boat ramp to assist with navigation after nightfall.

Further assumptions include the cost of materials and the value of the dollar. Prices for delivered materials such as modified subbase and road stone were obtained in November 2018, and the cost of raw materials is known to fluctuate over time. The value of the U.S. Dollar generally decreases due to inflation, so total costs for projects are expected to increase steadily as time progresses. Assuming all other variables are constant, a steady inflation rate of 2.0 percent would increase a project cost from $100,000 in 2018 to $121,900 in 2028. In actuality, the inflation rate for raw materials may be significantly higher than the national inflation rate.

SUMMARY OF SITE RECOMMENDATIONS

A total of 27 river access areas along the Cedar River and Black Hawk Creek are directly addressed in this document. These include existing accesses and future accesses planned in conjunction with each jurisdiction's respective park manager. Three access areas along the Cedar River are currently being developed locally, one in Cedar Falls and two in Waterloo, and information about these projects is also included in this document. Additional areas of interest including portage routes and other recreational areas with an association to the water trails are described toward the end of this chapter.

Each access area reviewed as part of the Water Trails Master Plan is outlined in Figure 4-4. The three projects being developed locally are shown in Figure 4-5.

Figure 4-4: Summary of improvements identified for the Water Trails Master Plan

Access area	Launch type	Total cost	Significant improvements planned
Dort's Landing	Boat ramp	$ 263,580	Parking, driveway, new ramp, tree removal
Franck Park	Carry-down only	$ 184,771	Shelter, parking, native plantings, tree removal
Deerwood Park	Boat ramp	$ 184,196	Parking, native plantings, new ramp
Gilbertville Park	Boat ramp	$ 182,496	Parking, new ramps, native plantings
Cedar Bend Park	Boat ramp	$ 144,995	Parking, native plantings
New Evansdale Access*	Boat ramp	$ 133,914	Parking, native plantings, new ramp
Hope Martin Park	Carry-down only	$ 119,247	Parking, native plantings
Black Hawk Park	Boat ramp	$ 117,846	Parking, native plantings
Cedar Terrace Park	Carry-down only	$ 115,528	Parking, native plantings
Cedar River Access	Boat ramp	$ 113,411	Parking, new ramp, native plantings
Washington Union	Boat ramp	$ 100,726	Parking, native plantings
Cedar River Natural Resource Area	Boat ramp	$ 109,505	Parking, tree removal
Pioneer Park*	Carry-down only	$ 109,207	Limestone blocks
Sherwood Park	Boat ramp	$ 98,485	Parking
McFarlane Park	Boat ramp	$ 87,743	Parking, tree removal
Riverview Recreation Area	Boat ramp	$ 76,224	Parking
Ranchero Road	Carry-down only	$ 61,073	Parking
Olsen Park*	Boat tie-up	$ 45,505	Paved trail, boat tie-ups
Island Park	Boat ramp	$ 41,726	New ramp
Washington Park	Boat ramp	$ 36,892	Native plantings
Tourist Park	Carry-down only	$ 17,064	-
George Wyth State Park	Boat ramp	$5,060	-
Janesville City Park	Boat ramp	-	-
Waterloo Boathouse	Boat ramp	-	-

* - denotes new access area

Figure 4-5: Summary of ongoing projects planned locally

Access area	Jurisdiction	Launch type	Current status	Estimated cost	Estimated timeline
Downtown Riverfront	Cedar Falls	Carry-down only	Preliminary design	$3,457,327	Completion in 2023
Waterloo Marina	Waterloo	Carry-down only	Planning	$2,700,000	Completion in 2022
Whitewater Course	Waterloo	Carry-down only	Preliminary design	$6,500,000	To be determined

The following pages provide a detailed description of each river access area reviewed as part of the Water Trails Master Plan. Access areas are organized in geographical order starting with the northernmost access along the Cedar River.

JANESVILLE CITY PARK

Jurisdiction: City of Janesville
Access number: 183A
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 4.0 miles

The existing river access in Janesville is situated along the east side of the Cedar River. The site features a shelter, which can be rented for private gatherings, as well as a large gravel parking area, portable toilet, playground equipment, sports fields, a paved trail, and viewing areas. This access is situated next to the city's pedestrian bridge, as shown above.

Sometimes there are conflicts between river users and those in the park for gatherings, including baseball games and private events at the shelter. The City plans to develop a second access across the river, while maintaining the existing access as-is.

Viewing area at Janesville City Park

Because the City plans to develop a new river access on the west side of the Cedar River, no improvements are planned for Janesville City Park except for signage. Three signs are planned to be added to Janesville City Park:

- State-designated water trail identification sign
- Next downstream launch identification and distance sign
- On-river access sign.

PUBLIC COMMENTS

One written comment was received regarding Janesville City Park:

- "Improve boat ramp at Janesville." – Janesville resident

SIGNAGE

Figure 4-6: Signage Plan for Janesville City Park

DORT'S LANDING

Jurisdiction: City of Janesville
Access number: 183B
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 4.0 miles

The recently constructed pedestrian bridge in the City of Janesville connects the existing park to an underdeveloped area along the west side of the Cedar River. Due to traffic conflicts at the existing park, there had been local interest in developing a second access across the river, which gained approval in 2021. As of October 2021, construction of a 7' wide by 25' long boat ramp has been approved by City officials.

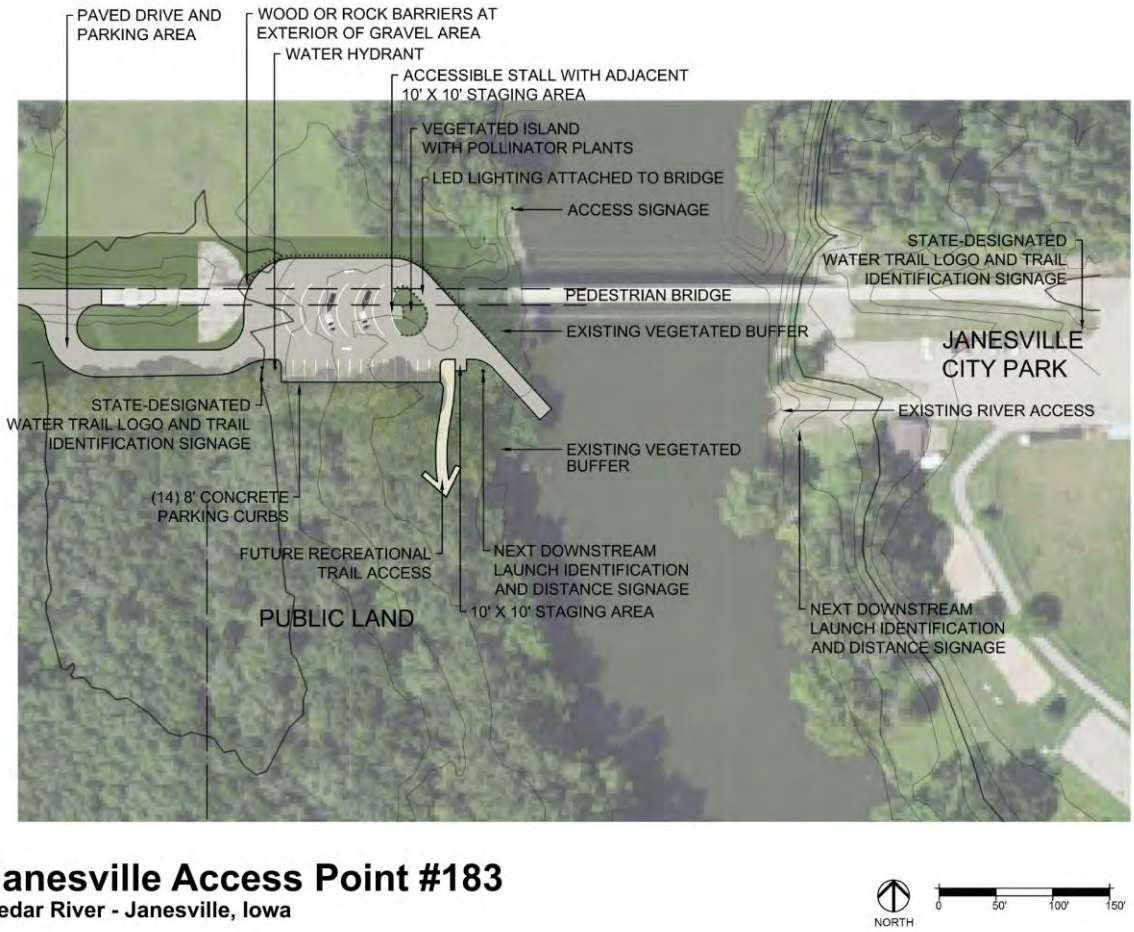
City officials have also discussed the feasibility of adding a riverfront trail along the west side of the Cedar River. The walking trail could potentially continue along the shoreline and connect to East 7th Street and Main Street, ultimately creating a citywide loop for walking and bicycling.

Location of possible walking trail

The newly designated access area has numerous advantages: A water line runs along the underside of the pedestrian bridge, and a new water hydrant can be installed at the access. The height of the pedestrian bridge allows for automobile parking underneath the bridge, thereby preserving more of the undisturbed woodland to the south. Much of the existing vegetation can be maintained to filter runoff from the parking area. The topography of the site itself is suitable for a new 45-degree access to the Cedar River and a new driveway to West Barrick Road.

There were no public comments received regarding Dort's Landing in Janesville.

Figure 4-7: Site recommendations for Dort's Landing



Parking improvements include a paved and striped parking area for six (6) parking stalls suitable for pull-through trailer parking and 14 standard sized parking stalls. One of the pull-through stalls is accessible with an adjacent 10' x 10' staging area.

The parking lot will also include a vegetated parking island with pollinator plantings which also functions to improve traffic flow. The planned boat ramp will be reinforced by new class B revetment rock. At night, the entire area can be illuminated by attaching LED lighting to the underside of the pedestrian bridge.

COST ESTIMATE

Figure 4-8: Cost estimate for improvements at Dort's Landing

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	22,000	22,000
Wattle Installation, Removal, Cleanout	274	LF	4	1,096
Construction Fence	100	LF	10	1,000
Tree Removals	1	LS	10,000	10,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	807	CY	10	8,068
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	775	CY	7	5,422
Modified Subbase	915	TONS	26	23,788
PCC Pavement, 5"	26141	SF	5	130,705
Pavement Markings	504	LF	1	504
Boat Ramp	1	LS	10000	10,000
Class B Revetment	56	TONS	50	2800
LED Light Under Bridge	1	LS	1,200	1,200
8' Concrete Parking Curb	14	EA	225	3,150
Bollards	89	EA	80	7,120
Signage	6	EA	200	1,200
Native Plant Plugs @ 1.5' O.C.	391	EA	4	1,564
			SUBTOTAL	239,618
			Contingency (10%)	23,962
			TOTAL COST	**$263,580**

SIGNAGE

Figure 4-9: Signage Plan for Dort's Landing

Note: Additional recreation area signs including boat ramp signs are recommended at 260th St and N Maple St once boat ramp is constructed and park name is identified.

WASHINGTON UNION

Jurisdiction: Black Hawk County
Access number: 179
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 4.1 miles

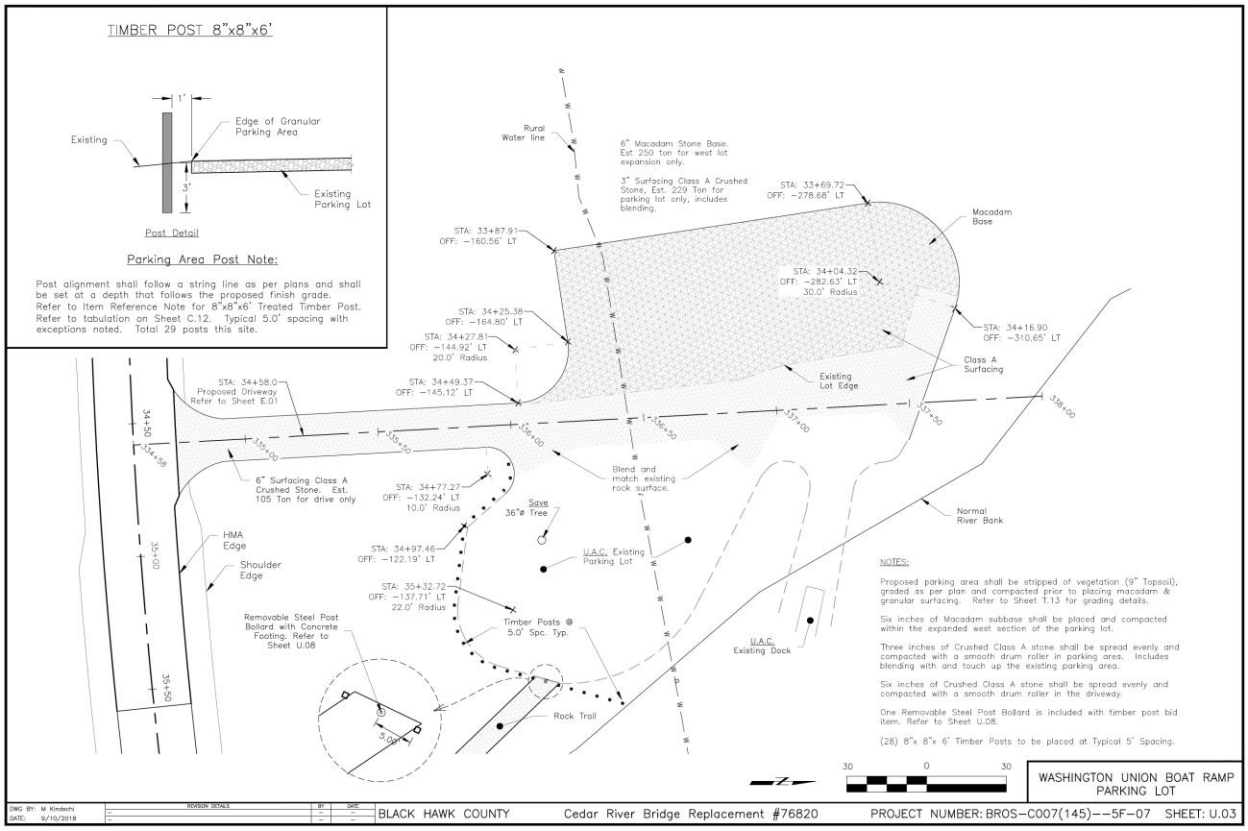
Washington Union is located at the confluence of the Cedar River and the West Fork Cedar River. This access is among the most popular in the county for motorized boaters and paddlers alike. Currently, the gravel driveway to the access area is very steep and in poor condition. The parking area itself is undefined, and vehicles can get boxed in on busy weekends.

The County Engineering Department will be replacing the Cedar Wapsi Road Bridge over the Cedar River in 2019 and 2020. The alignment of the new bridge will be further south than the existing bridge. As part of this project, the driveway to the access area will be rebuilt and the parking will be expanded. A new walking trail will also be constructed from the parking area to the public land southwest of the new bridge. Across the road, the driveway to these public lands will be removed, as the expanded parking at the Washington Union access will serve that area.

While the bridge reconstruction project will expand the Washington Union parking area, several additional improvements have been identified as part of the Water Trails Master Plan. These recommendations are described on the following pages.

Parking will be expanded at Washington Union access (lower right). The driveway to the public land (upper left) will be closed.

Figure 4-10: Engineering plan for Washington Union as part of 2019-2020 bridge project



PUBLIC COMMENTS

Two written comments were received regarding Washington Union:

- "Because it's such a popular take out/put in, Washington Union access really could be expanded, even add a ramp on the southeast side of the bridge." – Cedar Falls resident
- "Washington Union access has horrible access due to steep drive and can't see traffic coming. Accident waiting to happen. Plus not enough parking. Check it out on weekends." – Black Hawk County resident

In addition, four respondents indicated they would like a restroom, two indicated they would like drinking water, and one indicated there are maintenance issues at Washington Union.

Figure 4-11: Site recommendations for Washington Union Access

The recommendations for Washington Union will enhance the newly expanded parking area. As part of the County's bridge replacement project in 2019 and 2020, the new parking area will be surfaced with gravel and additional rock will be used to blend and match the existing parking lot surface. Most of the existing parking area will not be resurfaced as part of the County project. Costs shown in Figure 4-12 reflect the cost of completely reconstructing the entire parking area. The actual costs for the parking lot improvements will likely be much lower as long as the new surface remains in good condition.

Future parking improvements include reshaping the parking area to allow for nine (9) spaces suitable for pull-through trailer parking and eight (8) standard sized parking stalls. One of the planned pull-through stalls is accessible with an adjacent 10' x 10' staging area. A 4,000 square foot filter strip is also planned in order to treat runoff from the parking lot and restore the riparian area.

Trunk of landmark oak tree to be preserved

The planned parking improvements include two vegetated parking islands with pollinator plantings. These function to improve traffic flow, and one of the planned islands will be situated as to preserve the landmark oak tree currently in the parking area.

The existing boat ramp works well and can be reinforced with new class B revetment rock. The site plan also includes a tie-down lane for motorized boats and a staging area for paddlers to load and unload their gear. At night, the entire area can be illuminated by a solar-powered flood light which should be able to stay on for six to 12 hours after dusk.

COST ESTIMATE

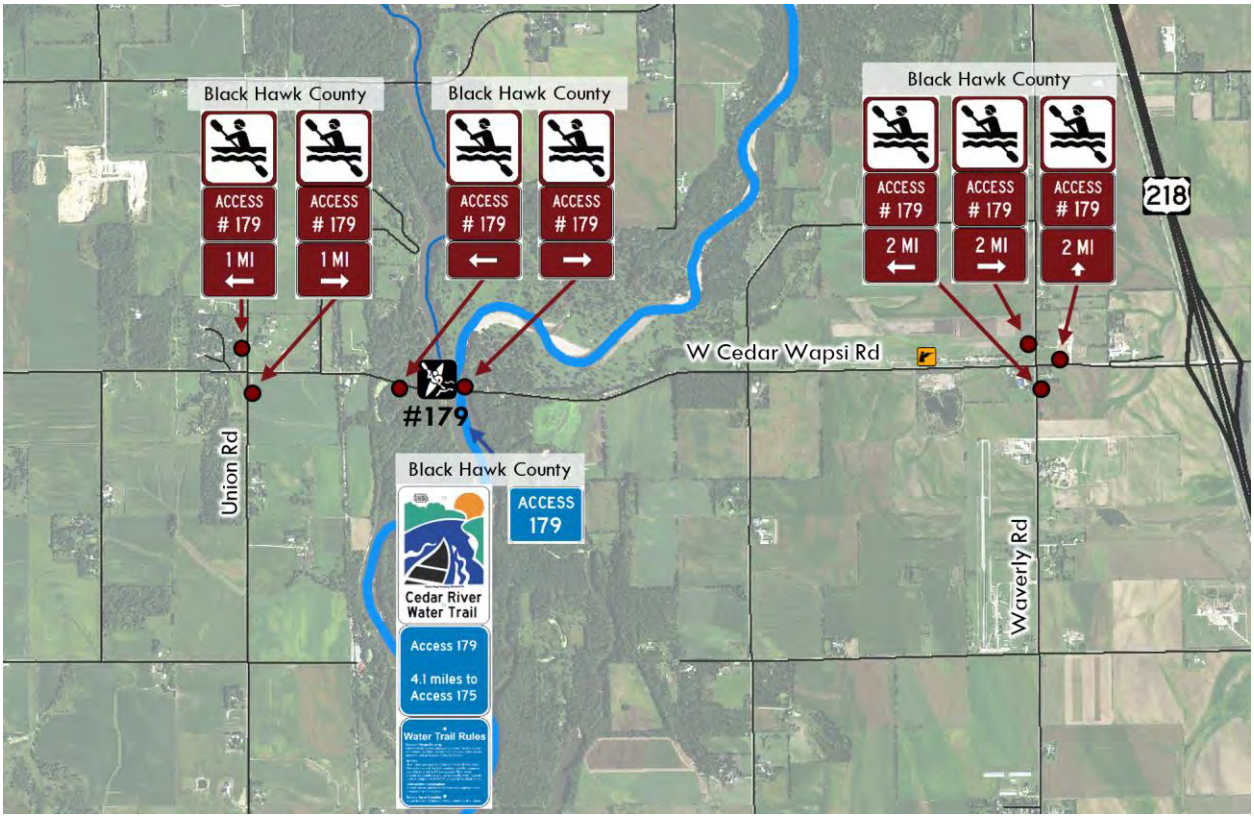
Figure 4-12: Cost estimate for improvements at Washington Union

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	9,000	9,000
Wattle Installation, Removal, Cleanout	300	LF	4	1,200
Construction Fence	200	LF	10	2,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	536	CY	10	5,359
Site Grading	1	LS	2,500	2,500
Compaction with Moisture & Density Control	161	CY	7	1,130
Modified Subbase	406	TONS	26	10,565
Class A Road Stone, 6"	610	TONS	26	15,863
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Bollards	175	EA	80	14,000
Signage	3	EA	200	600
Native Plant Plugs @ 1.5' O.C.	2283	EA	4	9,132
This estimate includes the cost of reconstructing the entire parking area.			SUBTOTAL	91,569
			Contingency (10%)	9,157
			TOTAL COST	**$100,726**

SIGNAGE

Currently there are two County Arrowhead signs on West Cedar Wapsi Road pointing to the Washington Union boat ramp. These signs will be replaced upon completion of the new bridge in 2020. Water trails signs can be included as part of the bridge construction project. The sign immediately east of the access should be installed on the bridge or very closeby to avoid confusion with the private driveway immediately northeast of the bridge.

Figure 4-13: Signage Plan for Washington Union



BLACK HAWK PARK

Jurisdiction: Black Hawk County
Access number: 175
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 3.6 miles

Black Hawk Park is a popular river access for motorized boaters and paddlers alike. The park also features the northernmost public campground in the County, and it is the northernmost park situated on the paved recreational trails network (see Figure 1-13).

The boat ramp area is currently set up for one-way traffic which can lead to confusion. Vehicles headed in the wrong direction can meet other vehicles head-to-head, resulting in delays and awkward turning movements. Improvements to the parking area should include provisions to improve the parking lot traffic flow.

PUBLIC COMMENTS

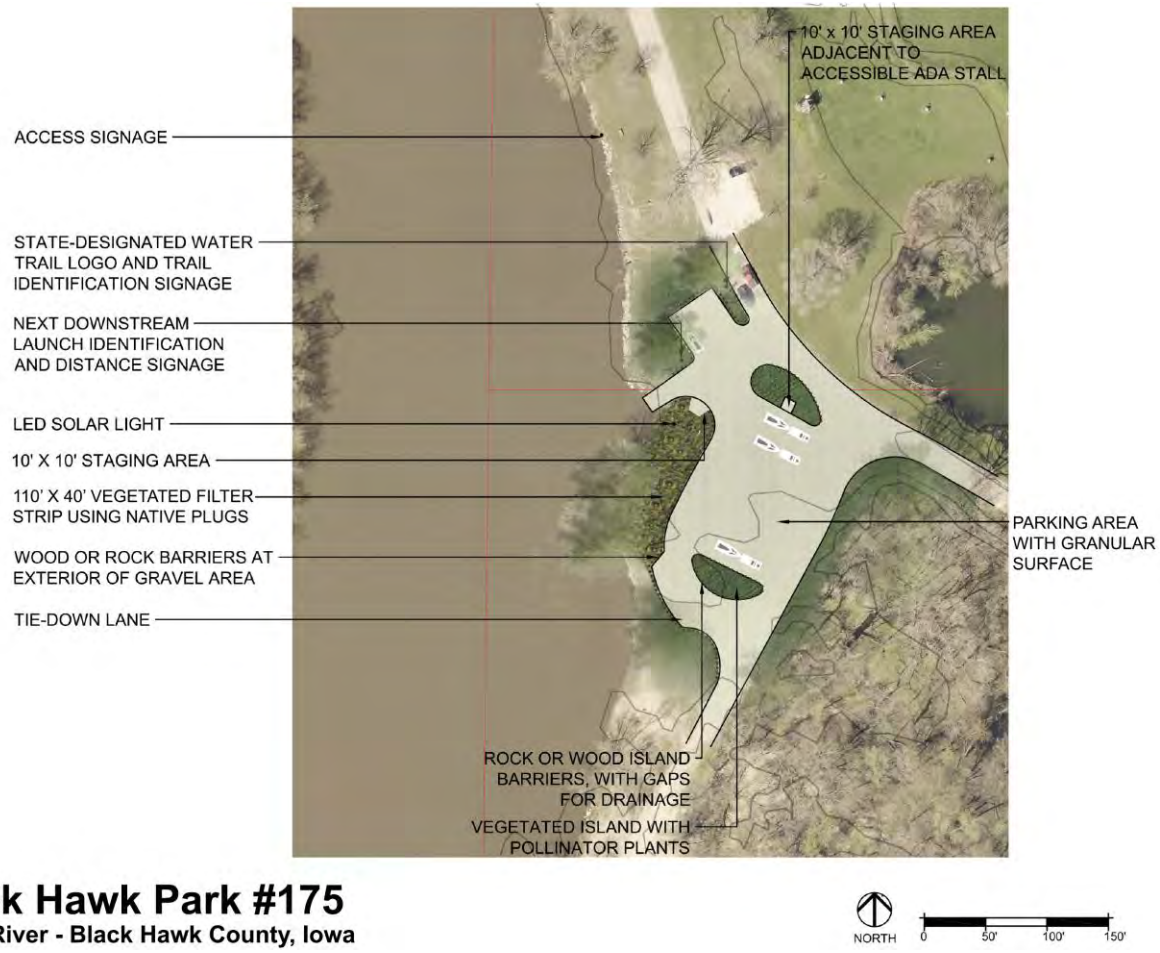
Four written comments were received regarding Black Hawk Park:

- "Black Hawk Park boat ramp could use some maintenance" – Cedar Falls resident
- "Black Hawk Park boat ramp isn't great" – Cedar Falls resident
- "Black Hawk boat ramp could use improvements" – Cedar Falls resident
- "Black Hawk Park ramp is unsafe" – Cedar Falls resident

In addition, three respondents indicated they would like a restroom, and one indicated they would like drinking water near the Black Hawk Park boat ramp.

SITE RECOMMENDATIONS

Figure 4-14: Site recommendations for Black Hawk Park



Planned improvements to the Black Hawk Park access area include two vegetated parking islands with pollinator plantings to improve traffic flow. The expanded parking area can allow for up to 17 stalls for pull-through trailer parking, including one accessible stall with an adjacent 10' x 10' staging area. A 4,400 square foot filter strip is also planned in order to treat runoff from the parking lot and restore the riparian area.

Black Hawk Park would also benefit from shoreline improvements which are not included in the project cost estimate. Shoreline improvements could take on many forms, and it is up to the County Conservation Board to determine the most appropriate treatment for this site. Currently, broken concrete and fallen branches line the shoreline along Black Hawk Park. While these materials function as an affordable method of armoring the streambank, enhancements to beautify this shoreline should also be considered.

Broken concrete and fallen branches define the shoreline near the boat ramp

COST ESTIMATE

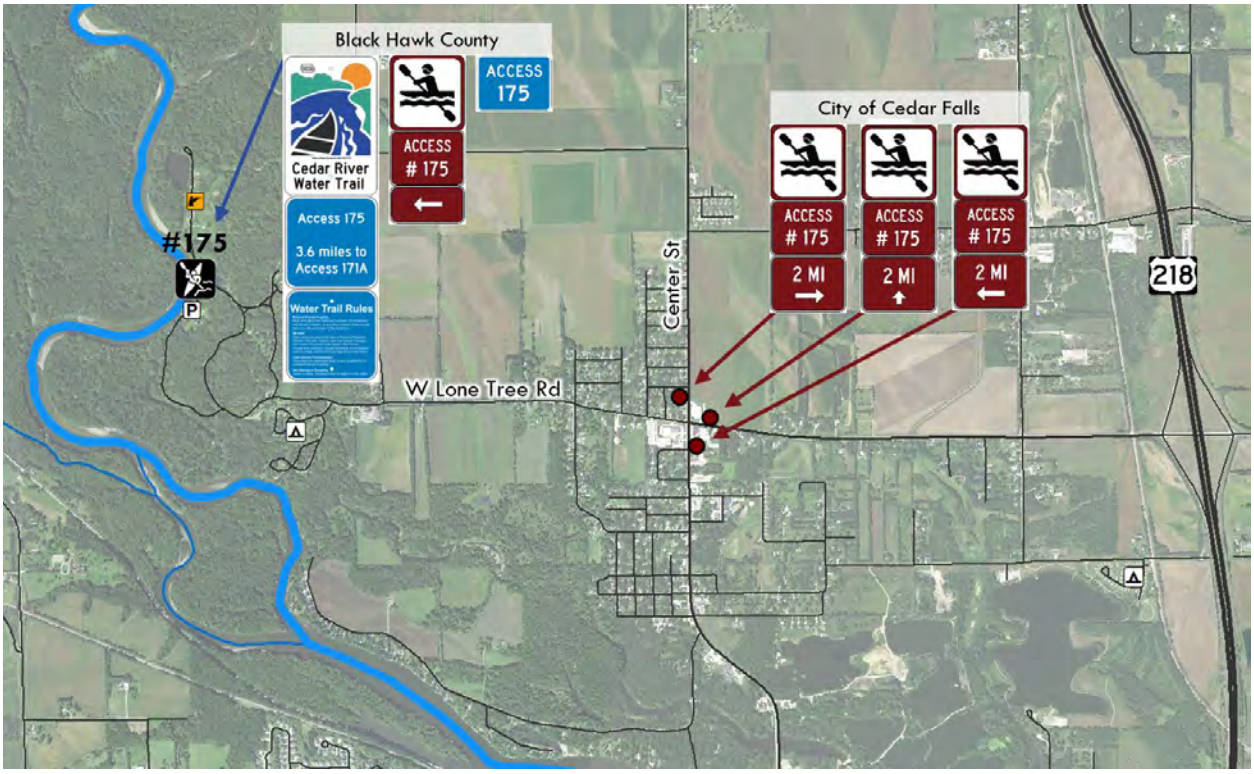
Figure 4-15: Cost estimate for improvements at Black Hawk Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	8,000	8,000
Wattle Installation, Removal, Cleanout	368	LF	4	1,472
Construction Fence	288	LF	10	2,880
Tree Removals	9	EA	1,000	9,000
Clearing & Grubbing	1	LS	2,500	2,500
Excavation, Class 10	636	CY	10	6,356
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	185	CY	7	1,296
Modified Subbase	482	TONS	26	12,542
Class A Road Stone, 6"	724	TONS	26	18,814
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Bollards	161	EA	80	12,880
Signage	3	EA	200	600
Shade Tree	4	EA	350	1,400
Native Plant Plugs @ 1.5' O.C.	2293	EA	4	9,173
			SUBTOTAL	107,133
			Contingency (10%)	10,713
			TOTAL COST	**$117,846**

SIGNAGE

Currently there are three County Arrowhead signs for Black Hawk Park at the intersection of Center Street and West Lone Tree Road. Water trails signs can be added alongside each Arrowhead sign to indicate the river access is present and emphasize the turning movement.

Figure 4-16: Signage Plan for Black Hawk Park



Existing wayfinding sign within Black Hawk Park

Wayfinding signs currently exist within Black Hawk Park to direct visitors to the various park amenities. Additional wayfinding signage within the park is unnecessary. However, a left-turn sign assembly at the boat ramp is recommended, as there is no "Boat Ramp" sign at the ramp itself.

ISLAND PARK

Jurisdiction: City of Cedar Falls
Access number: 171A
Launch type: Boat ramp
Next segment skill level: Advanced, portage
Next segment classification: Challenge, portage
Distance to next access: Portage, 0.4 miles (currently), 0.2 miles (planned)

Island Park is a large open park northwest of downtown Cedar Falls. The existing access to the Cedar River is at the northern end of the park. The river access includes two separate boat ramps, each with docking areas, and a large, paved parking lot. Public restrooms, a shelter, and a beach volleyball area are all within close proximity to the boat ramps. A paved recreational trail runs through the park which connects seamlessly to numerous parks and other river access areas.

Flooding is a significant maintenance issue at Island Park. While flooding is common at most parks, Island Park in particular becomes inundated with large amounts of sand after flood events. Sometimes the sand can reach two to three feet in height. City crews regularly clear the park after flood events using skid steer loaders to transport the sand. In normal conditions, it might seem like Island Park is a good candidate for vegetated filter strips. However, the large volumes of sand would promptly negate any infiltration benefits and maintaining the plantings would be very challenging. Accordingly, vegetated filter strips are not recommended for this site.

The newly-constructed Island Park Beach House anchors the southern end of the park. The Beach House includes private boat parking during the summer months and public restrooms which are accessible from the outside. The paved trail continues past the Beach House underneath the Center Street/Franklin Street Bridge toward Tourist Park to the east. This trail could be used as a portage route around the Cedar Falls dam, and an additional take-out for paddlers may be considered here.

Much of Island Park becomes inundated with sand after flood events

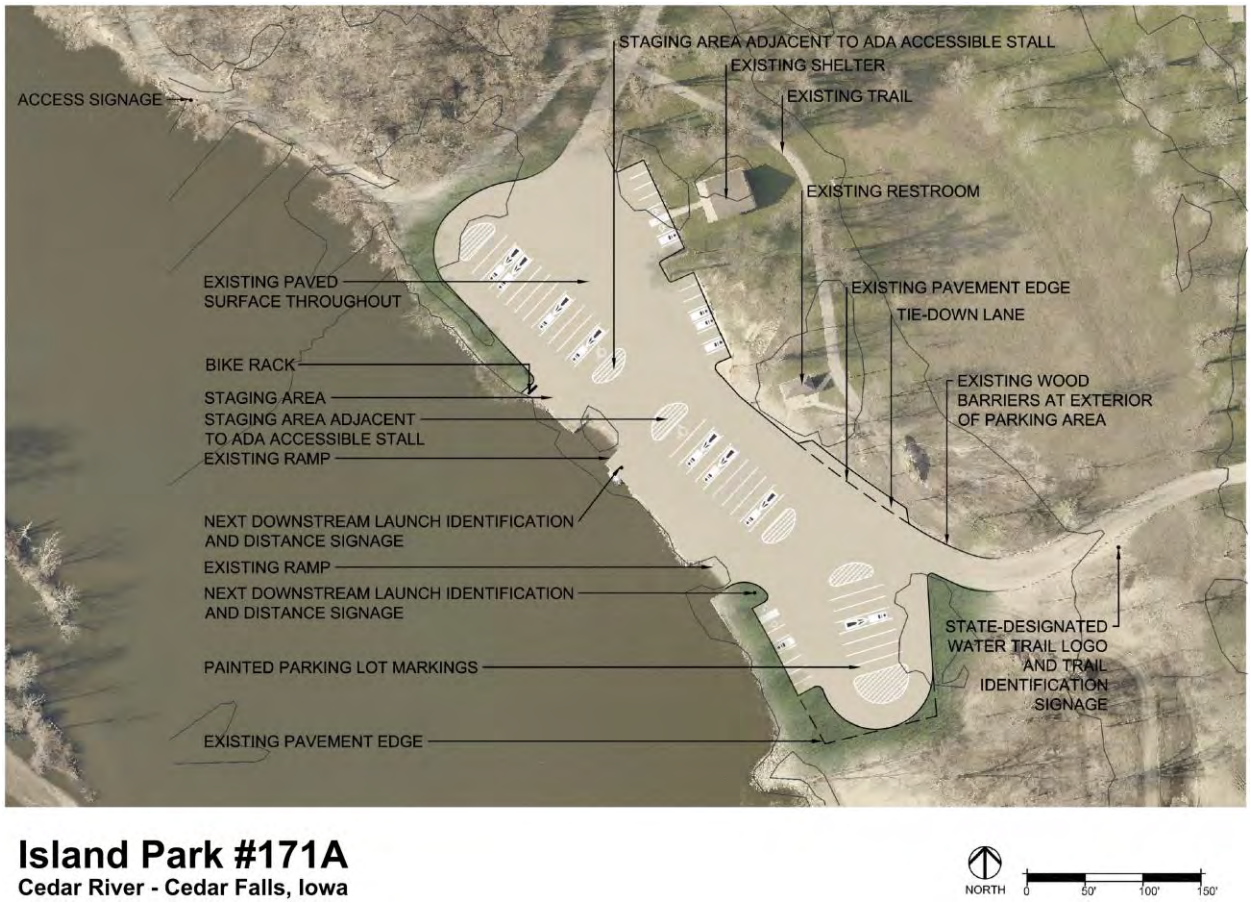
PUBLIC COMMENTS

One written comment was received regarding Island Park:

- "Kayak docks at Island Park to get them in and out safely" – Cedar Falls resident

In addition, one respondent indicated they would like restrooms open during the winter at Island Park.

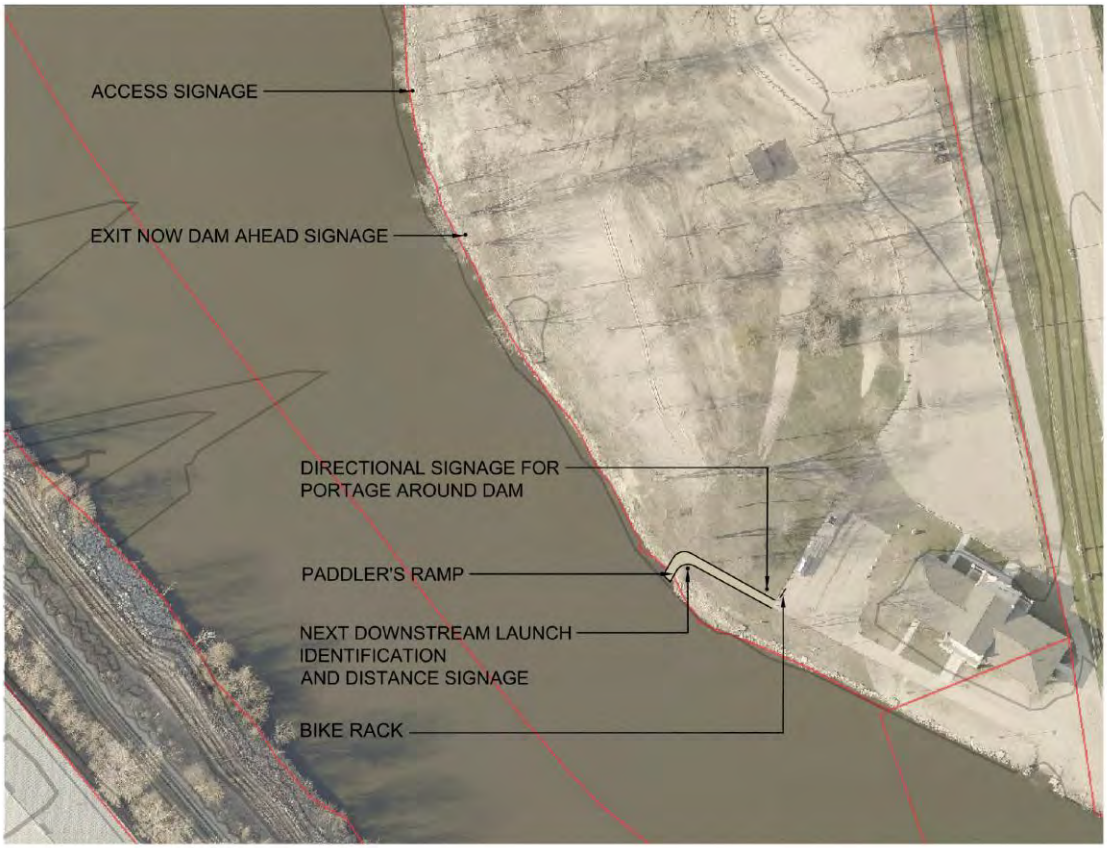
Figure 4-17: Site recommendations for existing Island Park access



There are two sets of recommendations for Island Park. Few improvements are planned for the existing access area at the north end of the park. Paint striping on the existing parking lot can help maximize the number of usable parking spaces. Three signs should be installed near the existing boat ramps:

- State-designated water trail identification sign
- Next downstream launch identification and distance sign
- On-river access sign

Figure 4-18: Site recommendations for new Island Park access



Island Park #171A - Potential Access

Cedar River - Cedar Falls, Iowa

NORTH 0 50' 100' 150'

The area immediately upstream of the Island Park Beach House provides a unique opportunity for a take-out ramp for paddlers. This ramp can serve as a normal access area with parking, and also as a portage route around the Cedar Falls Dam to the Tourist Park access area. Adding this access would reduce the distance required to portage around the dam from about 0.4 miles to 0.2 miles. This new ramp should be constructed in conjunction with the proposed improvements at Tourist Park, to create a continuous portage route around the dam.

This proposed access is also within walking distance to the public restrooms at the Beach House. While the ramp and restrooms are publicly accessible, the docks for motorized boats are privately maintained by the North Shore Boat Club. Motorized boaters who are not members must use the boat ramps at the north end of the park.

COST ESTIMATE

Figure 4-19: Cost estimate for improvements at Island Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	2500	2500
Wattle Installation, Removal, Cleanout	50	LF	4.00	200
Construction Fence	50	LF	10	500
Removals, Excess Pavement	1	LS	3,000	3,000
Excavation, Class 10*	369	CY	10	3,689
Site Grading	1	LS	1,000	1,000
Compaction with Moisture & Density Control*	10	CY	14	135
Modified Subbase*	24	TONS	52	1,263
Class A Road Stone, 6"*	36	TONS	52	1,896
Imported Top Soil	37	CY	28	1,037
Parking Lot Markings	3,312	LF	1	3,312
Class B Revetment	112	TONS	50	5,600
Seeding	1	LS	1,000	1,000
Paddler's Ramp	1	LS	10,000	10,000
Bike Rack	2	EA	1,000	2,000
Signage	4	EA	200	800
Mobilization	1	LS	2500	2500
Wattle Installation, Removal, Cleanout	50	LF	4.00	200
			SUBTOTAL	37,932
			Contingency (10%)	3,793
			TOTAL COST	**41,726**

* - Increased cost due to small quantity being installed

Figure 4-20: Signage Plan for Island Park

OLSEN PARK

Jurisdiction: City of Cedar Falls
Access number: None
Launch type: Boat tie-up
Next segment skill level: Advanced, portage
Next segment classification: Challenge, portage
Distance to next access: Not applicable, tie-up only

Olsen Park was mentioned numerous times by members of the public during the public input meetings. Participants described their interest in docking their boat at Olsen Park and walking to events at Overman Park, about 0.2 miles away. Currently, walking distance to Overman Park is nearly 0.5 miles from Island Park for North Shore Boat Club members and nearly 0.8 miles for all other boaters. In addition to Overman Park, boaters parked at Olsen Park would also be within 0.3 miles of the Downtown Cedar Falls business district.

Olsen Park is situated across Franklin Street from the Cedar Falls Ice House Museum. Multiple paved trails connect the Ice House Museum to the surrounding sidewalks, including a trail that extends into Olsen Park underneath the Center Street/Franklin Street Bridge. This trail segment could be extended further to the riverfront at Olsen Park for boaters putting in and taking out. The existing shelter at Olsen Park could also be connected to such a trail, and could serve as a place for boaters to rest or to load and unload their belongings.

PUBLIC COMMENTS

Four written comments were received regarding Olsen Park, which led to its inclusion in the Master Plan:

- "Improve the shoreline where Olsen's Boat House used to be so you can easily park a boat" – Cedar Falls resident
- "[Add] kayak parking at Olsen's boathouse shelter for easy access to Farmer's market and live music at Boathouse" – Cedar Falls resident
- "City docks at Olson's Park would be nice." – Cedar Falls resident
- "[Add] boat or marina for south side of river north of dam" – Cedar Falls resident

SITE RECOMMENDATIONS

Figure 4-21: Site recommendations for Olsen Park

After consideration of multiple alternatives, City staff determined that boat tie-ups with bumpers on the existing concrete wall would be the preferred fixture for boaters at this location. The proposed improvements extend the existing trail to the river's edge and include a spur trail to connect to the existing shelter. Pollinator plantings are also planned which will improve the habitat for pollinators and serve as a visual buffer between the trail and the surrounding automobile traffic and railroad tracks.

The long-term plan for Olsen Park will be decided as part of Phase Two of the City's riverfront improvements project. The City's master plan for the project identifies a future portage path extending from the inlet at Olsen Park, past the Ice House Museum, to a put-in location near the existing railroad bridge.

The plan also includes the complete removal of the City's dam, and the installation of a multiple drop whitewater feature spanning the entire river width. This drop feature would need to compensate for the drop in river level currently maintained by the dam, and therefore would need to cover a significant distance. Further study will determine the appropriate improvement at this location.

Figure 4-22: Preliminary plan for Olsen Park whitewater features

COST ESTIMATE

Figure 4-23: Cost estimate for improvements at Olsen Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	6000	6000
Wattle Installation, Removal, Cleanout	175	LF	4	700
Construction Fence	100	LF	10	1,000
Excavation, Class 10*	46	CY	20	922
Compaction with Moisture & Density Control*	14	CY	14	194
Modified Subbase*	35	TONS	52	1,818
PCC Pavement, 5"*	1500	SF	10	15,000
Boat Tie Ups & Bumpers on Existing Concrete	1	LS	10,000	10,000
Native Plant Plugs @ 1.5' O.C.	1333	EA	4	5,333
Signage	2	EA	200	400
			SUBTOTAL	41,368
			Contingency (10%)	4,137
			TOTAL COST	**45,505**

* - Increased cost due to small quantity being installed

This cost estimate only reflects the cost of improvements proposed on the previous page, not the improvements included in Phase Two of the city's riverfront improvements project.

SIGNAGE

Because the Olsen Park tie-up area is accessible only by river or paved trail, no wayfinding signage is planned as part of the Water Trails Master Plan. When the City completes Phase Two of the riverfront improvements project, signage to the Sturgis Park parking lot near the Ice House Museum could be added. This parking lot could become the primary parking area for the proposed whitewater features.

TOURIST PARK

Jurisdiction: City of Cedar Falls
Access number: 171B
Launch type: Carry-down only
Next segment skill level: Advanced
Next segment classification: Challenge
Distance to next access: 0.2 miles

Tourist Park is a popular destination for disc golfers and is situated immediately east of the Island Park Beach House. The Tourist Park river access is the first access downstream of the Cedar Falls Dam. It is one of the few river accesses without a boat ramp. Instead, paddlers can access the water from the sandy beach area. The sandy area can become muddy, however, making the access less than ideal for beginners.

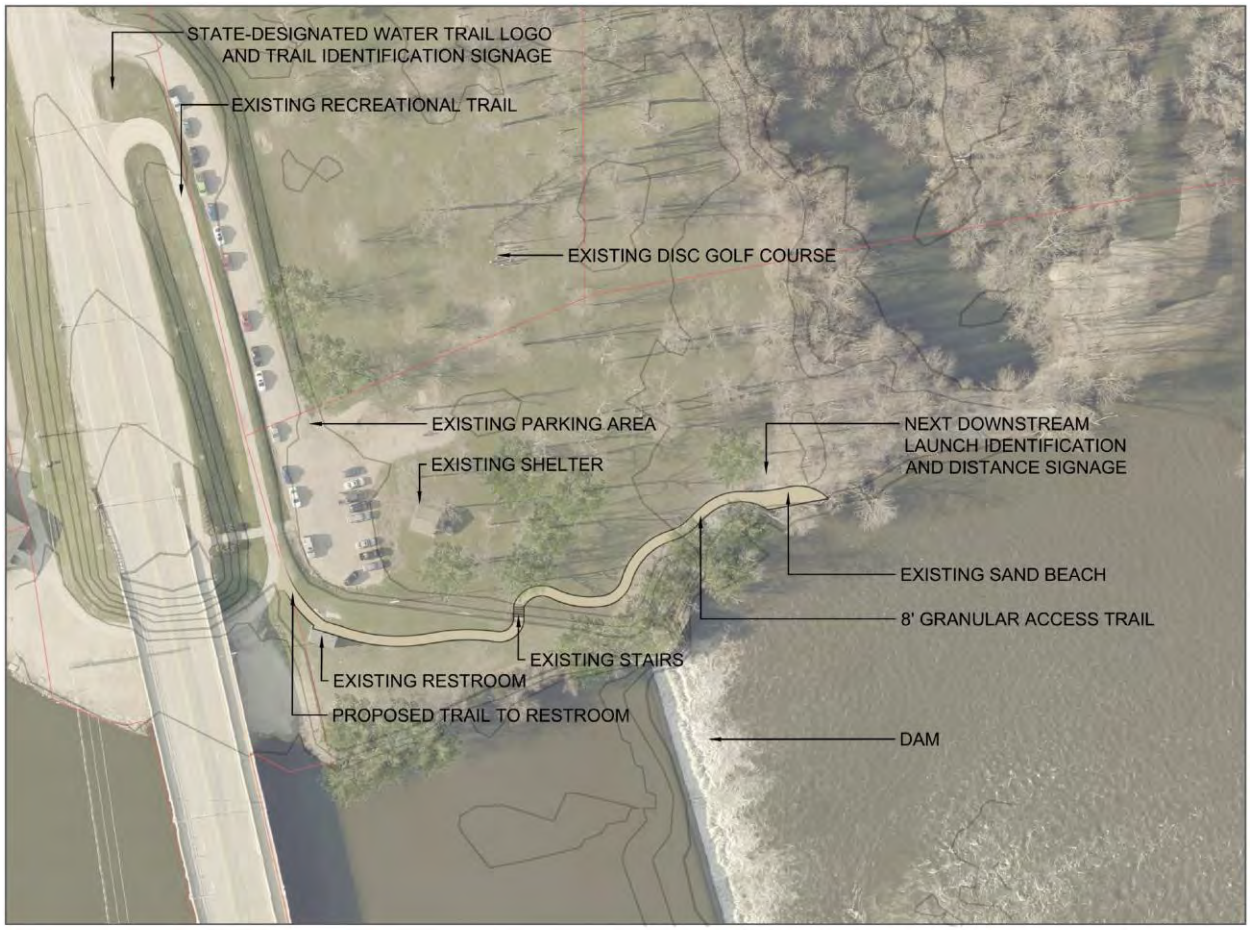
Low water levels and the access's proximity to the Cedar Falls Dam make paddling from this access more challenging than most in the county. Beginners will be better suited to put in at an access further downstream, such as Washington Park or Gateway Park after completion of the city's riverfront improvements project.

View of Cedar Falls Dam from Tourist Park access

Tourist Park includes restrooms situated atop a small dike, and an existing staircase east of the restrooms. The City has tentative plans to eliminate the restrooms at Tourist Park, since the restrooms in the Island Park Beach House are a short walking distance away.

There were no public comments received regarding Tourist Park.

Figure 4-24: Site recommendations for Tourist Park



The main improvement proposed for Tourist Park is a granular walking trail to the river access. This trail should be constructed in conjunction with the proposed paddlers take-out ramp at Island Park to create a continuous portage route around the Cedar Falls Dam. The planned alignment of the trail was chosen to avoid conflicts with disc golf players and to take advantage of the existing staircase.

Paddlers portaging from Island Park can walk along the existing trail under the Center Street/Franklin Street Bridge to reach Tourist Park. Paddlers can also park at either Tourist Park or at the Island Park Beach House and use the trail to reach the access. No parking improvements are planned at Tourist Park. Over 50 parking spaces are available at the Island Park Beach House immediately to the west.

Existing trail under Center St/Franklin St Bridge

The City is in the early planning stages of a two-phase riverfront improvements project, and Phase Two will involve improvements to mitigate the dam hazard near Tourist Park. Planned improvements for the riverfront improvements project, identified in March 2017, include a portage route from the Island Park Beach House to the Tourist Park river access. This recommendation is reiterated and further defined by the proposed trail described on the previous page.

Figure 4-25: Preliminary plan for Tourist Park whitewater features

COST ESTIMATE

Figure 4-26: Cost estimate for improvements at Tourist Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	2000	2000
Wattle Installation, Removal, Cleanout	50	LF	4	200
Construction Fence	450	LF	10	4,500
Excavation, Class 10	134	CY	10	1,337
Compaction with Moisture & Density Control	40	CY	7	282
Modified Subbase	152	TONS	26	3,957
Limestone Chips, 3" IDOT Gradation #8	101	TONS	28	2,838
Signage	2	EA	200	400
			SUBTOTAL	15,513
			Contingency (10%)	1,551
			TOTAL COST	**17,064**

SIGNAGE

Figure 4-27: Signage Plan for Tourist Park

Note: Access 171C is currently 171B. Some signage for access 171C may need to be installed after construction of the new access 171B at Island Park.

DOWNTOWN CEDAR FALLS RIVERFRONT / GATEWAY PARK

Jurisdiction: City of Cedar Falls
Access number: 170A
Launch type: Carry-down only
Next segment skill level: Advanced (currently), multiple skill levels (planned)
Next segment classification: Challenge (currently), Gateway (planned)
Distance to next access: 0.9 miles

The City of Cedar Falls has begun planning for a showcase riverfront enhancement project within walking distance to the downtown business district. The project will provide direct access to the Cedar River for paddlers and parkgoers and will include in-water improvements to allow for whitewater activities. The overall riverfront improvements project will be implemented in two phases, and Gateway Park is included in Phase One.

Currently, Gateway Park includes a paved recreational trail and two carry-down river accesses. The Park also includes public restrooms, a large shelter with electricity and water, a small shelter, and playground equipment. Most of the planned improvements at Gateway Park are situated between the existing recreational trail and the river.

Riverfront improvements are also planned across the river along the South Riverside Trail at Peter Melendy Park. A put-in access and take-out access are planned for both sides of the river. Recreational whitewater features are also planned along both sides. The take-out area along the South Riverside Trail can be developed into a unique, multi-tiered open space for relaxing and watching river activities.

Upon completion of Phase One, Gateway Park and Peter Melendy Park will serve as the beginning of the Gateway section of the Cedar River Water Trail. While the proposed drop structures may be challenging for some, the project will be developed with users of all abilities in mind. Low water levels may still prove challenging for some paddlers when the river is down. Under normal conditions, most paddlers with some experience should find the new improvements exciting and an enjoyable start to their journey down river.

Cedar Valley Lakes Trail at Gateway Park
Photo: University of Northern Iowa GeoTREE Center, 2018

PUBLIC COMMENTS

Three comments were received about Gateway Park and the Downtown Cedar Falls area:

- "[I would like] having access to dock below the 1st bridge in CF so we could tie up to go get food on Main St." – Waterloo resident
- "[I would like a] ramp at Gateway Park" – Cedar Falls resident
- "[I would like] whitewater in Cedar Falls and/or Waterloo" – Waterloo resident

Also, as shown in Figure 3-13, several comments were received regarding river improvements in downtown areas. Many respondents indicated they wanted improved accesses, access signage, and a place to secure their boats. Additional suggestions by the public included the following:

- Plaza with tables
- Shaded areas
- Seating and viewing areas
- Bike racks or lockers
- Signage to restrooms, shelters, and drinking water
- Information kiosk showing river accesses and destinations
- Trash and recycling containers

Figure 4-28: Site recommendations for Gateway Park

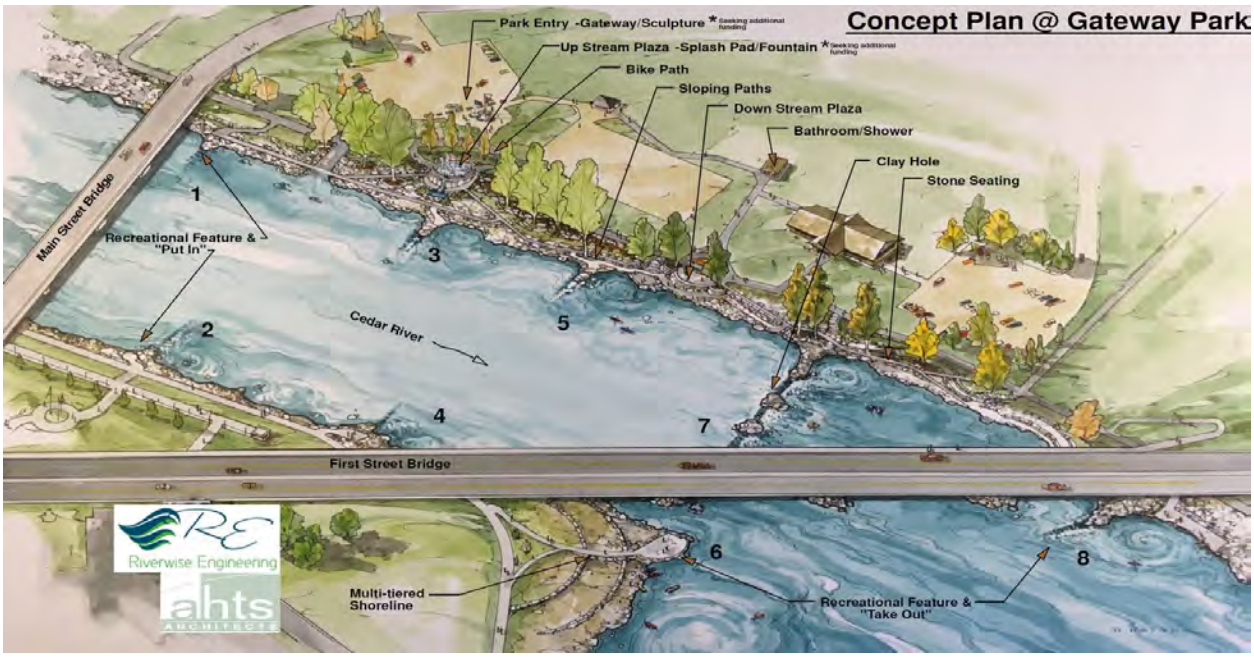
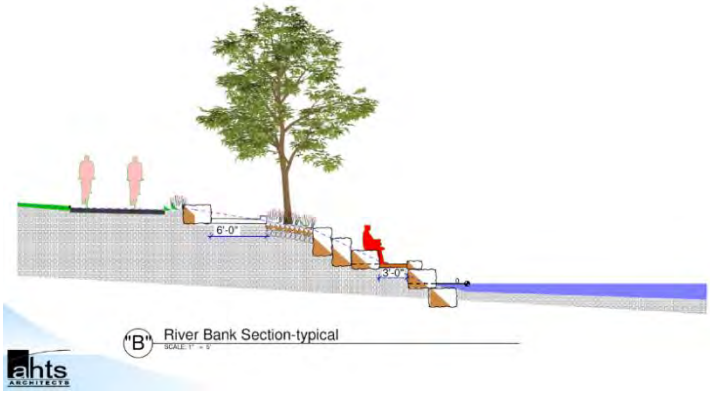


Figure 4-29: Planned shoreline cross sections at Gateway Park



As previously described, the City of Cedar Falls is currently planning a riverfront improvement project along both sides of the Cedar River. Specific improvements planned for this project include two plazas, a splash pad or fountain, stone seating, and a gateway monument at Gateway Park. Additional sloping paths are also planned between the existing recreational trail and the river's edge. These paths will create a route for more leisurely foot traffic, while the existing trail will serve through traffic including bicycles more efficiently.

Most people visiting the new improvements will likely park at Gateway Park, as it has the closest parking lot to the project area. Likewise, people who live, work, or do business in Downtown Cedar Falls may be more likely to access the project area on foot from Peter Melendy Park along the south side of the river. Signage directing foot traffic to the put-in river access is recommended on both sides.

COST ESTIMATE

Figure 4-30: Cost estimate for the Riverfront Improvements Project, Phase One

Item Description	Total
Riverbank amenities	
On-shore improvements	1,061,190
Design fees and contingency	286,521
Additional enhancements and design	463,550
Subtotal	**1,811,261**
In-river amenities	
"Clay hole" safety improvements	225,000
Fishing jetties and whitewater features	368,800
Mobilization, cofferdam, other fees	733,673
Design fees and contingency	318,593
Subtotal	**1,646,066**
Grand total	**3,457,327**

The City of Cedar Falls has hired a group of consulting firms to help develop the riverfront improvements project. The cost estimate provided above was developed by the project team, and was presented at a public informational meeting on October 2018.

SIGNAGE

Figure 4-31: Signage Plan for Gateway Park

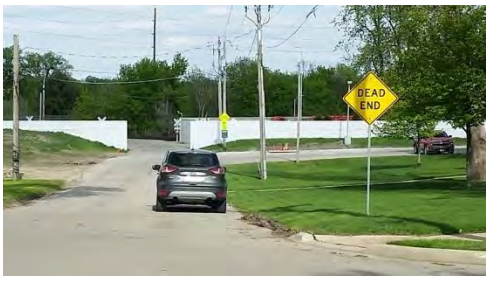
WASHINGTON PARK

Jurisdiction: City of Cedar Falls
Access number: 170B
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Gateway
Distance to next access: 2.0 miles

Currently, Washington Park begins the Gateway section of the Cedar River Water Trail. There are no rapids or rocky areas downstream of Washington Park, unlike the shallower area near Gateway Park upstream. Most beginners would find a day trip from Washington Park to the Waterloo Boathouse, 6.3 miles downstream, easy and enjoyable.

Washington Park is a former golf course turned open park space. Frequent flooding made it difficult for the City to maintain the space as a golf course. The Park itself is roughly 60 acres total, with around 41 acres of open greenspace. A public restroom, parking area, and baseball diamond are situated near the park entrance. The boat ramp is about 1,550 feet (or 0.3 miles) past the public restrooms. The Park also includes six shelters, playground equipment, and a bike trail loop around the park.

Situated behind Cedar Falls Utilities (CFU) and the city's water reclamation facility, Washington Park is largely detached from the surrounding residential area. Floodwalls and a railroad crossing define the park entrance, and it would be easy to mistake the entrance for an industrial site. Adding wayfinding signage on State Street would greatly improve navigation to the park. Also, adding a park entrance sign on East 9th Street before the railroad crossing would help visitors confirm they are headed in the right direction.



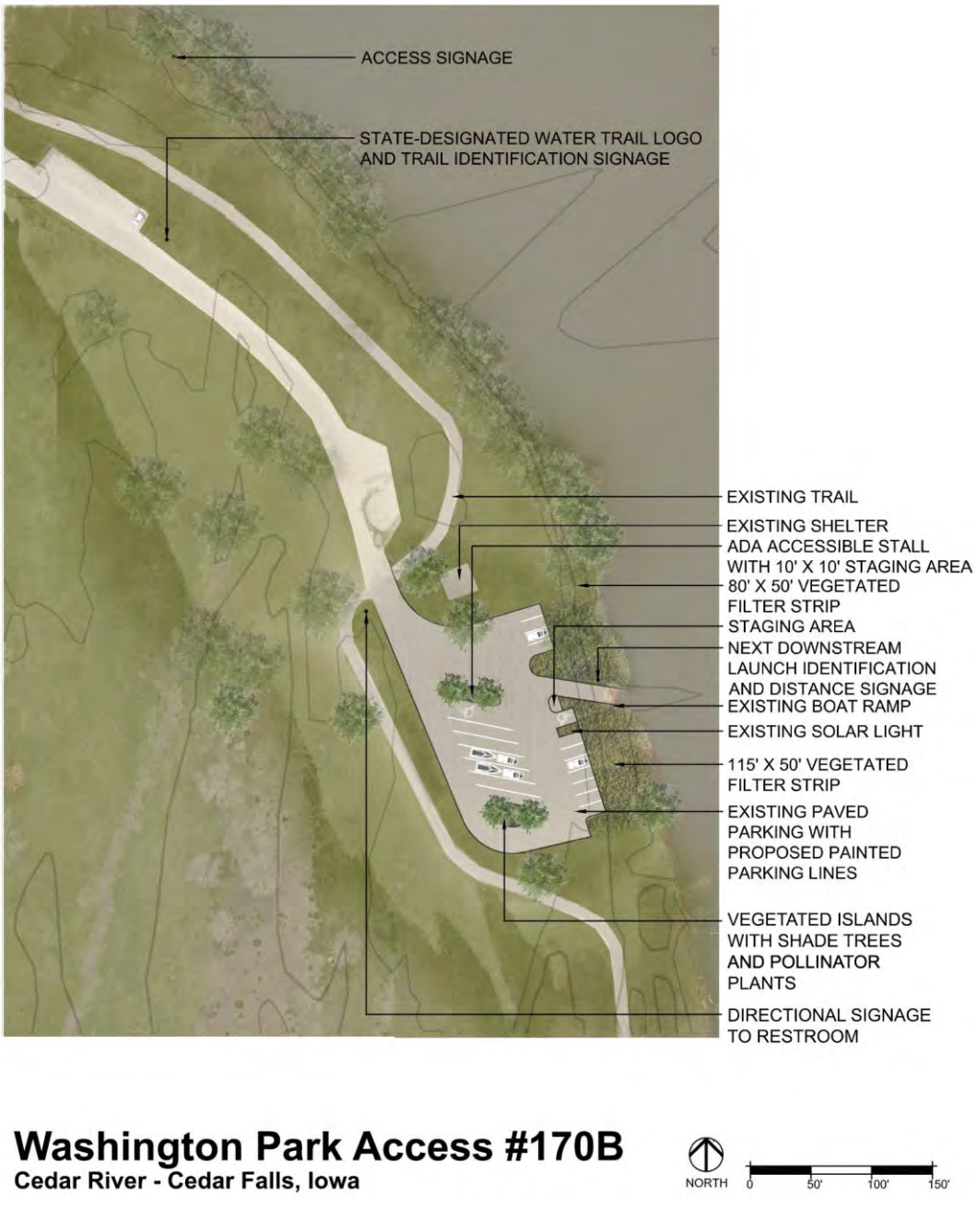
Dead End sign approaching Washington Park

The boat ramp at Washington Park tends to become filled with dirt after high water events. However, this is not a major problem for most paddlers. If the ramp becomes particularly muddy, motorized boaters and people with difficulty balancing may find it easier to put in at George Wyth State Park downstream.

No public comments were received regarding Washington Park.

SITE RECOMMENDATIONS

Figure 4-32: Site recommendations for Washington Park



Recommendations for Washington Park mainly involve improvements to the parking area. Two vegetated parking islands with pollinator plants are included to create seven (7) pull-through paces including one accessible parking space. The parking islands also improve circulation for boaters entering and exiting the river. In addition, 11 standard parking spaces including one additional accessible space are defined for the planned parking area.

The existing boat ramp is in good condition overall and can be reinforced with class B revetment rock. Additionally, two filter strips are planned in order to treat runoff from the parking lot and restore the riparian area.

COST ESTIMATE

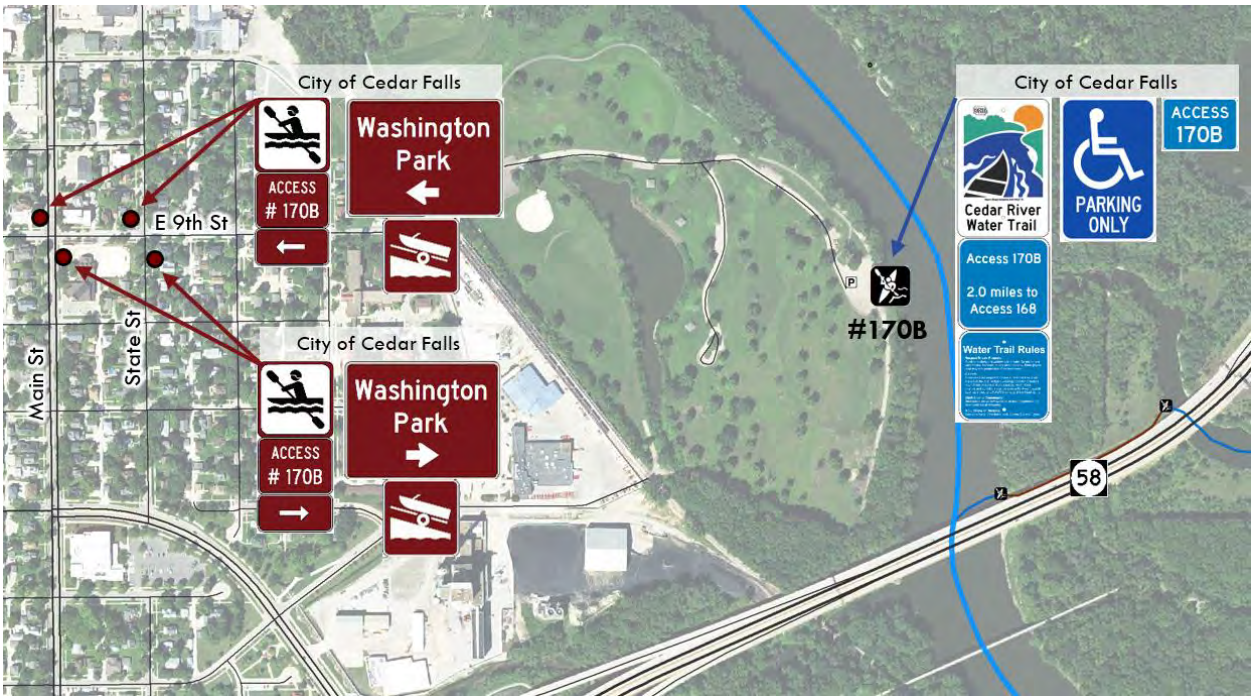
Figure 4-33: Cost estimate for improvements at Washington Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	2000	2000
Wattle Installation, Removal, Cleanout	238	LF	4.00	952
Construction Fence	475	LF	10	4,750
Excavation, Class 10, Parking Islands	1	LS	2,000	2,000
Imported Top Soil	23	CY	28	635
Parking Lot Markings	632	LF	1	632
Class B Revetment	56	TONS	50	2,800
Native Plant Plugs @ 1.5' O.C.	4742	EA	4	18,969
Signage	4	EA	200	800
			SUBTOTAL	33,538
			Contingency (10%)	3,354
			TOTAL COST	**36,892**

Not included in the cost estimate above is an entrance sign for Washington Park. As previously mentioned, a park entrance sign would greatly improve visibility and navigation to the park. The Water Trails Master Plan supports any effort to improve visibility to Washington Park.

SIGNAGE

Figure 4-34: Signage Plan for Washington Park



GEORGE WYTH STATE PARK

Jurisdiction: Iowa Department of Natural Resources (DNR)
Access number: 168
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Gateway
Distance to next access: 1.0 miles

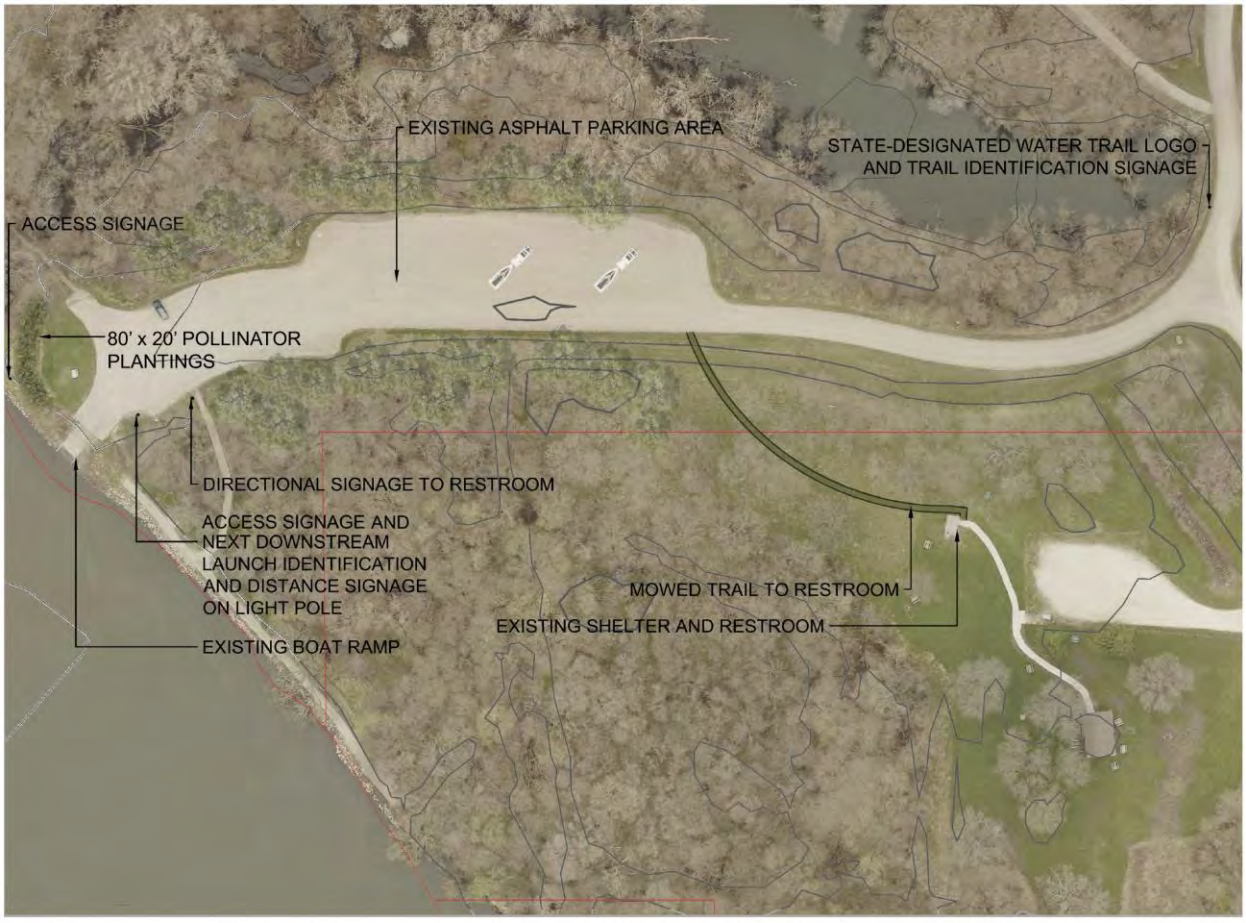
The river access at George Wyth State Park is situated on a spur driveway off Wyth Road. The park's campground is approximately one-quarter (¼) mile northwest of the river access, and is connected to the access area by road, an unpaved walking path, and the Cedar Valley Lakes Trail. While George Wyth State Park includes a wide variety of amenities, including several boat and carry-down accesses to lakes within the park, the river access is relatively isolated with only a few nearby facilities. A restroom is situated about 780 feet from the boat ramp, though there is currently no direct path to the restroom.

Near the boat ramp, there is a paved walking path to the shore of the Cedar River. The paved shoreline can be used for fishing and interacting with the river. The existing parking lot offers an abundance of parking spaces, and there is plenty of room for maneuvering trailers and large vehicles. The boat ramp itself is wider than average and in good condition. This river access is a great starting point for first-time paddlers.

PUBLIC COMMENTS

Two respondents indicated they would like restrooms and drinking water at the George Wyth State Park access.

Figure 4-35: Site recommendations for George Wyth State Park



Minimal improvements are recommended for the Cedar River access at George Wyth State Park. Planned improvements include a 1,600 square foot area for pollinator plantings, a mowed trail and directional signage to the restrooms nearby, and the appropriate water trails signage. Existing parking is plentiful, and congestion is not a problem.

Future improvements could include shoreline improvements, such as terraced stones and seating areas, that would benefit campground visitors and define the relationship between the park and the river.

A short dirt path connects the boat ramp to the nearby camping area. Shoreline improvements here may be desired in the future, though the entire area is subject to flooding.

COST ESTIMATE

Figure 4-36: Cost estimate for improvements at George Wyth State Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	1,000	1,000
Mowed Lawn Trail (Maintenance)	1	LS	1,000	1,000
Class B Revetment	56	TONS	50	2800
Signage	4	EA	200	800
Native Pollinator Plant Plugs @ 1.5' O.C.	711	EA	4	2,844
			SUBTOTAL	4,600
			Contingency (10%)	460
			TOTAL COST	**$5,060**

SIGNAGE

Figure 4-37: Signage Plan for George Wyth State Park

SHERWOOD PARK

Jurisdiction: Black Hawk County (ramp and parking), City of Waterloo (grounds)
Access number: None (possibly define as 167)
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Gateway
Distance to next access: 1.8 miles

Sherwood Park is located within the city limits of Waterloo and is easily accessible off the U.S. Highway 218 exit at Greenhill Road. The Park itself is relatively new, and the City received a REAP grant from the Iowa DNR in 2014 for its construction. The boat ramp area is upstream from Sherwood Park, approximately 1,000 feet past the park entrance. While the City manages the park itself, the County Conservation Board maintains the boat ramp and the river access parking area.

The existing parking area at the river access is actually two separate parking areas connected by a short dirt drive. River users may find the parking areas uncomfortable after dark due to their isolated location. Installation of lighting fixtures would help address this. The two parking areas could be combined, which presents an opportunity to redefine the space and improve the flow for vehicle traffic.

Sherwood Park (left) in relation to the river access area (right)

PUBLIC COMMENTS

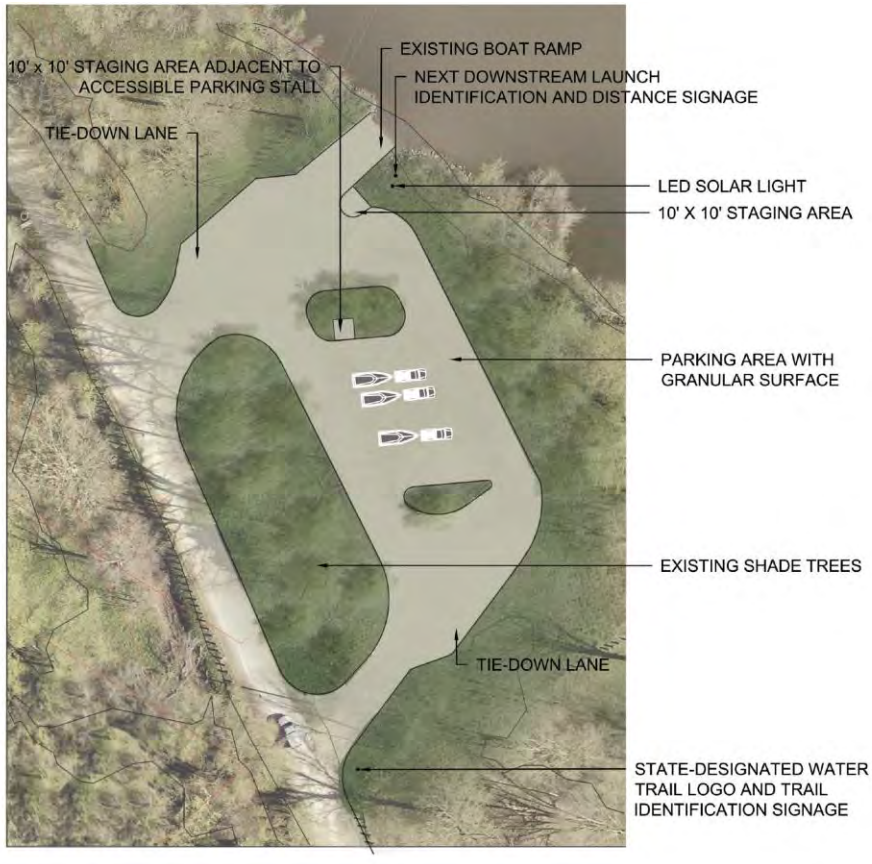
Four written comments and one verbal comment were received regarding Sherwood Park:

- "Add 10 or 15 feet of concrete to the Sherwood Park boat ramp." – Waterloo resident
- "Patrol the ramp by Greenhill Rd." – Waterloo resident
- "Putting in a dock at Sherwood would be helpful." – Waterloo resident
- "Consider putting money into Cedar Bend boat launch or Sherwood Park boat launch - docks to get people on and off boats." – Waterloo resident
- I would like to see boat docks between Waterloo and Cedar Falls such as at Sherwood Park to allow for pontoon boat docking. It would be nice to have more than one dock. Currently there's only one at the Boathouse. This would make it possible for one person to get to their vehicle. – Waterloo resident, by phone

In addition, one respondent indicated they would like restrooms and drinking water at Sherwood Park.

SITE RECOMMENDATIONS

Figure 4-38: Site recommendations for Sherwood Park



Sherwood Park #166
Cedar River - Waterloo, Iowa

NORTH 0 30' 60' 90'

Recommendations for the Sherwood Park river access area include notable changes to the existing parking areas. The recommendations include combining the two parking areas into one and using parking islands to define the new spaces. Removal of five trees and some understory vegetation will be required to accomplish this. The planned parking area includes seven parking stalls for pull-through trailer parking, including one accessible stall with an adjacent 10' x 10' staging area. Two tie-down lanes are also planned for motorized boaters. The existing wooden bollards which define the existing driveway can remain as-is.

In addition to the recommendations shown above, multiple survey respondents suggested adding a boat dock at Sherwood Park. The location of Sherwood Park is ideal for a new dock, as it is roughly equidistant between downtown Cedar Falls and downtown Waterloo. Because of the variety of possible designs and engineering considerations involved with installing a dock, an estimated cost is not included in this document. However, the Water Trails Master Plan supports the construction of a boat dock at this site. A new dock would serve residents of Waterloo and Cedar Falls living near Rainbow Drive, Greenhill Road, and University Avenue.

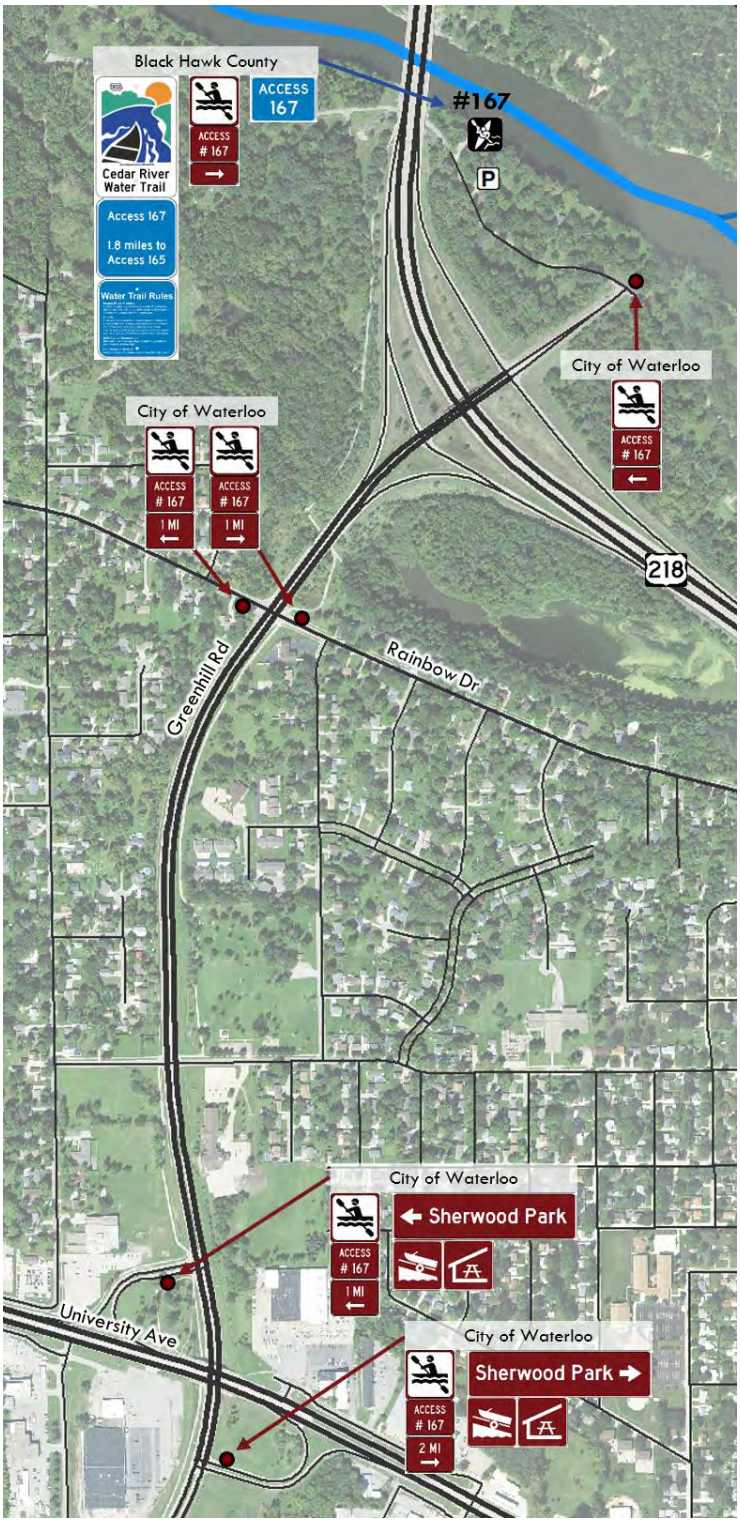
COST ESTIMATE

Figure 4-39: Cost estimate for improvements at Sherwood Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	7,000	7,000
Wattle Installation, Removal, Cleanout	330	LF	4	1,320
Construction Fence	500	LF	10	5,000
Tree Removals	5	EA	1,000	5,000
Clearing & Grubbing	1	LS	10,000	10,000
Excavation, Class 10	697	CY	10	6,968
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	210	CY	7	1,469
Modified Subbase	491	TONS	26	12,774
Class A Road Stone, 6"	738	TONS	26	19,180
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Signage	3	EA	200	600
			SUBTOTAL	89,532
			Contingency (10%)	8,953
			TOTAL COST	**$98,485**

SIGNAGE

Figure 4-40: Signage Plan for Sherwood Park



CEDAR BEND PARK

Jurisdiction: City of Waterloo
Access number: 165
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Gateway
Distance to next access: 1.5 miles

Cedar Bend Park is a large open space which functions mainly as a river access. The Park is situated along the Cedar Valley Lakes Trail and faces Sans Souci Island across the river. Given the close proximity of the park to the Waterloo Boathouse and the dam in downtown Waterloo, it is not commonly used by paddlers as a put-in or a take-out. Instead, the access is often used by people with flat-bottom boats, i.e., Jon boats.

The existing parking area at Cedar Bend Park is expansive with ample room for dozens of vehicles with trailers. While this is typically beneficial, excessive parking can also mean additional maintenance. The boat ramp at Cedar Bend Park also has a narrow dock extending perpendicularly into the river. This dock effectively divides the boat ramp in half. The City plans to raise the center dock to make it visible and usable when the bladder dam is inflated and also remove the large boulder near the ramp. These changes should improve access for small watercraft. Work on these improvements is anticipated in winter 2019 and therefore is not included in the following cost estimate.

Existing parking area at Cedar Bend Park

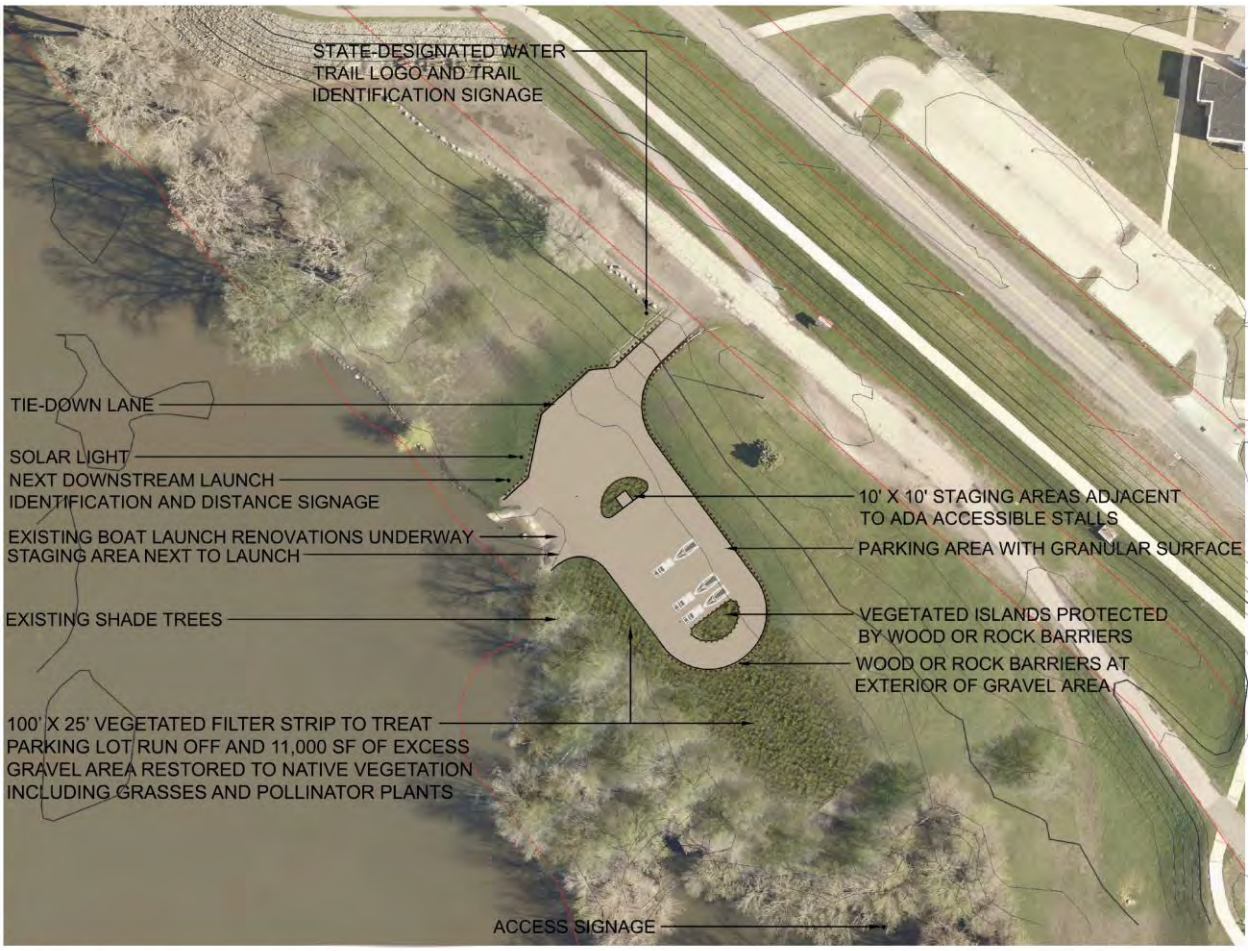
PUBLIC COMMENTS

Two written comments were received regarding Cedar Bend Park:

- "Consider putting money into Cedar Bend boat launch or Sherwood Park boat launch - docks to get people on and off boats." – Waterloo resident
- "Please look at opening the ramp at Cedar Bend." – Waterloo resident

SITE RECOMMENDATIONS

Figure 4-41: Site recommendations for Cedar Bend Park



The most profound recommendation for Cedar Bend Park is the reduction of the total parking area. The smaller sized parking area is still expected to have adequate capacity for boaters at this location. Like other accesses, two parking islands are recommended to improve circulation and define parking spaces. The planned parking area includes 10 stalls for pull-through trailer parking, including one accessible stall with an adjacent 10' x 10' staging area. By reducing the total parking area, a total of 11,000 square feet of land can be reclaimed and planted with pollinator plantings to treat parking lot runoff. Wooden bollards are also recommended to further define the parking area and to limit the amount of land impacted by automobiles.

COST ESTIMATE

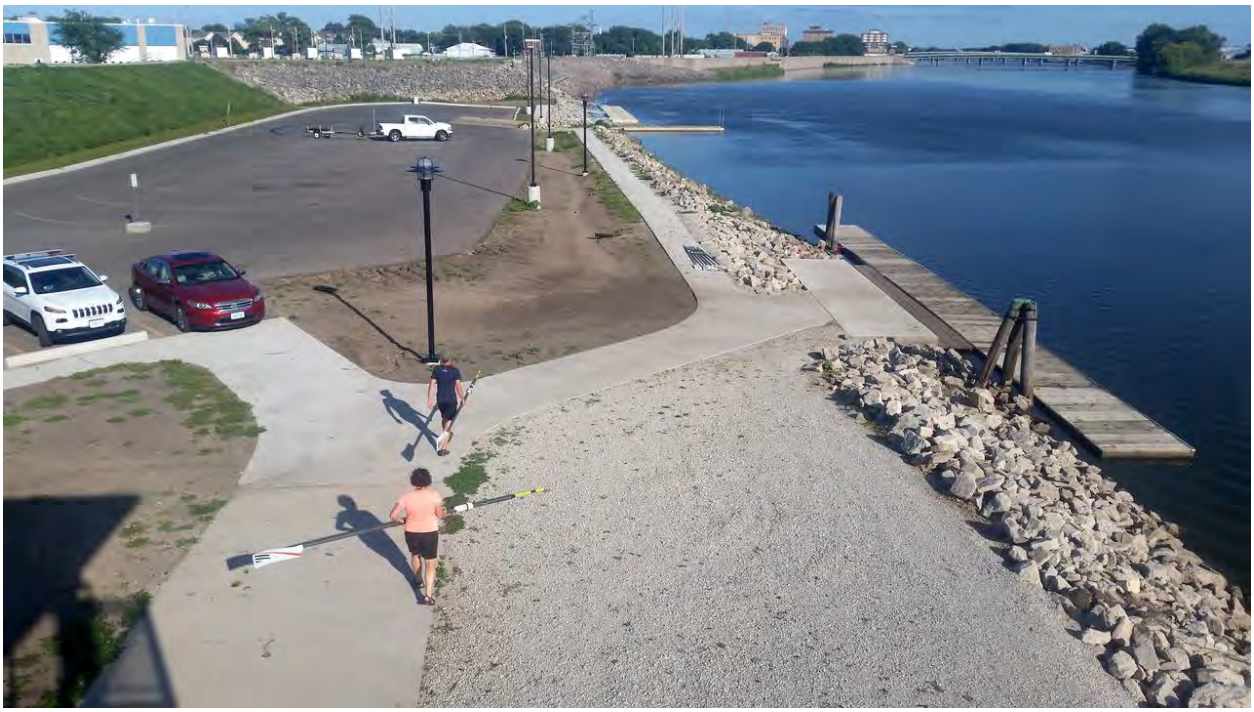
Figure 4-42: Cost estimate for improvements at Cedar Bend Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	11,000	11,000
Wattle Installation, Removal, Cleanout	400	LF	4	1,600
Construction Fence	488	LF	10	4,880
Tree Removals	2	EA	1,000	2,000
Clearing & Grubbing	1	LS	2,500	2,500
Excavation, Class 10	1,007	CY	10	10,065
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	203	CY	7	1,419
Modified Subbase	510	TONS	26	13,264
Class A Road Stone, 6"	766	TONS	26	19,916
Imported Top Soil	201	CY	28	5,629
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Bollards	184	EA	80	14,720
Signage	3	EA	200	600
Native Plant Plugs @ 1.5' O.C.	6000	EA	4	24,000
			SUBTOTAL	131,813
			Contingency (10%)	13,181
			TOTAL COST	**$144,995**

SIGNAGE

Figure 4-43: Signage Plan for Cedar Bend Park

WATERLOO BOATHOUSE



Jurisdiction: City of Waterloo
Access number: none (possibly164B)
Launch type: Boat ramp
Next segment skill level: Advanced, portage (currently), multiple skill levels (planned)
Next segment classification: Challenge, portage (currently), Gateway (planned)
Distance to next access: 2.6 miles (currently), 0.5 miles (planned)

The Waterloo Boathouse is situated in Exchange Park and is the premier boating destination in the City of Waterloo. The access includes a double-wide boat ramp, two docks parallel to the river, and one dock perpendicular to the river. The Boathouse houses rowing equipment belonging to the Waterloo Rowing Club, and it is a popular launch point for rowers and motorized boaters. Paddlers often take-out at this location, as it is currently the last river access on the Cedar River before the downtown Waterloo dam.

Many improvements have been made to the Waterloo Boathouse in recent years. The City secured REAP funding in 2016 for recreational trail extensions, an overlook, a patio, and lighting around the Boathouse. Both parking lots were also reconstructed and striped to improve circulation.

Because the City has recently completed several improvements to the Waterloo Boathouse, no additional recommendations are included in this document. Several recommendations were made by the public, however, as shown in the following section.

Rowers near the Waterloo Boathouse

PUBLIC COMMENTS

Eight written comments were received regarding the Waterloo Boathouse:

- "Install cameras at the Waterloo boathouse trailer parking lot." – Waterloo resident
- "Floating docks could be replaced." – Waterloo resident
- "Lack of adequate parking for full size trucks at Exchange/Boathouse ramp" – Waterloo resident
- "As a member of the Waterloo Rowing Club we attach the floating (temp) docks to the posts on land to stabilize them. Periodically the straps have been stolen. This could be a safety concern to the general public." – Cedar Falls resident
- "Parking situation at boathouse isn't very friendly for longer trucks and trailers… The docks in front of the boathouse are really handy for loading and unloading from pontoon. Could use some cleats to clean the tie-up." – Waterloo resident
- "Fresh water by the Boathouse would be nice as it is usually our stopping point... I would like to use the boathouse as a bar/grill restaurant. It would make a great way to end the trip." – Waterloo resident
- "Wood floating docks by the boathouse in Waterloo get a lot of kayak use as well as crew rowing because they are low in the water and usually don't have power boats. These docks could use some upgrades to decking and floats." – Hudson resident
- "There needs to be another dock at the Boathouse. Either just above the boat rowing dock or farther upstream. Need to make sure it has cleats to tie up to load people on." – Waterloo resident

SITE RECOMMENDATIONS

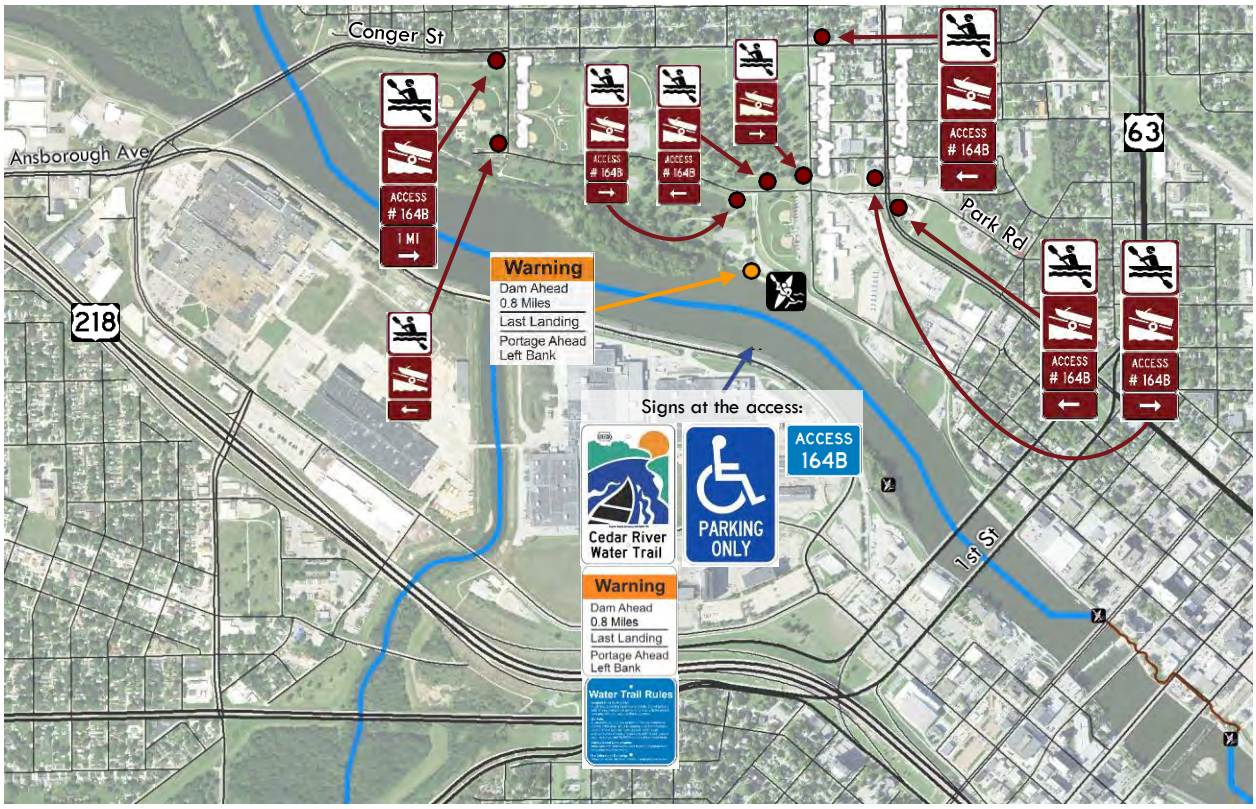
Figure 4-44: Master site plan for Waterloo Boathouse, 2016

New improvements at the parking lot northwest of the Boathouse
Photo: University of Northern Iowa GeoTREE Center, 2018

The master site plan for the Waterloo Boathouse was last revised in July 2016. Since then, all improvements shown have been completed or are near completion. Some variances exist between the site plan and the existing grounds, but the plan by-in-large accurately reflects the improvements made to the site. The Waterloo Boathouse now directly ties into the Cedar Valley Lakes Trail and other amenities at Exchange Park. Bicycle parking and trash receptacles are also now available at the Boathouse.

SIGNAGE

Figure 4-45: Signage Plan for Waterloo Boathouse



WATERLOO MARINA

Jurisdiction: City of Waterloo
Access number: None (possibly define as 164A)
Launch type: Carry-down only (planned)
Next segment skill level: Advanced, portage (currently), multiple skill levels (planned)
Next segment classification: Challenge, portage (currently), Gateway (planned)
Distance to next access: 2.1 miles (currently), 0.4 miles (planned)

The Waterloo Marina is a planned mixed-use development which is expected to include apartments, a paddler-oriented retail space, and a river access with amenities for paddlers. The site is situated in the far western part of downtown Waterloo and would become the final access before the dam hazard approximately 2,000 feet downriver. The site is also situated along the South Riverside Trail which connects the Cedar Valley SportsPlex and the Grand Crossing Apartments a few blocks away.

Currently, the site sits undeveloped as an open parking area. The parcel is owned by Cedar Valley Tech Works Inc., which has redeveloped a former John Deere industrial site nearby.

Due to the scale and private-public nature of this development, the Water Trails Master Plan does not attempt to identify every cost associated with developing the Waterloo Marina. However, the Marina development is supported by the Master Plan, and it will serve as a premier destination for paddlers completing their trips along the Gateway section of the Cedar River Water Trail.

Site of planned Waterloo Marina

PUBLIC COMMENTS

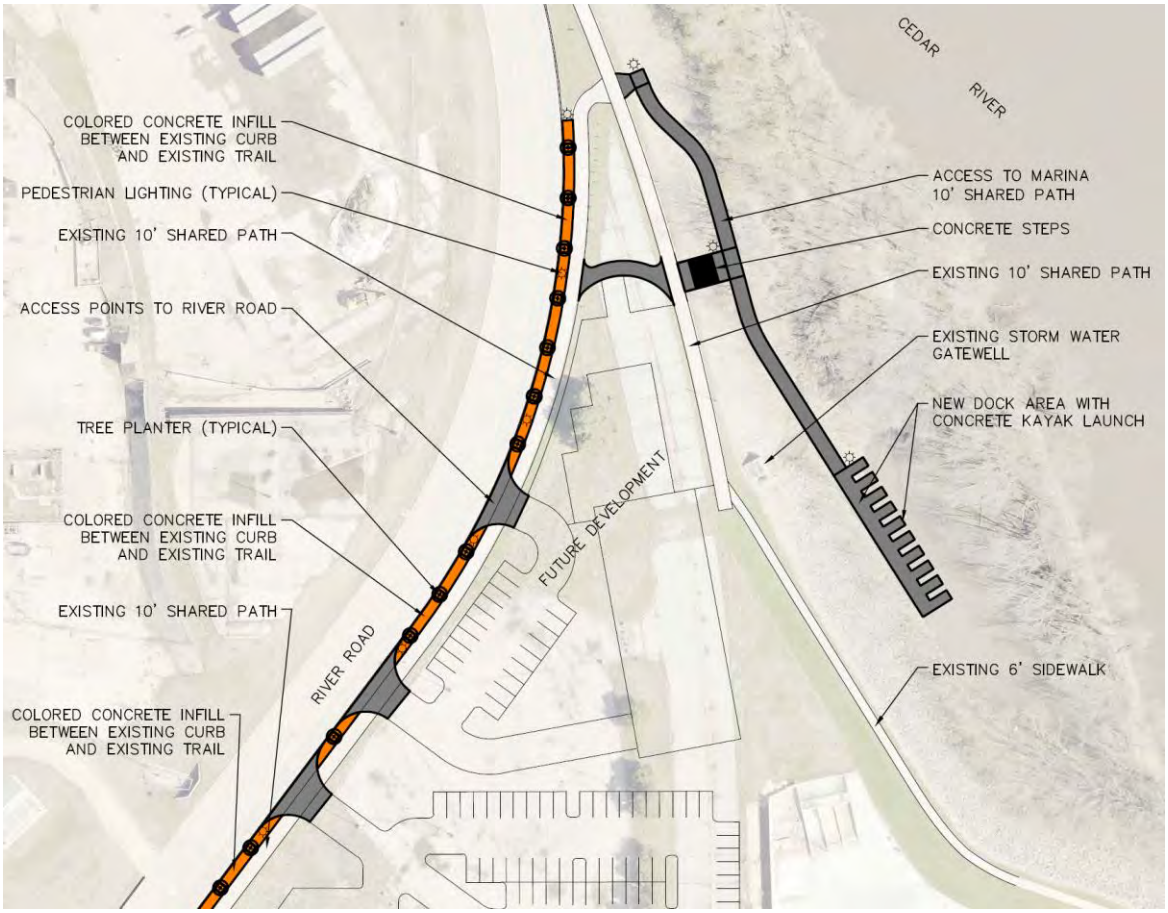
One respondent indicated they would like drinking water available at the Waterloo Marina.

Also, as shown in Figure 3-13, several comments were received regarding river improvements in downtown areas. Many respondents indicated they want improved accesses, access signage, and a place to secure their boats. Additional suggestions by the public included the following:

- Plaza with tables
- Shaded areas
- Seating and viewing areas
- Riverside restaurants
- Patio bar that serves drinks and food
- Signage to restrooms, shelters, and drinking water
- Information kiosk showing river accesses and destinations
- Trash and recycling containers

SITE RECOMMENDATIONS

Figure 4-46: Site recommendations for Waterloo Marina



Example of planned kayak launch system

Planned improvements at the Waterloo Marina site include a new dock area with concrete kayak launch, 10-foot-wide paved walkways with a staircase and accessible ramp to the Marina building, street trees, and colored concrete. The docking area will be designed to allow for the future installation of a kayak launch system, similar to the example shown to the left.

In addition to the access improvements, the Marina itself is expected to include a paddler-oriented retail store and residential apartment units. The site may also include a restaurant either in the Marina building or in a separate building nearby. An outdoor patio bar would give paddlers a chance to cool off and relax after a long trip. Additional improvements recommended for the Marina site include an informational kiosk, outdoor seating area, bike racks or lockers, signage, trash and recycling bins, and public art.

The City is also considering improvements for motorized boaters. The proposed docking system could also be outfitted to accommodate transient docking for pontoons and small motorized boats. In addition, a fueling distribution system has also been proposed to provide fuel for motorized boats docked at the marina. A fuel pump would need to be situated in the levee-protected area, however, so such a system would require a long hose or some other means to supply the fuel.

COST ESTIMATE

The following table includes preliminary costs for select improvements at the Waterloo Marina site. The cost estimate does not include the costs of the Marina building or specific improvements to the grounds such as patio pavers, signage, and bike racks.

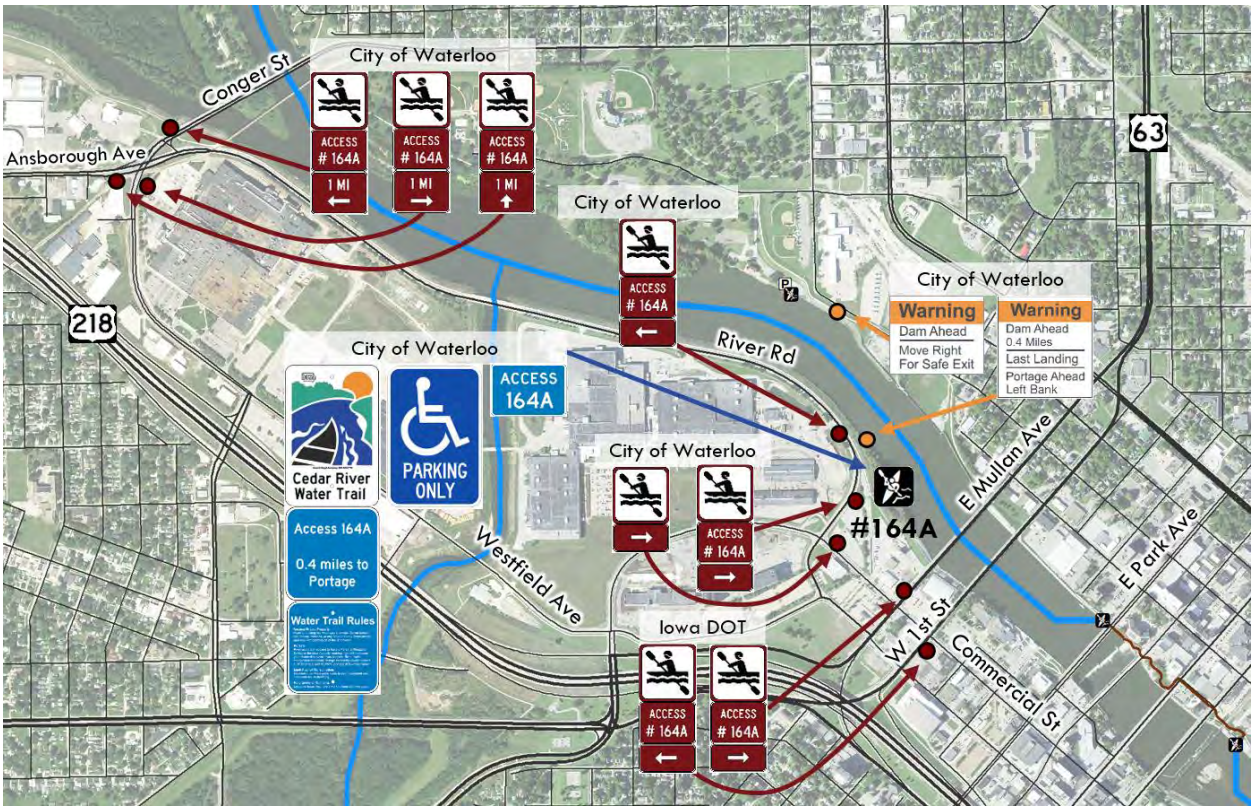
Figure 4-47: Preliminary cost estimate for select improvements at the Waterloo Marina site

Item Description	Quantity	Unit	Unit Price	Total
6" Recreational Trail	80	SY	50	4,000
6" Recreational Trail with Retaining Wall	160	CY	400	64,000
6" Colored Pavement	450	SY	90	40,500
6" PCC Driveway	300	SY	50	15,000
Concrete Steps	500	SF	40	20,000
Concrete Docks	250	SY	200	50,000
Landscaping Trees	15	EA	1000	15,000
Pedestrian Lights	10	EA	2500	25,000
Electrical Circuit	1500	LF	10	15,000
Kayak Launch Ramp (The Dock Doctors)	9	EA	9,000	81,000
Earthwork	900	CY	20	18,000
Site Restoration	1.5	AC	10,000	15,000
Benches, Railings, Bike Racks	LS	1	-	35,000
			SUBTOTAL	397,500
			Contingency (20%)	80,000
			Eng & Admin (20%)	96,000
			TOTAL COST	**$573,500**

* - Increased cost due to small quantity being installed

SIGNAGE

Figure 4-48: Signage Plan for Waterloo Marina



WATERLOO WHITEWATER COURSE

Jurisdiction: City of Waterloo
Access number: None (possibly define as 163C or 162A)
Launch type: Carry-down only (planned)
Next segment skill level: Advanced (currently), Intermediate (planned)
Next segment classification: Recreational
Distance to next access: 1.5 miles (currently), 0.3 miles (planned)

Planning for a whitewater course in downtown Waterloo began in 2015, though discussions about a whitewater course began several years prior. The planned course would be integrated with the existing bladder dam, completed in 2012, to create a series of drop features along the eastern side of the Cedar River. These drop features would create a fish ladder to enable fish passage through the course.

Eastern segment of the dam in downtown Waterloo

The existing dam was originally designed so that the eastern segment can be retrofitted with whitewater improvements. The proposed whitewater course would also utilize existing bridge piers as part of the design.

Currently, a portage route exists for paddlers to circumvent the downtown dams. The route is nearly 2,000 feet long and crosses three busy streets downtown. Even more challenging, however, is the steep staircase at the end of the route which has a slope greater than 16 percent.

PUBLIC COMMENTS

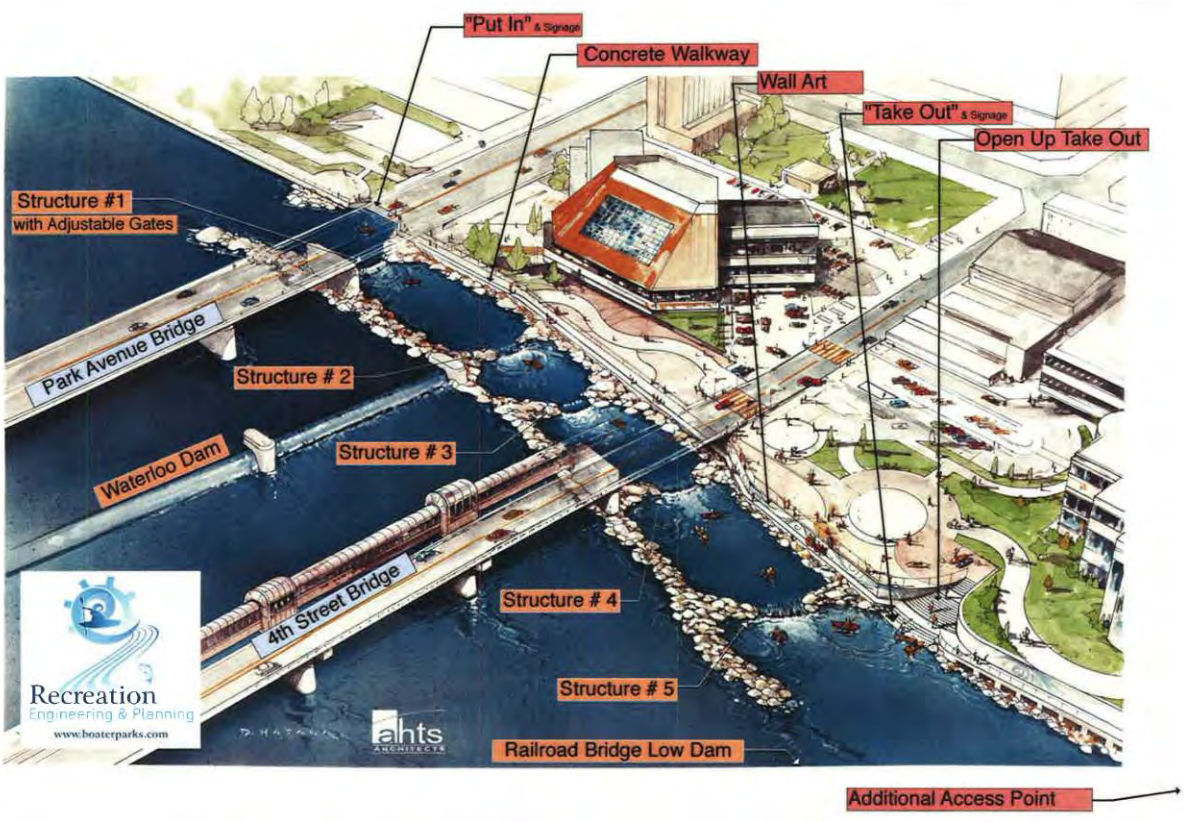
Four written comments were received regarding downtown Waterloo:

- "Open floodwalls to improve river access and add whitewater course." – Waterloo resident
- "[Add] ramp below lower dam on east side" – Jesup resident
- "Access to Cedar River Downtown Waterloo. Levee blocks access." – Waterloo resident
- "Improved river access in downtown Waterloo" – Cedar Falls resident

In addition, two residents indicated they would like restrooms and drinking water in downtown Waterloo.

SITE RECOMMENDATIONS

Figure 4-49: Site recommendations for Waterloo Whitewater Course



Proposed improvements for Waterloo's whitewater course include five drop structures, shoreline improvements, an improved take-out between East 4th and East 5th Streets, and a concrete walkway along the river's edge.

Cost estimates for this project have risen from $2.6 million to $6.5 million over the course of the project development. One of the major costs associated with the project involves mitigating the safety hazard at the inflatable dam. Stone can be installed in-river along the entire length of the dam to eliminate the recirculation effect, thereby reducing the risk of drownings. Another significant expense would involve removal of the lower dam near the 6th Street Bridge. Due to the high costs associated with this project, a timeline for completion has yet to be identified.

SIGNAGE

Plan for Waterloo Whitewater Course

A detailed signage plan for the Waterloo Whitewater Course has yet to be developed due to the technical aspect of the proposed site.

PIONEER PARK

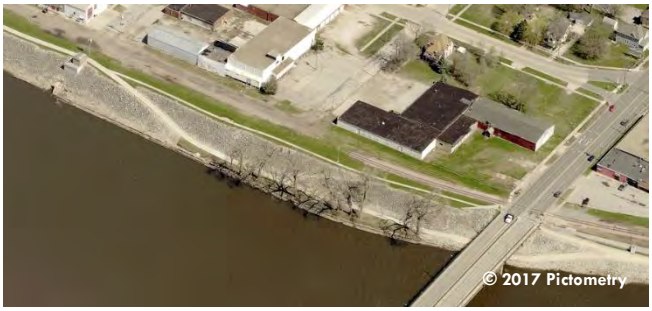
Jurisdiction: City of Waterloo
Access number: 163 (possibly define as 162 or 162B)
Launch type: Carry-down only (planned)
Next segment skill level: Intermediate
Next segment classification: Recreational
Distance to next access: 1.2 miles

A new carry-down access is proposed along the Cedar Valley Lakes Trail less than a half-mile from downtown Waterloo. This access would become the first official access downstream of the dams downtown.

Six cottonwood trees tower over the proposed access area. There is some concern that the trees may be situated too close to the levee, which could prompt the Army Corps of Engineers to call for their removal. However, the Water Trails Master Plan supports leaving the trees in place. Every effort to preserve the trees should be exercised as the project is developed.

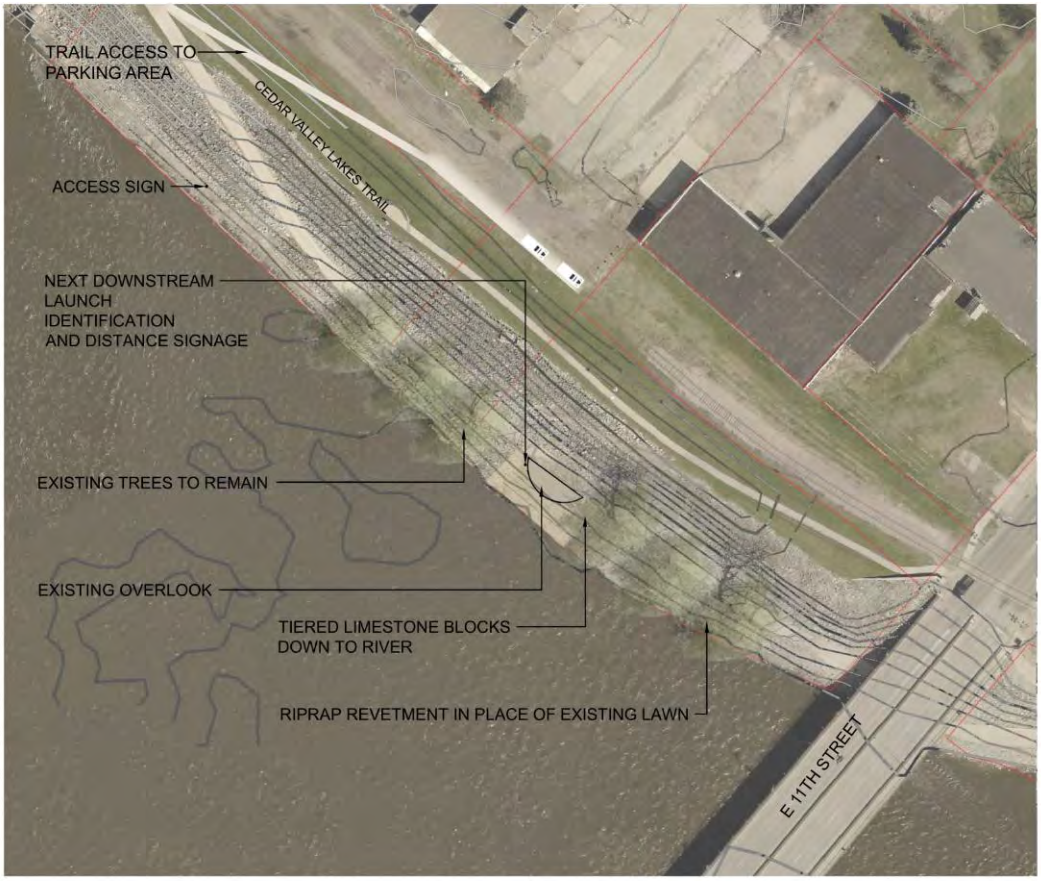
Water Street is an unpaved road situated along the back side of the levee. Parking is allowed on the roadway, and it can serve as the formal parking area for this river access. In general, the area surrounding Pioneer Park is relatively industrial, and Water Street resembles an alley or parking lot more-so than a street. Aesthetic improvements such as trees, plantings, and public art could soften this otherwise gritty area.

There were no comments regarding Pioneer Park.



Aerial view of Pioneer Park

Figure 4-52: Site recommendations for Pioneer Park



The most profound improvement recommended for Pioneer Park is a series of tiered limestone blocks which will provide access to the river for paddlers. In addition, a paved trail is planned from the top of the levee to the back side of the levee where parking is available. Vegetation and other aesthetic improvements are encouraged, but costs are not identified in this plan.

COST ESTIMATE

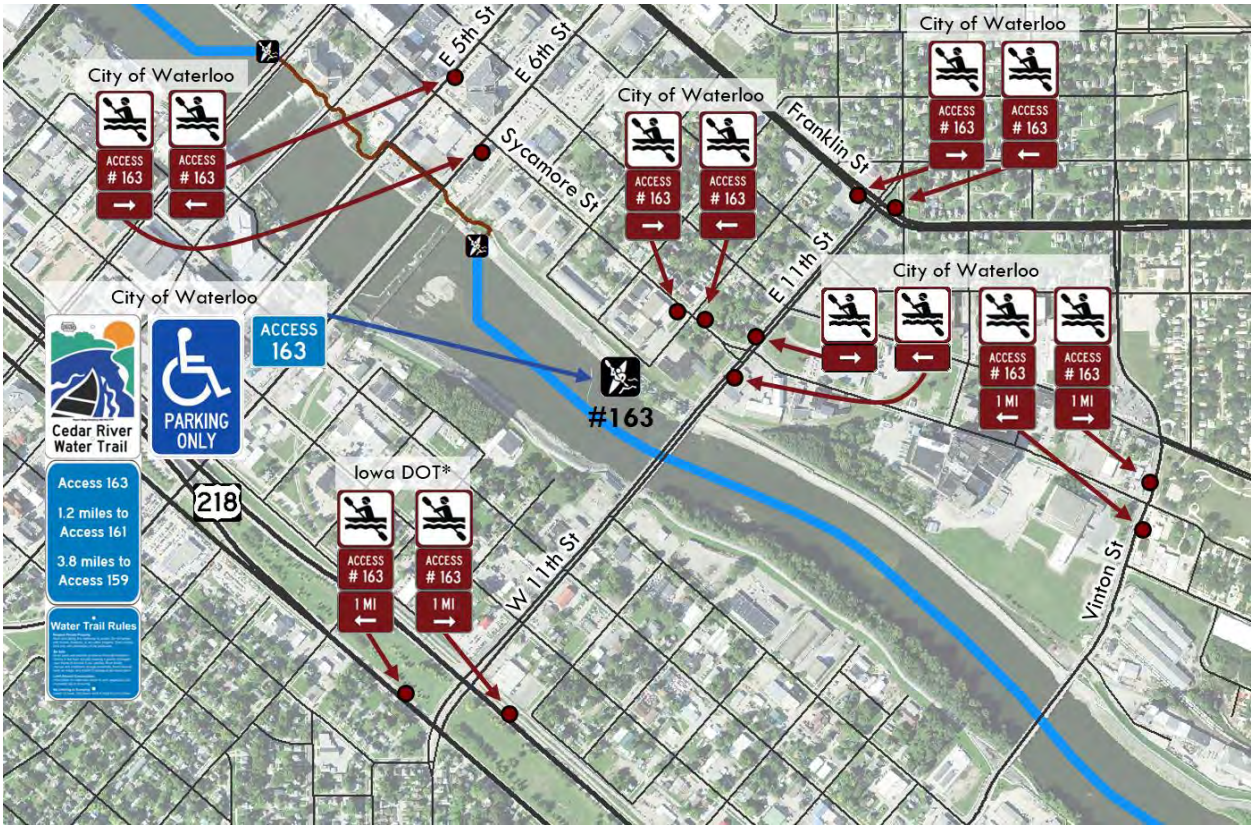
Figure 4-53: Cost estimate for improvements at Pioneer Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	10,000	10,000
Wattle Installation, Removal, Cleanout	450	LF	4	1,800
Construction Fence	500	LF	10	5,000
Clearing & Grubbing	1	LS	5,000	5,000
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control*	17	CY	14	233
Modified Subbase*	42	TONS	52	2,182
Limestone Chips, 3" IDOT Gradation #8*	32	TONS	56	1,764
Limestone Blocks	450	TONS	150	67,500
Signage	4	EA	200	800
			SUBTOTAL	99,279
			Contingency (10%)	9,928
			TOTAL COST	**$109,207**

* - Increased cost due to small quantity being installed

SIGNAGE

Figure 4-54: Signage Plan for Pioneer Park



RIVERVIEW RECREATION AREA

Shown during high river level

Jurisdiction: City of Waterloo
Access number: 161
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 2.6 miles

Riverview Recreation Area is the first existing river access downstream of the Waterloo dams for both motorists and paddlers. The river access is directly north of the city's off-highway vehicle (OHV) park, a popular destination for riding dirt bikes and all-terrain vehicles. The access is also a short distance from the Riverview Recreation Area Trail, an extension of the South Riverside Trail.

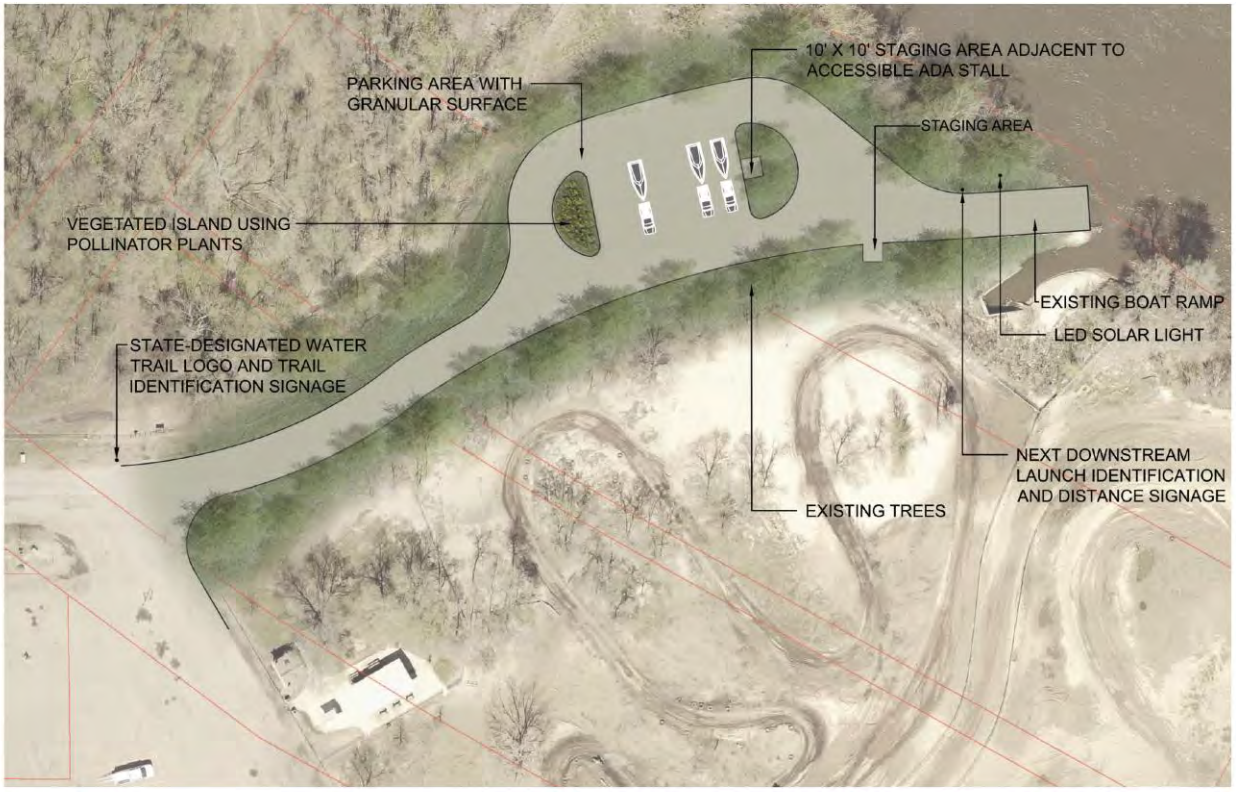
The river access at Riverview Recreation Area is particularly popular with tubers. Tubers are known to float down to the existing accesses in Evansdale and Gilbertville.

The Park includes pit toilets and a shelter near the park entrance. The river access parking lot is an open area with a sealcoat surface.

There were no comments regarding Riverview Recreation Area.

Riverview OHV park next to the river access area

Figure 4-55: Site recommendations for Riverview Recreation Area



Recommendations for Riverview Recreation Area are modest. Primarily, the Master Plan recommends reconfiguring the open parking area using two parking islands to define parking spaces and improve circulation. The redefined parking area includes seven stalls for pull-through trailer parking, including one accessible stall with an adjacent 10' x 10' staging area. Pollinator plantings are recommended at the parking islands, and the City should also consider planting two shade trees to soften the landscape and provide shade in the open area.

COST ESTIMATE

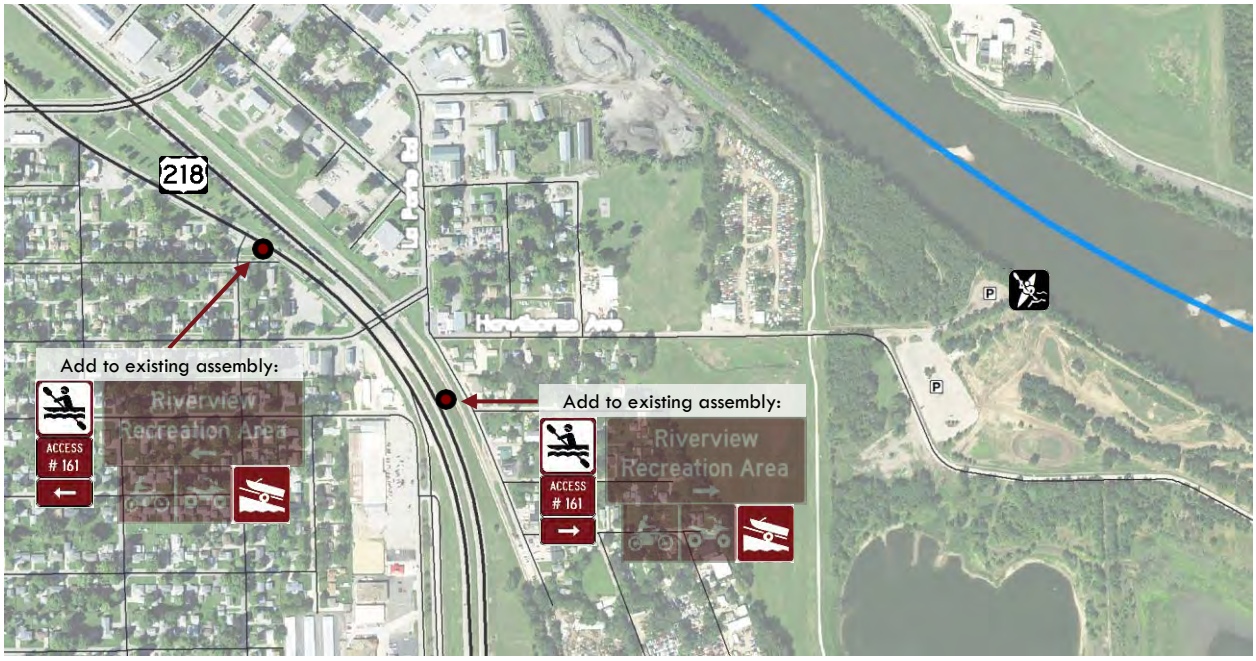
Figure 4-56: Cost estimate for improvements at Riverview Recreation Area

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	670	670
Wattle Installation, Removal, Cleanout	500	LF	4	2,000
Construction Fence	100	LF	10	1,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10*	547	CY	10	5,472
Site Grading	1	LS	2,500	2,500
Compaction with Moisture & Density Control	525	CY	7	3,677
Modified Subbase*	621	TONS	26	16,133
Class A Road Stone, 6"*	621	TONS	26	16,133
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Native Plant Plugs @ 1.5' O.C.	222	EA	4	889
Signage	3	EA	200	600
			SUBTOTAL	69,295
			Contingency (10%)	6,929
			TOTAL COST	**$76,224**

* - Depending on condition, the existing gravel parking lot could be resurfaced. This cost estimate shows it as being completely redone.

SIGNAGE

Figure 4-57: Signage Plan for Riverview Recreation Area



DEERWOOD PARK

Jurisdiction: City of Evansdale
Access number: 159
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 7.6 miles (currently), 1.3 miles (planned)

Deerwood Park is the premiere recreation area in the City of Evansdale. The Park includes a large camping area with full hook-ups for campers as well as tent camping areas.

The Park also includes two rentable shelters, a disc golf course, two large playground areas, ball fields, and restrooms. Deerwood Park is situated along the River Forest Road Levee Trail which connects directly to the Cedar Valley Lakes Trail and Cedar Valley Nature Trail.

The parking area that serves the boat ramp is a small, paved lot with limited space for maneuvering large vehicles with trailers.

Playground equipment and camping area near boat ramp

PUBLIC COMMENTS

One respondent indicated they would like a restroom at Deerwood Park, presumably closer to the boat ramp.

SITE RECOMMENDATIONS

Figure 4-58: Site recommendations for Deerwood Park

Above all, the main recommendation for Deerwood Park is reconfiguring the parking area. Adding two parking islands with pollinator plantings will help improve circulation for large vehicles with trailers and help define the parking area. The pollinator plantings will improve the habitat for pollinators near the boat ramp. The redefined parking area includes nine stalls for pull-through trailer parking, including one accessible stall with an adjacent 10' x 10' staging area. Additional improvements to the parking area include a tie-down lane, a staging area, and rock or wood barriers around the parking area to protect the existing and proposed vegetation.

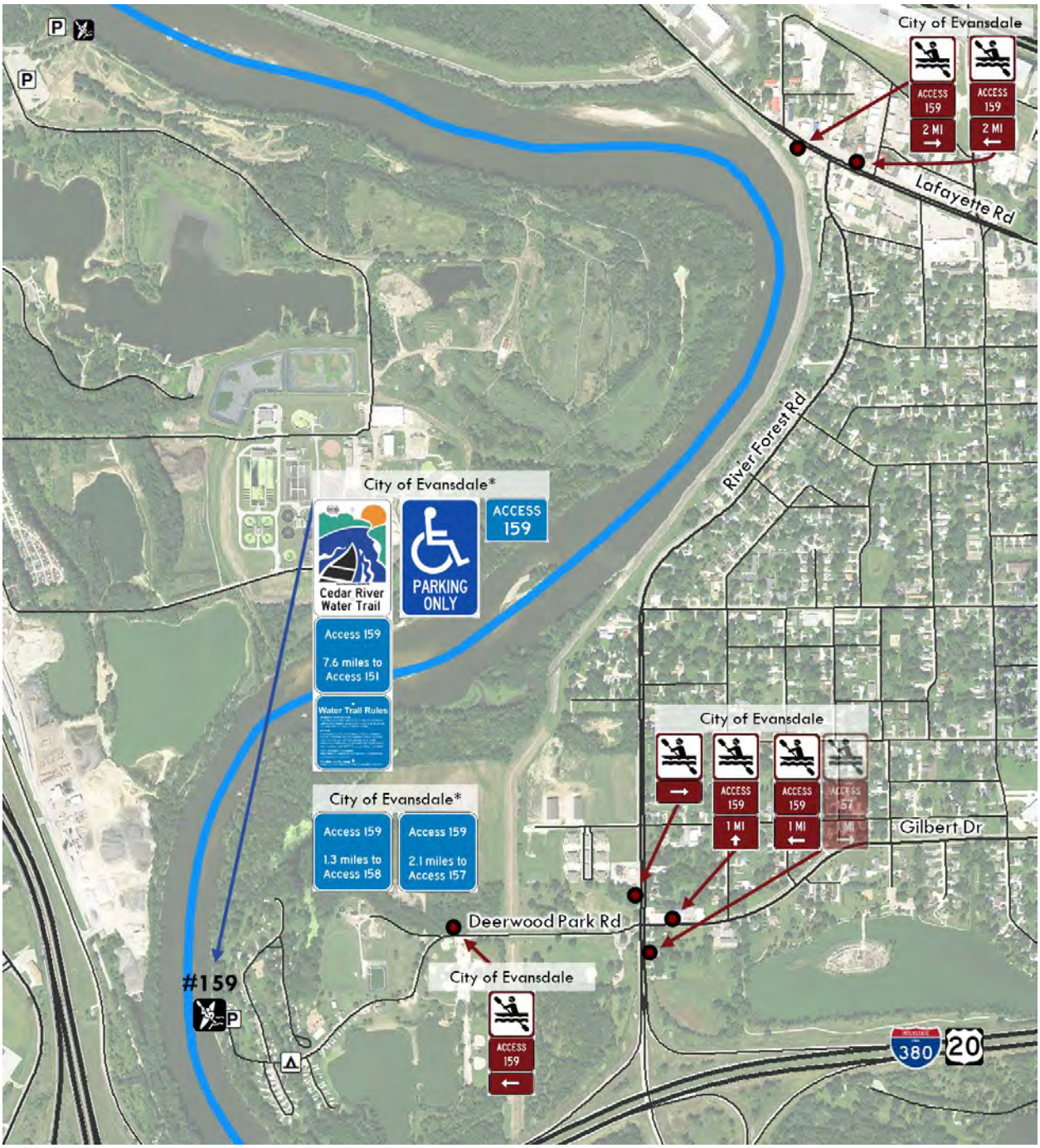
Recommendations for Deerwood Park also include a total of 6,000 square feet of vegetation to serve as a filter strip between the parking lot and the Cedar River.

COST ESTIMATE

Figure 4-59: Cost estimate for improvements at Deerwood Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	9,000	9,000
Wattle Installation, Removal, Cleanout	293	LF	4	1,172
Construction Fence	60	LF	10	600
Tree Removals	3	EA	1,000	3,000
Clearing & Grubbing	1	LS	2,500	2,500
Excavation, Class 10	481	CY	10	4,815
Site Grading	1	LS	2,500	2,500
Compaction with Moisture & Density Control	145	CY	7	1,015
Modified Subbase	548	TONS	26	14,252
PCC Pavement, 5"	15,662	SF	5	78,310
Boat Ramp	1	LS	10,000	10,000
Class B Revetment	56	TONS	50	2,800
LED Solar Light	1	EA	12,420	12,420
Bollards	170	EA	80	13,600
Signage	4	EA	200	800
Native Plant Plugs @ 1.5' O.C.	2,667	EA	4	10,667
			SUBTOTAL	167,451
			Contingency (10%)	16,745
			TOTAL COST	**$184,196**

Figure 4-60: Signage Plan for Deerwood Park



* - "7.6 miles to Access 151" sign should be installed immediately. After construction of Access 157 or 158, the sign should be updated to reflect the new closest access.

CEDAR TERRACE PARK

Jurisdiction: City of Waterloo
Access number: 158
Launch type: Carry-down only (planned)
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 6.5 miles (currently), 0.7 miles (planned)

The existing river access called "Cedar Terrace Park" is actually about one-quarter mile west of the park, and it is situated between two single-family homes.

Cedar Terrace Park itself is a large open area with playground equipment, water fountains, and picnic tables. Sometimes vehicle tracks can be seen from the parking lot to the river's edge. A new parking area could be built in this area to create a new river access closer to the river. Existing trees behind the homes along Belle Street create a partial screen between the houses and the park.

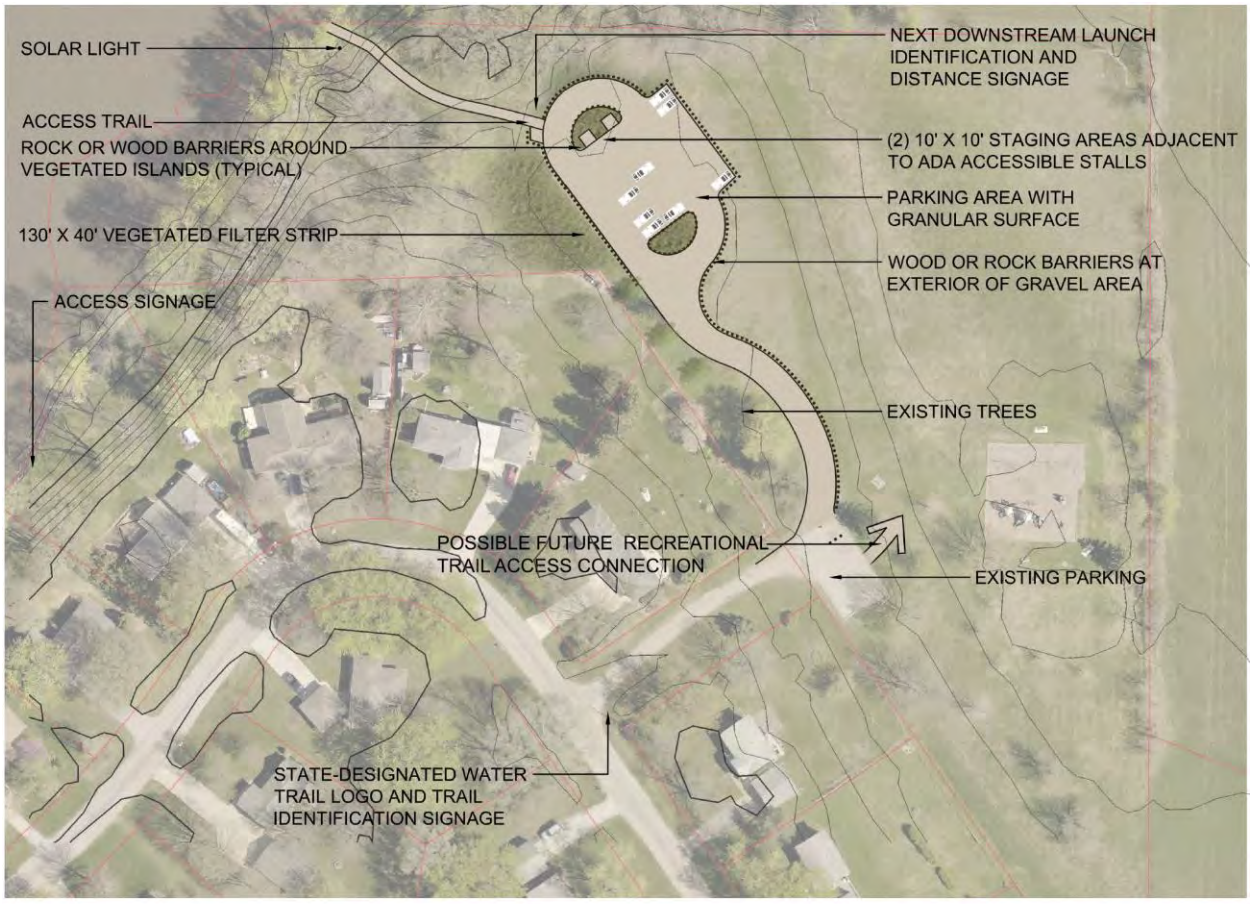
Unlike every other river access in Waterloo, the Cedar Terrace Park access is not situated along a paved recreational trail. The closest paved trail is the Cedar Valley Nature Trail, which is situated about a half-mile east. The former rail-trail is not directly accessible from the Cedar Terrace neighborhood, and the closest trailhead is 1.7 miles away. There is potential for a trail spur to connect Cedar Terrace Park and the Cedar Valley Nature Trail, though this would require significant cooperation with the affected landowners.

There were no comments regarding Cedar Terrace Park.

Existing river access on Belle Street

SITE RECOMMENDATIONS

Figure 4-61: Site recommendations for Cedar Terrace Park



Recommendations for the Cedar Terrace Park river access are based on the premise of closing the existing river access on Belle Street and moving it to the park itself. Recommendations include extending the granular-surfaced driveway further into Cedar Terrace Park to create a parking area closer to the river. Wooden posts or rock barriers should be situated along the driveway to prevent motorists from driving onto the grassy area.

To minimize disruption of the environment, a carry-down access is recommended with a short walking path to the river. As shown, the new parking area provides for 25 standard parking stalls, including one accessible stall with an adjacent 10' x 10' staging area. Unlike other carry-down accesses, this parking area would allow for vehicles with trailers. A 5,200 square foot filter strip is also planned in order to treat runoff from the parking lot.

Discussions with neighborhood residents should take place before constructing the proposed improvements. Two properties would see noticeable changes to their existing view of the park.

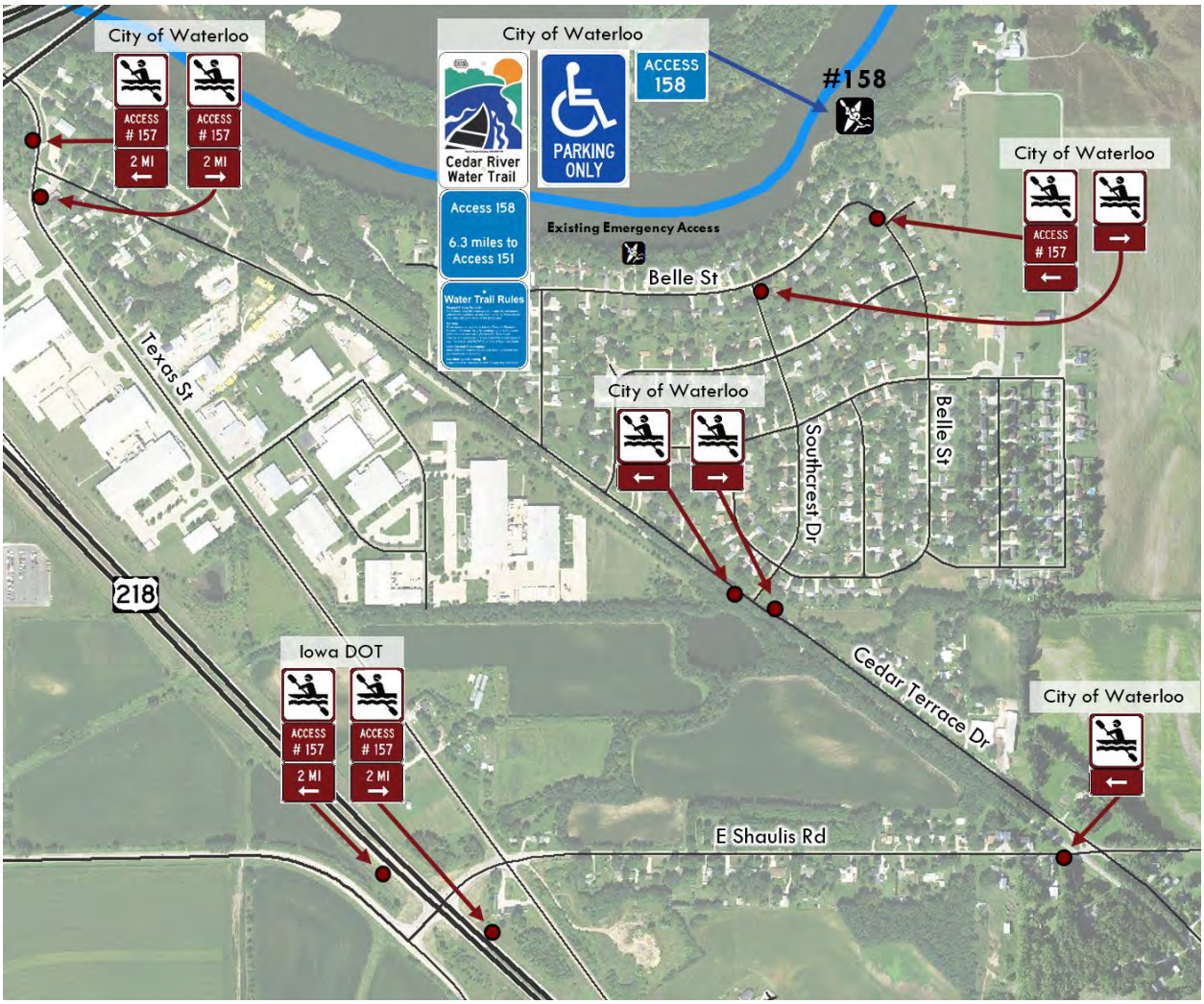
COST ESTIMATE

Figure 4-62: Cost estimate for improvements at Cedar Terrace Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	10,000	10,000
Wattle Installation, Removal, Cleanout	350	LF	4	1,400
Construction Fence	500	LF	10	5,000
Clearing & Grubbing	1	LS	1,000	1,000
Excavation, Class 10	661	CY	10	6,611
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	202	CY	7	1,413
Modified Subbase	508	TONS	26	13,216
Class A Road Stone, 6"	711	TONS	26	18,476
Limestone Chips, 3" IDOT Gradation #8	32	TONS	28	884
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Bollards	212	EA	80	16,960
Signage	3	EA	200	600
Native Plant Plugs @ 1.5' O.C.	2311	EA	4	9,244
			SUBTOTAL	105,025
			Contingency (10%)	10,503
			TOTAL COST	**$115,528**

SIGNAGE

Figure 4-63: Signage Plan for Washington Park



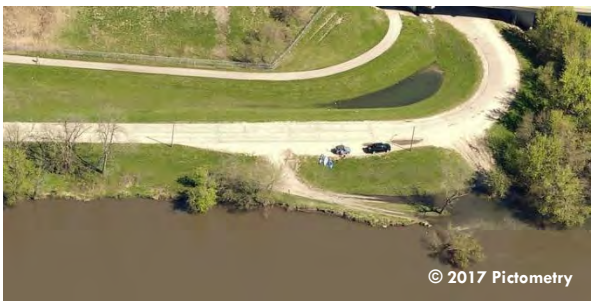
NEW EVANSDALE ACCESS

Jurisdiction: City of Evansdale
Access number: 157
Launch type: Boat ramp (planned)
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 5.5 miles

A new river access is proposed along River Road in the City of Evansdale. This site is uniquely situated between the Cedar Valley Nature Trail and the Cedar River. The site is also located within the Interstate 380 right-of-way owned by the Iowa Department of Transportation (DOT).

In addition to recreational uses, the proposed river access would also improve response times for emergencies in the Cedar River. The access would effectively reduce the distance between the Evansdale and Gilbertville boat ramps from about 7.5 miles to 5.5 miles.

The proposed river access has a confined footprint, and a new parking lot would not be feasible next to the proposed boat ramp. However, there are currently a few parking spaces along River Road. There is some open space further west which could allow for a small parking area.

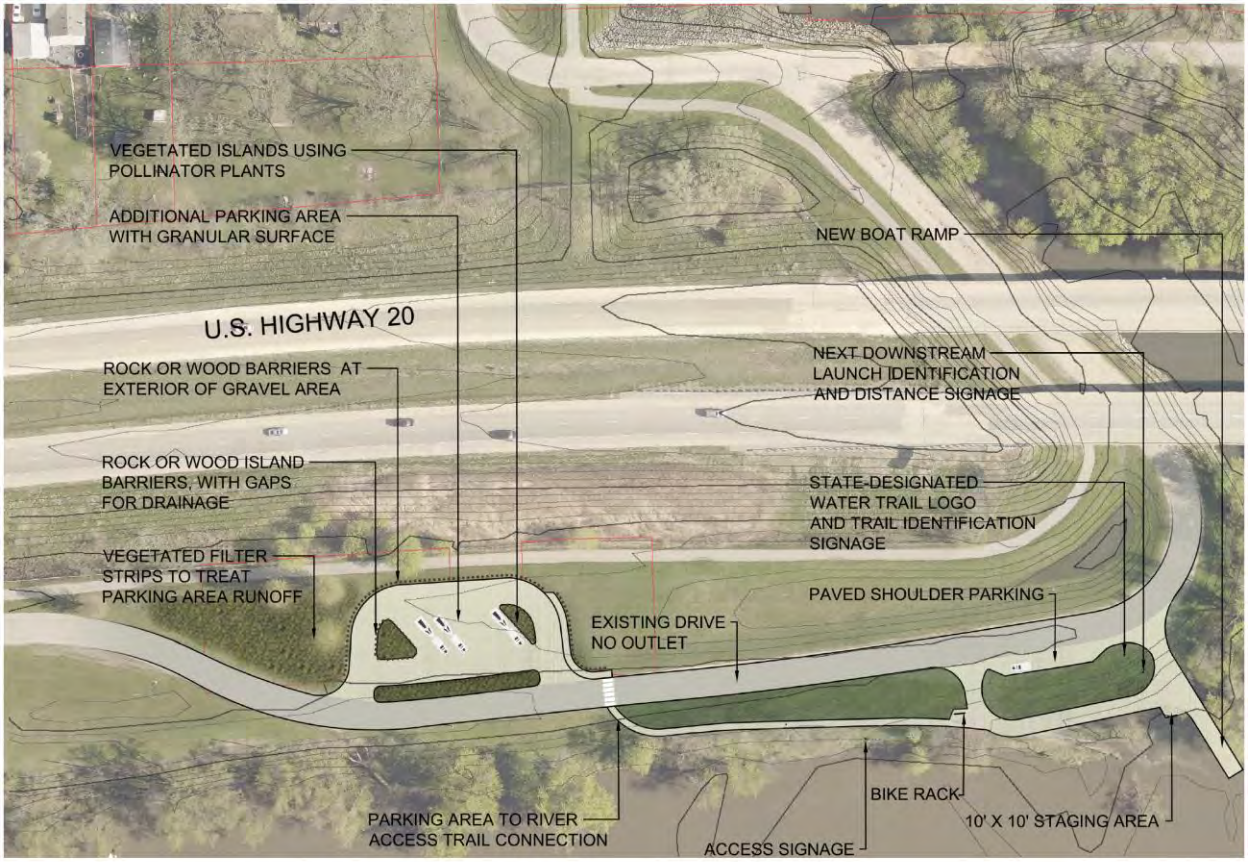


Paddlers seen using the proposed river access

Flooding is another issue with the proposed river access area. During high water events, the site is almost entirely underwater. River Road itself does not flood, so the river is still accessible for emergency responders if necessary.

There were no comments regarding the proposed access in Evansdale.

Figure 4-64: Site recommendations for New Evansdale Access



There are numerous recommendations for the proposed river access in Evansdale. These include improved surfacing, a new parking area, an eight-foot-wide walking trail, a trail connection to the Cedar Valley Nature Trail, and a bike rack for pedal-paddle trips.

The new parking lot, as shown, includes two parking islands which are angled to optimize traffic flow for vehicles with trailers. The new parking area includes six stalls suitable for pull-through trailer parking. Wooden posts or large stones should be used to define the new parking area, and a vegetated filter area can be added west of the parking area to treat runoff and improve the landscaping of the site. The planned walking path would cross River Road and continue east to the boat ramp.

Along River Road, an additional paved shoulder would accommodate up to three standard-sized vehicles or one vehicle with a trailer. A circular driveway is planned to provide easy access to the river for boaters with trailers, and a staging area near the boat ramp will give paddlers space next to the boat ramp to load and unload. The new boat ramp will be reinforced with new class B revetments. Signage will be particularly helpful for motorists with trailers, as they navigate their way through the boat ramp area and the new parking area.

COST ESTIMATE

Figure 4-65: Cost estimate for improvements at New Evansdale Access

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	7,000	7,000
Wattle Installation, Removal, Cleanout	886	LF	4	3,544
Construction Fence	455	LF	10	4,550
Clearing & Grubbing	1	LS	2,500	2,500
Excavation, Class 10	943	CY	10	9,434
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	248	CY	7	1,737
Modified Subbase, 6" Paved Shoulder Parking	63	TONS	26	1,638
PCC Pavement, 5"	1,800	SF	5	9,000
Modified Subbase	583	TONS	26	15,147
Limestone Chips, 3" IDOT Gradation #8	61	TONS	30	1,841
Class A Road Stone, 6"	815	TONS	26	21,190
Boat Ramp	1	LS	10,000	10,000
Class B Revetment	56	TONS	50	2,800
Highly-visible Crosswalk	1	EA	500	500
LED Solar Light	1	EA	12,420	12,420
Bollards	148	EA	80	11,840
Bike Rack	1	EA	1,000	1,000
Signage	3	EA	200	600
Native Plant Plugs @ 1.5' O.C.	4,979	EA	4	19,915
			SUBTOTAL	121,740
			Contingency (10%)	12,174
			TOTAL COST	**$133,914**

SIGNAGE

Figure 4-66: Signage Plan for New Evansdale Access

GILBERTVILLE PARK

Jurisdiction: Black Hawk County (ramp and parking), City of Gilbertville (grounds)
Access number: 151
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 2.1 miles

Gilbertville Park is a river access area in the southwest end of the City of Gilbertville. The boat ramp and parking area are managed by the Black Hawk County Conservation board, and the grounds are managed by the City. The river access is adjacent to a residential neighborhood to the north and more public lands to the south. A small pedestrian bridge connects the river access to the public lands to the south, which include a shelter, basketball court, ball diamonds, a yard waste dropoff site, and the Veterans Park memorial area and splash pad.

Gilbertville Park river access (center)

Despite being situated next to a residential neighborhood, the river access sits at a much lower elevation which makes construction of a pedestrian trail to the neighborhood cost prohibitive. The only way to reach the river access area and adjacent public lands is from Gilbertville Road. Gilbertville Road has no sidewalks, and it is curved which reduces visibility for automobile traffic. The river access is easy to miss for drivers unfamiliar with the area. Signage to the river access would be greatly beneficial for boaters and other water trail users.

PUBLIC COMMENTS

One written comment was received regarding Gilbertville Park:

- "[Add] kayak docks, signage. Especially in Gilbertville. The area is hidden and hard to find." – Evansdale resident

In addition, three respondents indicated they would like fresh water, and two indicated they would like restrooms at Gilbertville Park.

SITE RECOMMENDATIONS

Figure 4-67: Site recommendations for Gilbertville Park

Recommendations for Gilbertville Park involve a dramatic reconfiguration of the existing gravel parking area. This includes the installation of a new ramp for paddlers north of the existing boat ramp to separate paddlers and motorized boat traffic. Three parking islands containing pollinator plantings and a bike rack are also recommended. Existing trees should be preserved to help define the southernmost parking island.

This space allows for the installation of a 10,000 square foot filter strip between the parking area and the river. Wooden bollards or rock barriers can be added around the parking area to limit the impact of motorized vehicles and to allow for drainage within the park. A tie-down lane for motorized boats, a staging area for paddlers, and a staging area for an accessible parking space are also recommended.

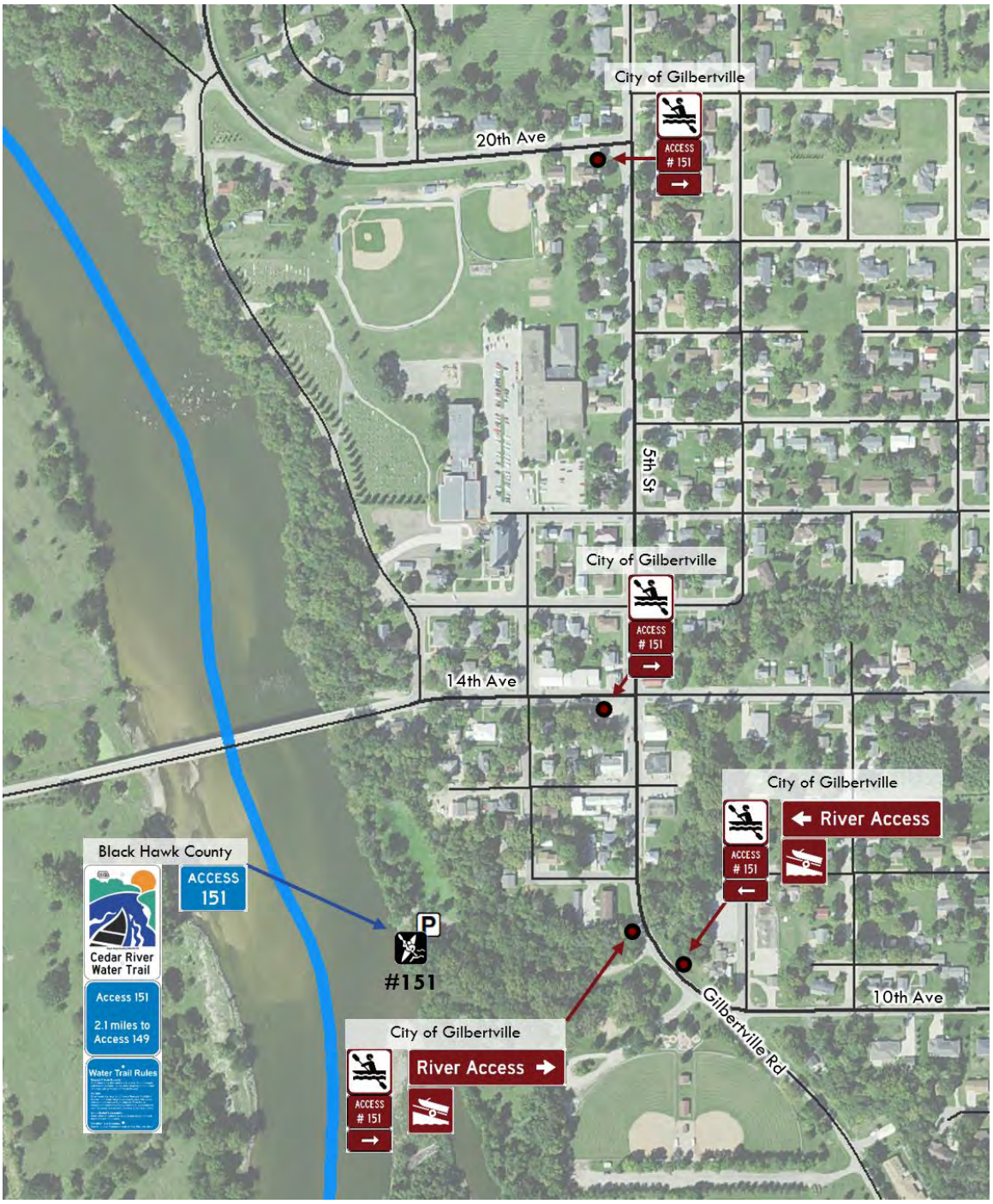
COST ESTIMATE

Figure 4-68: Cost estimate for improvements at Gilbertville Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	13,000	13,000
Wattle Installation, Removal, Cleanout	320	LF	4	1,280
Construction Fence	100	LF	10	1,000
Tree Removals	4	EA	1,000	4,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	615	CY	10	6,148
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	295	CY	7	2,066
Modified Subbase	743	TONS	26	19,322
Class A Road Stone, 6"	1116	TONS	26	29,012
Class B Revetment	28	TONS	50	1400
Boat Ramp	1	LS	10000	10,000
Paddler's Ramp	1	LS	10000	10,000
LED Solar Light	1	EA	12,420	12,420
Bollards	336	EA	80	26,880
Bike Rack	1	EA	1,000	1,000
Native Plant Plugs @ 1.5' O.C.	4444	EA	4	17,778
Signage	3	EA	200	600
			SUBTOTAL	165,906
			Contingency (10%)	16,591
			TOTAL COST	**$182,496**

SIGNAGE

Figure 4-69: Signage Plan for Gilbertville Park



CEDAR RIVER NATURAL RESOURCE AREA

Jurisdiction: Black Hawk County
Access number: 149
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 7.0 miles

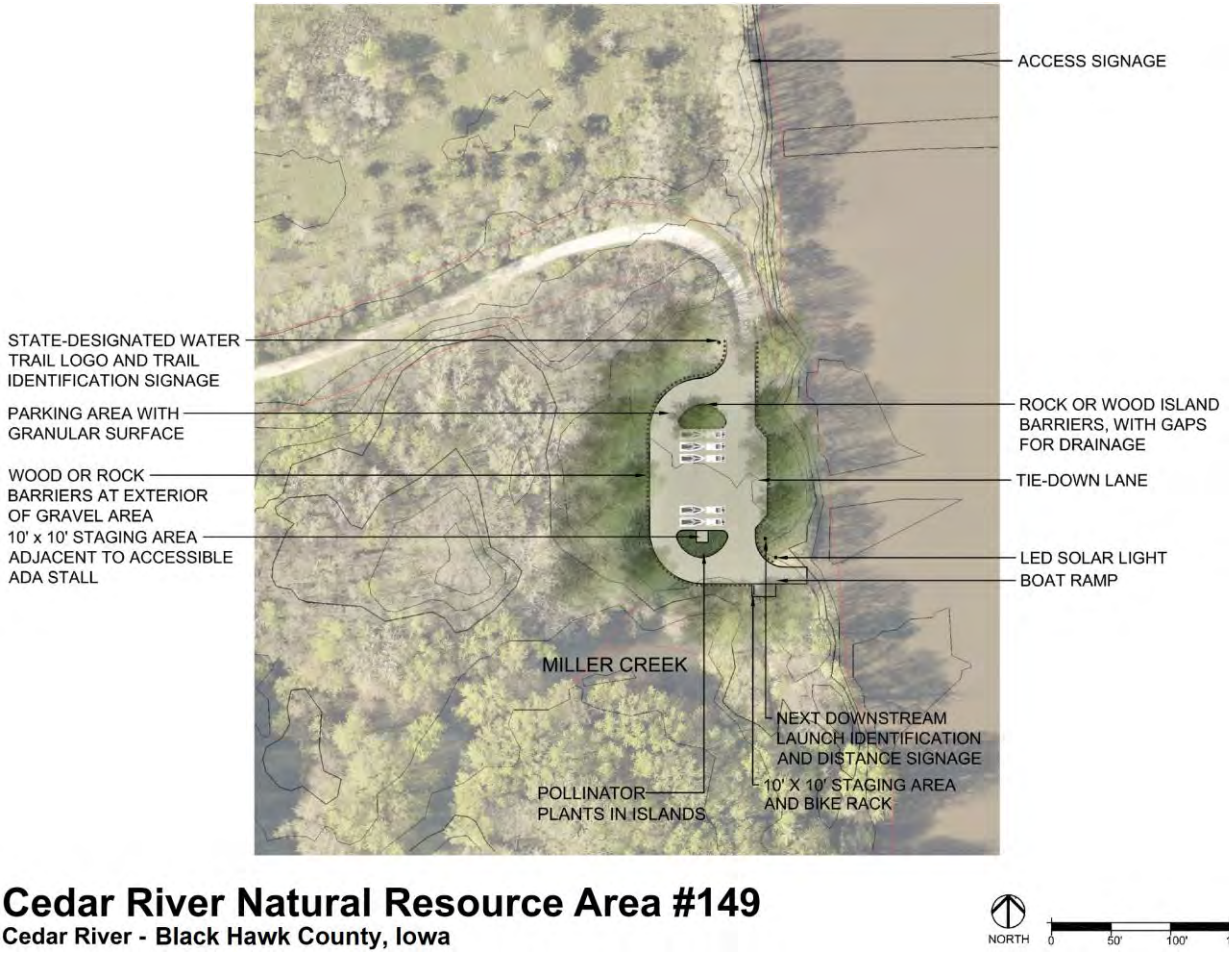
The Cedar River Natural Resource Area is situated along Miller Creek to the southeast of the metropolitan area. Miller Creek Road is the only roadway through the park extending over a mile from Girsch Road to the river access. The road is prone to flooding, and the river access is completely underwater during flood events. The river access parking area can become rutted, and the usability of the boat ramp largely depends on the water level.

Two shooting ranges are situated along Miller Creek Road on the way to the river access. Some water trail users unfamiliar with the area may find the shooting ranges alarming. Signage is in place near the western shooting range to inform travelers of the eastern shooting range. However, there is no signage to indicate there is a boat ramp present. There are signs to the park at U.S. Highway 218 and McKevette Road that include boat ramp symbols. However, additional wayfinding from Highway 218 to the boat ramp would greatly improve navigation to the river access.

Signage to trap/skeet shooting range on Miller Creek Road

There were no comments regarding the Cedar River Natural Resource Area.

Figure 4-70: Site recommendations for Cedar River Natural Resource Area



The primary recommendation for the river access at the Cedar River Natural Resource Area is reconfiguring the parking lot and expanding it to improve traffic flow and access to the boat ramp. Wooden bollard or rock barriers are recommended around the perimeter of the parking area along with two parking islands to define the parking spaces. Pollinator plantings, one staging area, and a bike rack are also recommended at this location. A tie-down lane can also be created alongside the main driveway.

COST ESTIMATE

Figure 4-71: Cost estimate for improvements at Cedar River Natural Resource Area

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	8,500	8,500
Wattle Installation, Removal, Cleanout	245	LF	4	980
Construction Fence	310	LF	10	3,100
Tree Removals	1	LS	15,000	15,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	492	CY	10	4,919
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	296	CY	7	2,074
Modified Subbase	373	TONS	26	9,697
Class A Road Stone, 6"	560	TONS	26	14,560
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Bollards	165	EA	80	13,200
Bike Rack	1	EA	1,000	1,000
Signage	3	EA	200	600
Shade Trees	2	EA	350	700
			SUBTOTAL	99,550
			Contingency (10%)	9,955
			TOTAL COST	**$109,505**

SIGNAGE

Figure 4-72: Signage Plan for Cedar River Natural Resource Area

CEDAR RIVER ACCESS

Jurisdiction: Black Hawk County
Access number: 141A
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 0.3 miles

Cedar River Access is a standalone access area along the river's northern shoreline. During high water events, the parking area and boat ramp are completely underwater. However, when the river level is low, this is a popular river access for boaters. For paddlers, this access can serve as a take-out for those beginning their trip upriver or as a put-in for those paddling into Benton County. Unlike other river accesses south of the metropolitan area, there is no bike trail near Cedar River Access.

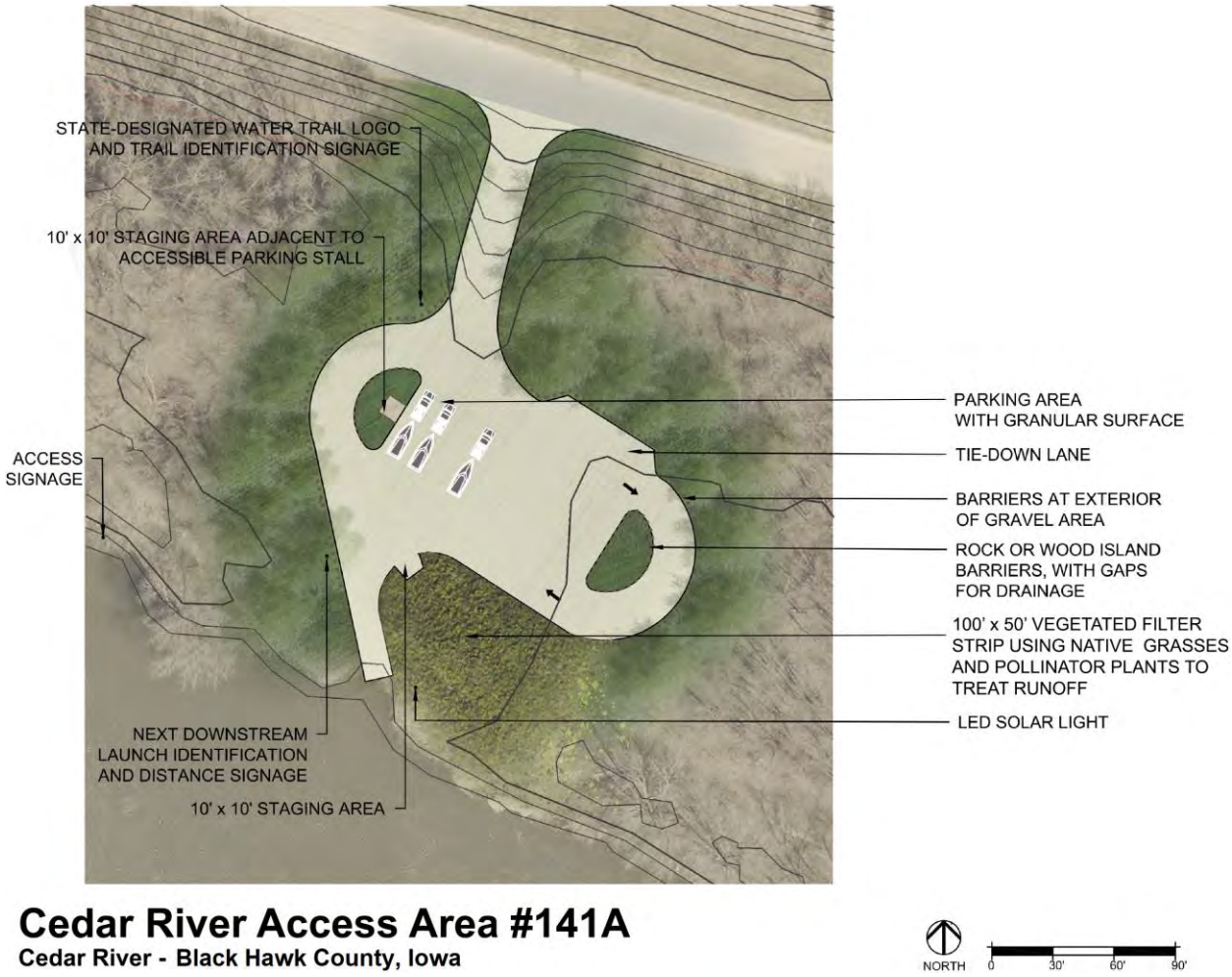
The parking area can become rutted with tire tracks after rain or flood events. The edges of the parking area are lined by large stones that prevent further wear by vehicles.

There were no comments regarding Cedar River Access.

Large stones line the edge of the existing parking lot.

SITE RECOMMENDATIONS

Figure 4-73: Site recommendations for Cedar River Access



Recommendations for Cedar River Access are consistent with other access area recommendations throughout the County. Two parking islands are recommended to define the parking spaces and improve access to the boat ramp for vehicles with trailers. Two staging areas are recommended, one for paddlers near the boat ramp, and the other to create an accessible parking space. A tie-down lane is recommended along the northern edge of the parking area. Lastly, a 5,000 square foot filter strip is recommended between the parking area and the river.

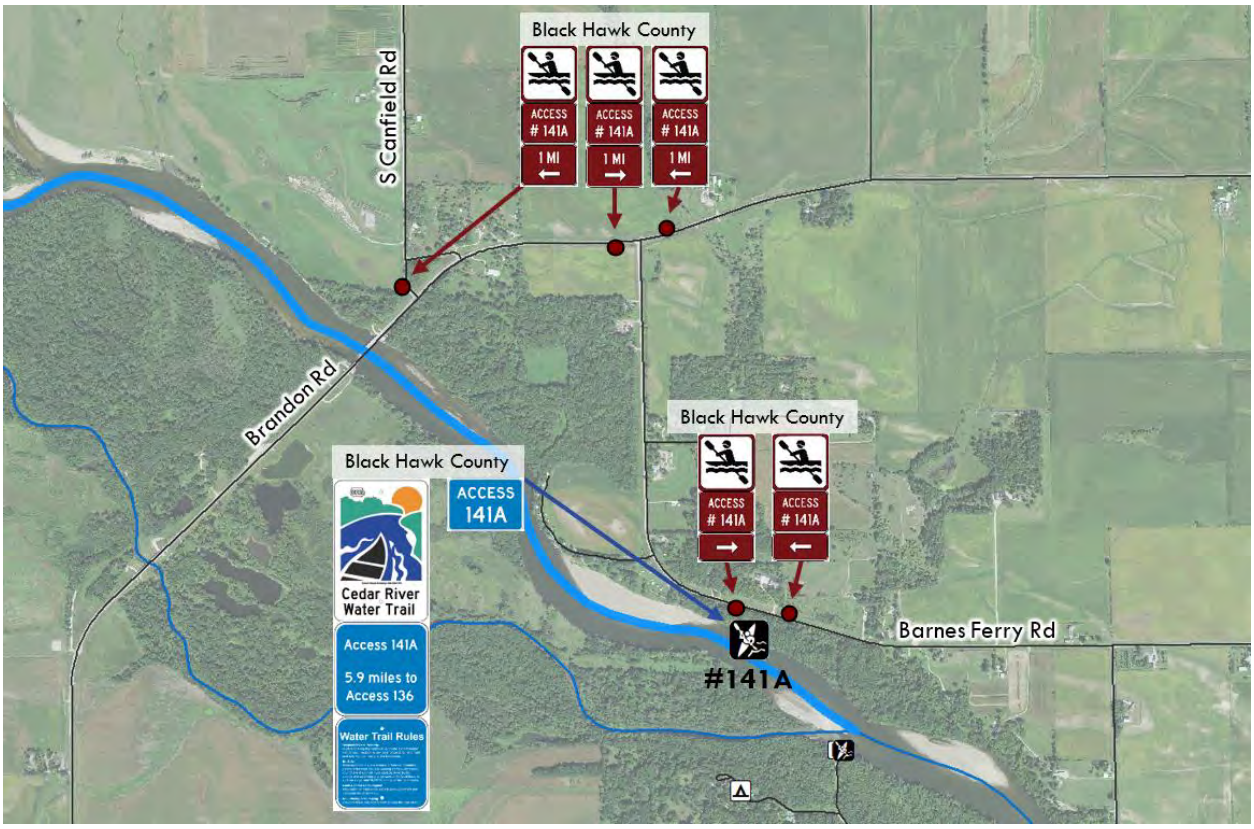
COST ESTIMATE

Figure 4-74: Cost estimate for improvements at Cedar River Access

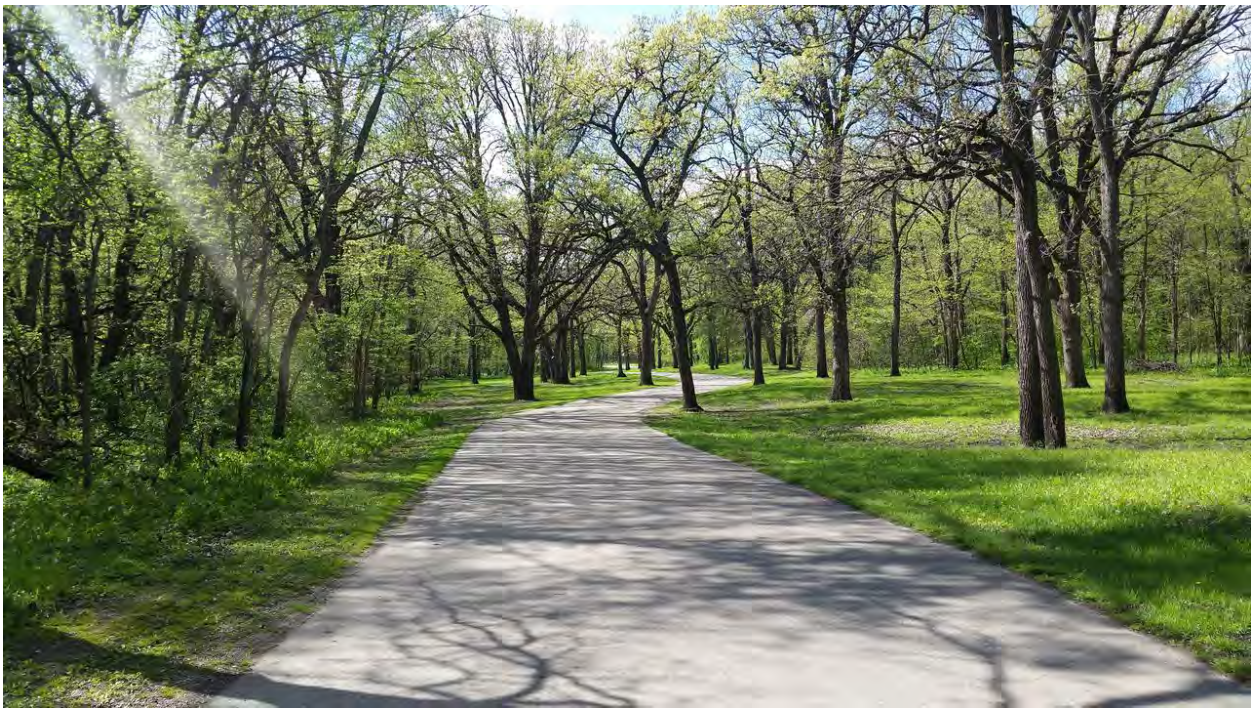
Item Description	Quantity	Unit	Unit Price	Total
Mobilization		1	LS	9,000
Wattle Installation, Removal, Cleanout		280	LF	4
Construction Fence		60	LF	10
Clearing & Grubbing		1	LS	1,000
Excavation, Class 10		566	CY	10
Site Grading		1	LS	5,000
Compaction with Moisture & Density Control		171	CY	7
Modified Subbase		429	TONS	26
Class A Road Stone, 6"		645	TONS	26
Class B Revetment		56	TONS	50
Boat Ramp		1	LS	10000
LED Solar Light		1	EA	12,420
Bollards		198	EA	80
Signage		3	EA	200
Shade Tree		3	EA	350
Native Plant Plugs @ 1.5' O.C.		2222	EA	4
			SUBTOTAL	103,101
			Contingency (10%)	10,310
			TOTAL COST	**$113,411**

SIGNAGE

Figure 4-75: Signage Plan for Cedar River Access



MCFARLANE PARK



Jurisdiction: Black Hawk County
Access number: 141B
Launch type: Boat ramp
Next segment skill level: Beginner
Next segment classification: Recreational
Distance to next access: 5.5 miles

McFarlane Park is a 150-acre county park featuring the southernmost campground in Black Hawk County. The Park has several amenities including a shelter, shower house, restrooms, basketball court, disc golf, and playground equipment. The Cedar Valley Nature Trail passes through McFarlane Park near the park entrance, making it an ideal take-out access for pedal-paddle trips.

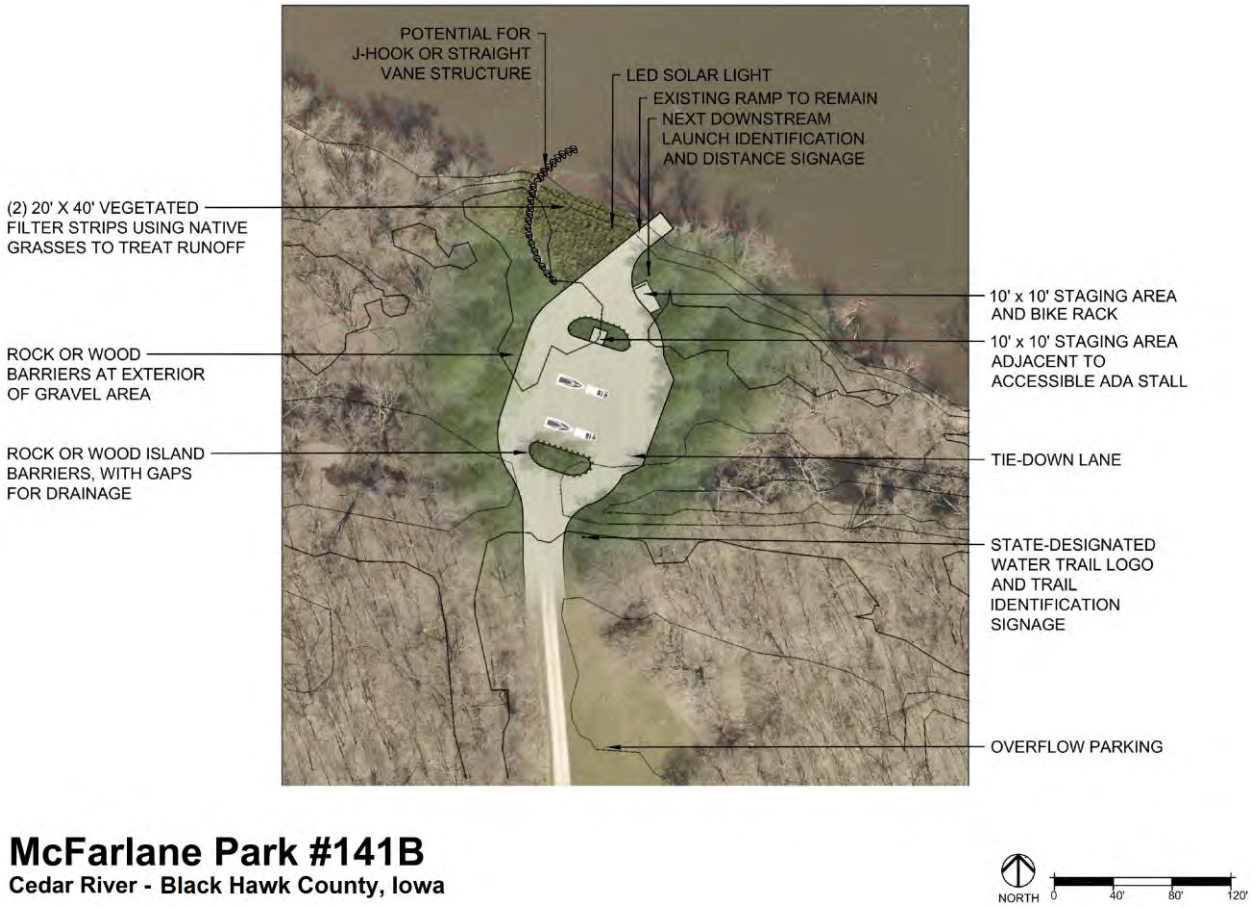
The river access includes a large dirt parking area prone to rutting. In contrast to Cedar River Access (#141A), the access at McFarlane Park is popular when river levels are higher. The two accesses pair well together, providing access to the river in a variety of conditions. However, both access areas are still prone to flooding.

Truck with trailer parked at McFarlane Park river access

McFarlane Park is the final river access along the Cedar River in Black Hawk County. The next access is the Mt. Auburn Boat Ramp in the Winegar Wildlife Area in Benton County, less than one-eighth mile from the county boundary.

There were no public comments regarding McFarlane Park.

Figure 4-76: Site recommendations for McFarlane Park



Recommendations for McFarlane Park include creating two parking islands to define the parking spaces and improve traffic circulation, adding two staging areas and a tie-down lane, installing a bike rack, and planting an 800 square foot filter strip. A unique recommendation for McFarlane Park is the potential installation of a J-hook or straight vane structure which would help maintain a pool of water at the boat ramp.

COST ESTIMATE

Figure 4-77: Cost estimate for improvements at McFarlane Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	8,000	8,000
Wattle Installation, Removal, Cleanout	336	LF	4	1,344
Construction Fence	40	LF	10	400
Tree Removals	10	EA	1,000	10,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	415	CY	10	4,151
Site Grading	1	LS	2,500	2,500
Compaction with Moisture & Density Control	125	CY	7	875
Modified Subbase	315	TONS	26	8,184
Class A Road Stone, 6"	473	TONS	26	12,288
Class B Revetment	56	TONS	50	2800
LED Solar Light	1	EA	12,420	12,420
Bollards	92	EA	80	7,360
Bike Rack	1	EA	1,000	1,000
Signage	3	EA	200	600
Native Plant Plugs @ 1.5' O.C.	711	EA	4	2,844
			SUBTOTAL	79,766
			Contingency (10%)	7,977
			TOTAL COST	**$87,743**

SIGNAGE

Figure 4-78: Signage Plan for McFarlane Park

Five County Arrohead signs to McFarlane Park are installed in La Porte City. Installing additional Water Trails signage is not recommended at these locations primarily due to right-of-way constraints and also sign pollution. These locations are shown on Figure 4-78 as squares.

FRANCK PARK

Jurisdiction: City of Hudson
Access number: 15
Launch type: Carry-down only
Next segment skill level: Advanced
Next segment classification: Wilderness
Distance to next access: 7.0 miles

Franck Park is a small triangular shaped park immediately off of Highway 58. While the park is owned City of Hudson, the carry-down launch is situated in the state highway right-of-way. There are no defined parking spaces in the park and maneuvering a vehicle can be challenging when others are present. There is a risk of parked cars becoming boxed in.

Water trail access signs and wayfinding signs are already installed for Franck Park. The park entrance can be difficult to locate, however, especially for first-time visitors. The gravel driveway is shared for about 20 feet with a private residence and could be mistaken for private property. Trees along the property line can obscure the park entrance, particularly for northbound traffic. The posted speed limit for this area ranges from 45 to 55 mph.

While the Franck Park access has a relatively small footprint, Black Hawk Creek runs through Hudson for a considerable distance. The land immediately surrounding Franck Park is privately owned. Further downstream, the creek runs past the municipal golf course and undeveloped land owned by Black Hawk County Conservation. Much of this land is prone to flooding, including Franck Park.

PUBLIC COMMENTS

Two written comments were received regarding Franck Park:

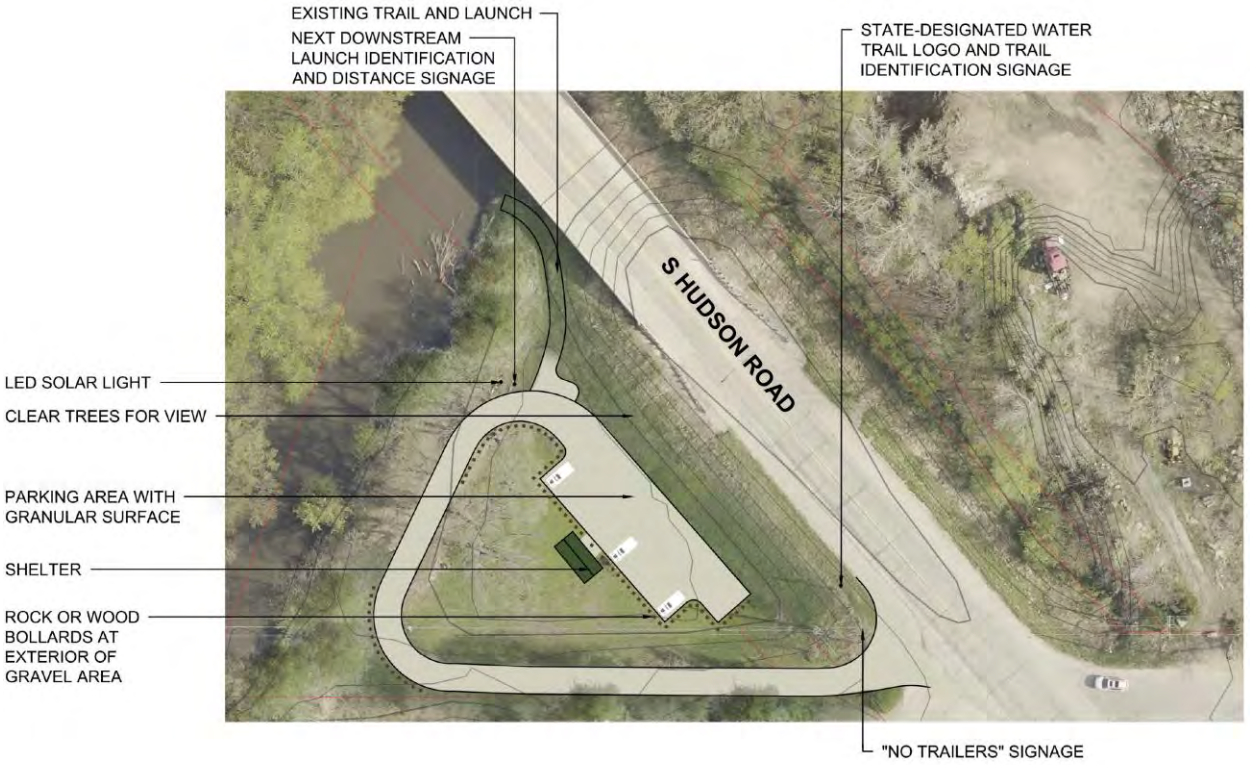
- "Would like to see a concrete put in at Franck Park." – Hudson resident

- "[There's] no developed access at Hudson" – Waterloo resident

In addition, one respondent said they would like drinking water at Franck Park.

SITE RECOMMENDATIONS

Figure 4-79: Site recommendations for Franck Park



Recommendations for Franck Park aim to preserve its Wilderness classification. A gravel parking area is recommended which allows for up to 12 designated parking spaces, though fewer may be desired. Large rocks or wood bollards are recommended along the driveway and parking area. A shelter is also recommended, though it would need to be built to withstand regular flooding. A "NoTrailers" sign is recommended due to the park's tight configuration. A staging area for loading and unloading is also recommended near the existing trail and launch. These recommendations do not include construction of a new boat ramp, because the location of a new ramp has not yet been determined. Utility lines are buried near the existing launch.

In addition to the recommendations above, the Water Trail Master Plan supports any effort to improve visibility to the entrance of Franck Park and any future parks along Black Hawk Creek in Hudson. Furthermore, the Master Plan supports property acquisition along the creek in Hudson to create new recreational areas and expand public access to the creek. Lastly, a paved right-turn pocket along Highway 58 would improve traffic flow and navigation to the access for southbound traffic.

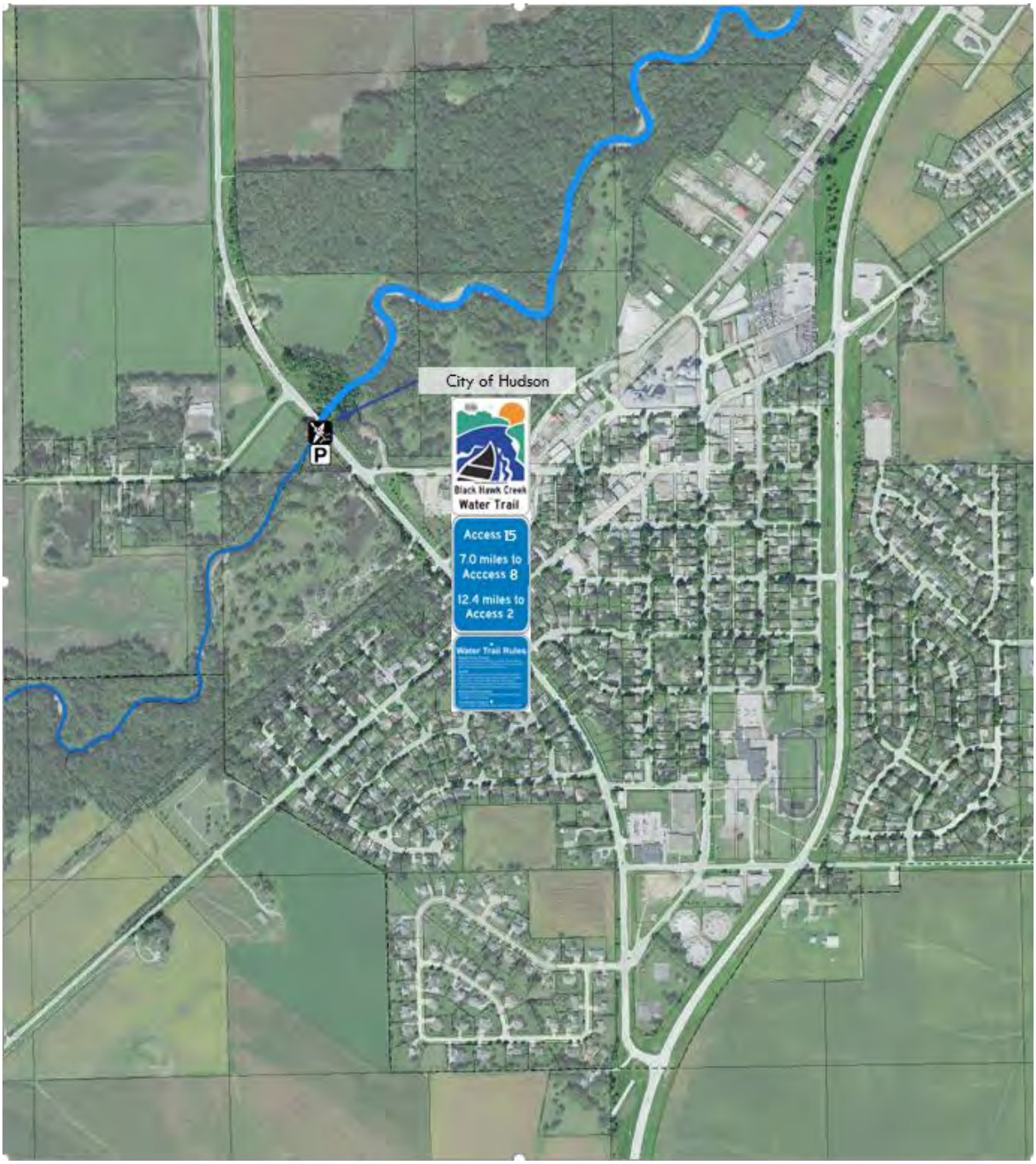
COST ESTIMATE

Figure 4-80: Cost estimate for improvements at Franck Park

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	13,900	13,900
Wattle Installation, Removal, Cleanout	205	LF	4	820
Construction Fence	100	LF	10	1,000
Tree Removals	10	EA	1,000	10,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	369	CY	10	3,689
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	111	CY	7	778
Modified Subbase	280	TONS	26	7,273
Limestone Chips, 3" IDOT Gradation #8	2	TONS	28	67
Class A Road Stone, 6"	413	TONS	26	10,725
Class B Revetment	28	TONS	50	1400
Park Shelter	1	LS	75000	75000
LED Solar Light	1	EA	12,420	12,420
Bollards	76	EA	80	6,080
Native Plant Plugs @ 1.5' O.C.	3556	EA	4	14,222
Signage	3	EA	200	600
			SUBTOTAL	167,974
			Contingency (10%)	16,797
			TOTAL COST	**$184,771**

SIGNAGE

Figure 4-81: Signage Plan for Franck Park



The original signage in Franck Park was developed in 2009. As signs are replaced, the Next Downstream Launch sign should be updated to reflect the mileage shown in this plan.

RANCHERO ROAD

Jurisdiction: City of Waterloo
Access number: 8
Launch type: Carry-down only
Next segment skill level: Intermediate
Next segment classification: Wilderness
Distance to next access: 5.4 miles

The Ranchero Road access is a small triangular shaped park immediately north of Ranchero Road, west of State Highway 63. The land on which the access is situated is owned and maintained by the City of Waterloo and is part of the greater 1,100-acre Katoski Greenbelt. There are no defined parking spaces in the access and maneuvering a vehicle can be challenging when others are present, however, there are two additional parking lots about 1,000 feet from the access. The Cedar Prairie Pedestrian Trial, Black Hawk Creek, and an unnamed drainage channel fragment the parcel upon which the access is situated. The walking trail to the access can become muddy and hard to navigate after wet weather. Proximity to the Cedar Prairie Pedestrian Trail, which passes directly through the access area, making this an ideal access for pedal paddle opportunities.

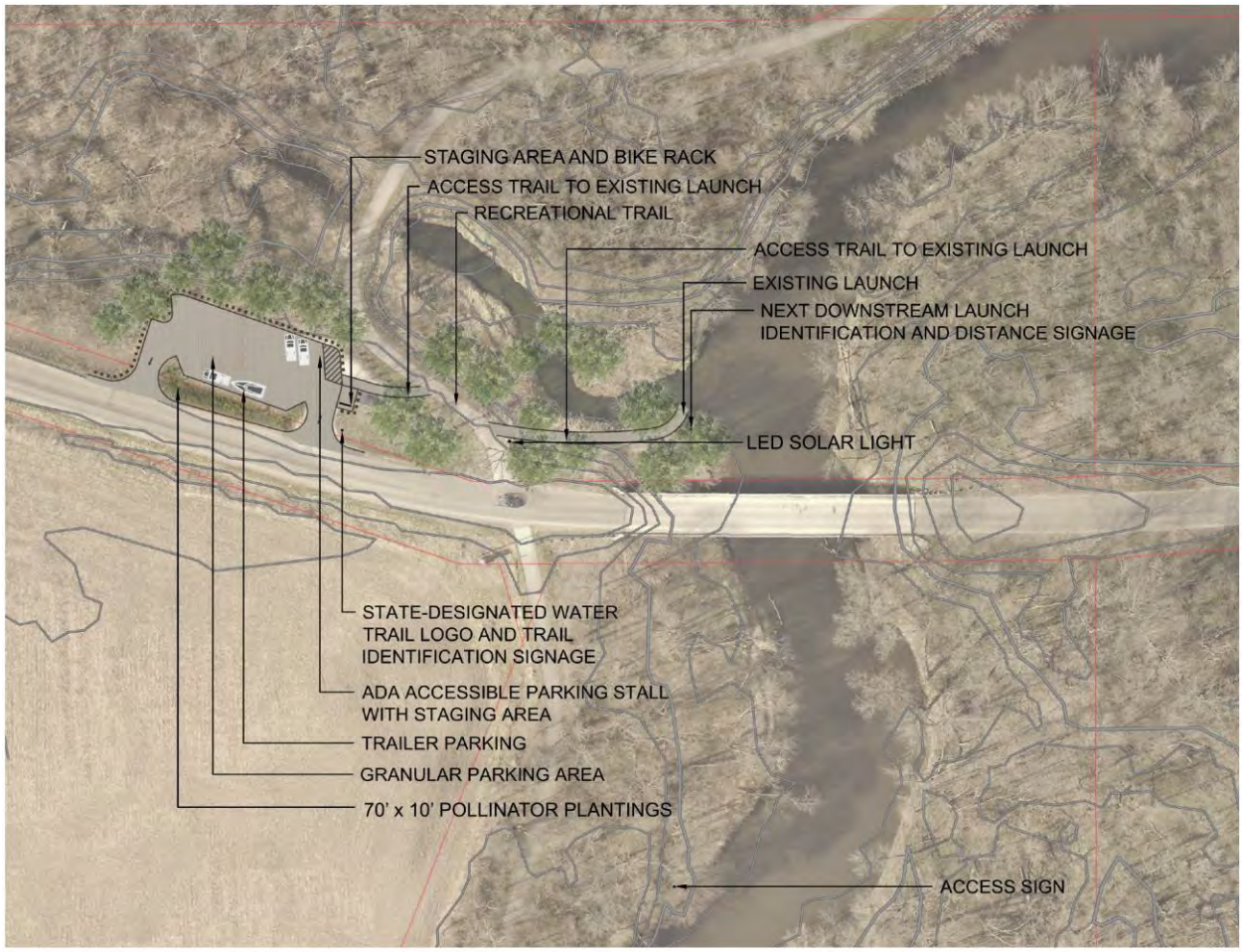
PUBLIC COMMENTS

One written comment was received regarding the Ranchero Road access area:

- "[There's] trash dumping at kayak access on Ranchero." – Waterloo resident

In addition, three residents indicated they would like drinking water, and one indicated they would like restrooms at the Ranchero Road access area.

Figure 4-82: Site recommendations for Ranchero Road



Recommendations for the Ranchero Road Access would aim to preserve its Wilderness classification. A granular parking area is recommended to include an area for trailer parking as well as the addition of a staging area and bike rack or locker next to the existing access area, pedestrian trail, and launch. Included in the recommendation for the Ranchero Road Access parking area is an ADA accessible parking stall with its own staging area. Large rocks or wood bollards are recommended along the perimeter of the parking area with a 70' by 10' buffer of pollinator plantings separating the parking area from Ranchero Road.

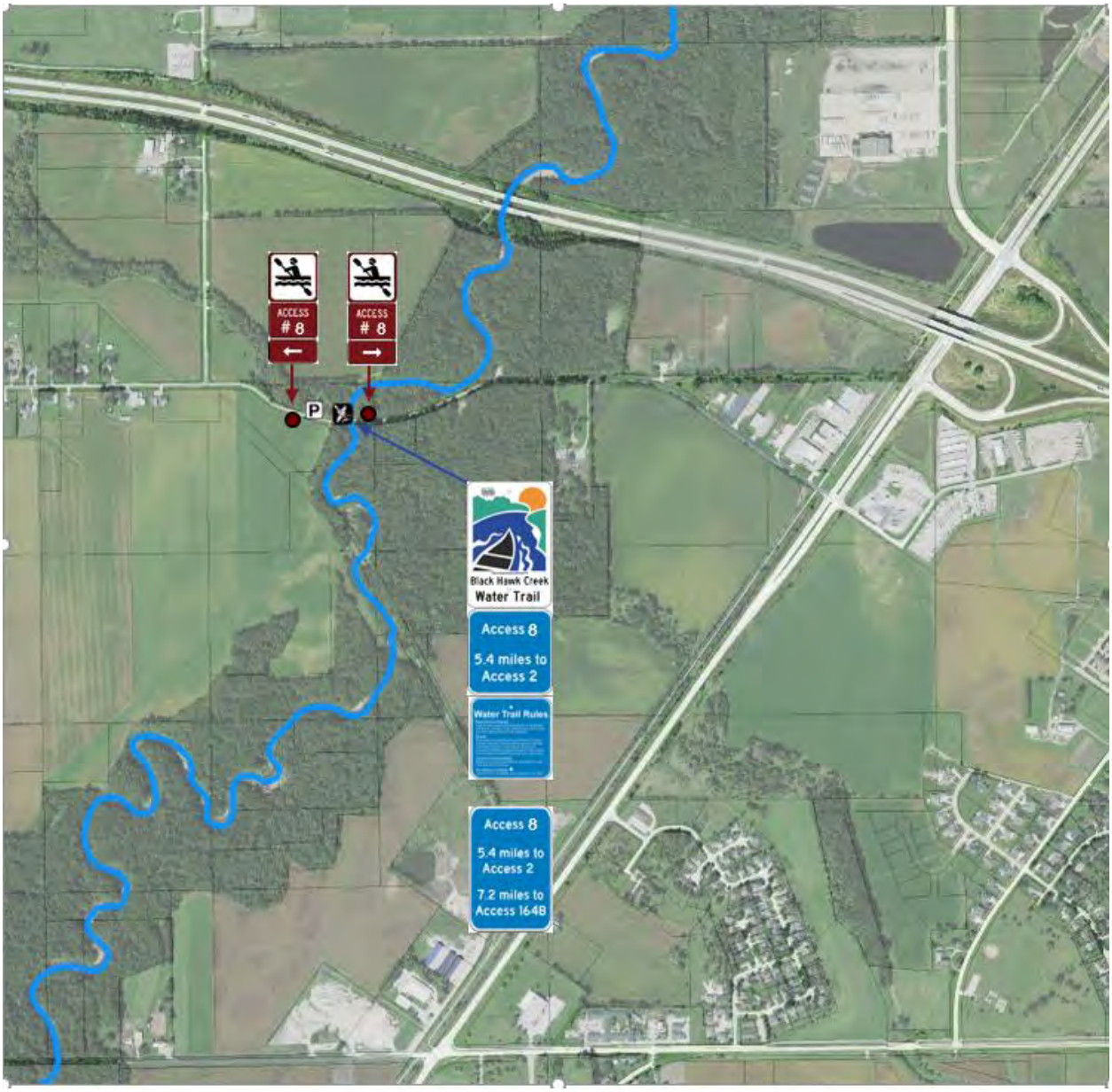
COST ESTIMATE

Figure 4-83: Cost estimate for improvements at Ranchero Road

Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	3,000	3,000
Wattle Installation, Removal, Cleanout	300	LF	4	1,200
Construction Fence	150	LF	10	1,500
Tree Removals	5	EA	1,000	5,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	227	CY	10	2,265
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	68	CY	7	478
Modified Subbase	172	TONS	26	4,466
Limestone Chips, 3" IDOT Gradation #8	23	TONS	28	652
Class A Road Stone, 6"	211	TONS	26	5,495
Class B Revetment	28	TONS	50	1400
Bollards	60	EA	80	4,800
Bike Rack	1	EA	1,000	1,000
LED Solar Light	1	EA	12,420	12,420
Native Plant Plugs @ 1.5' O.C.	311	EA	4	1,244
Signage	3	EA	200	600
Mobilization	1	LS	3,000	3,000
			SUBTOTAL	55,521
			Contingency (10%)	5,552
			TOTAL COST	**$61,073**

SIGNAGE

Figure 4-84: Signage Plan for Ranchero Road



HOPE MARTIN PARK

Jurisdiction: City of Waterloo
Access number: 2
Launch type: Carry-down only
Next segment skill level: Intermediate
Next segment classification: Recreational
Distance to next access: 1.8 miles

Hope Martin Park is located within the city limits of Waterloo and is easily accessible from U.S. Highway 63 by way of Fletcher Avenue. The 150-acre park boasts the greatest number of amenities of any access along Black Hawk Creek, including play equipment, a picnic shelter, water fountains, restrooms, picnic tables, and an open grassy area. The Singing Bird Lakes lie adjacent to Black Hawk Creek in the north-western corner of Hope Martin Park and provide another opportunity for fishing, bird watching, and relaxation. Hope Martin Park was mentioned numerous times by members of the public during the public input meetings. Because of its open space and proximity to surrounding neighborhoods, the access at Hope Martin Park presents an ideal location for visible improvements and promotional amenities such as signage, public art, and infrastructure.

PUBLIC COMMENTS

Four written comments were received regarding Hope Martin Park:

- "Hope Martin Park slab is being undercut by current." – Hudson resident
- "Difficult to access water (ramp slope) at Hope Martin Park" – Waterloo resident
- "Hope Martin Park ramp is close to awful." – Waterloo resident
- "Hope Park access could be larger/easier to access." – Waterloo resident

In addition, one respondent indicated they would like drinking water, one indicated they would like restrooms, and one indicated there are maintenance issues at Hope Martin Park.

Figure 4-85: Site recommendations for Hope Martin Park

Recommendations for parking improvements at the Hope Martin Park Access include a granular surface road and parking area with up to 20 full size parking spaces, trailer parking, and a roundabout for improved traffic circulation. The center of the roundabout could offer opportunities for the inclusion of native plantings and filtration from vehicle runoff. A staging area and trail to access the launch are also recommended to improve navigating the sandy soil and steep slope leading to the launch. Wood or rock bollards are recommended to define the border of the granular surface road and parking area.

The Hope Martin Park Access would benefit from shoreline improvements as the existing launch has been observed to be subject to undercutting and erosion.

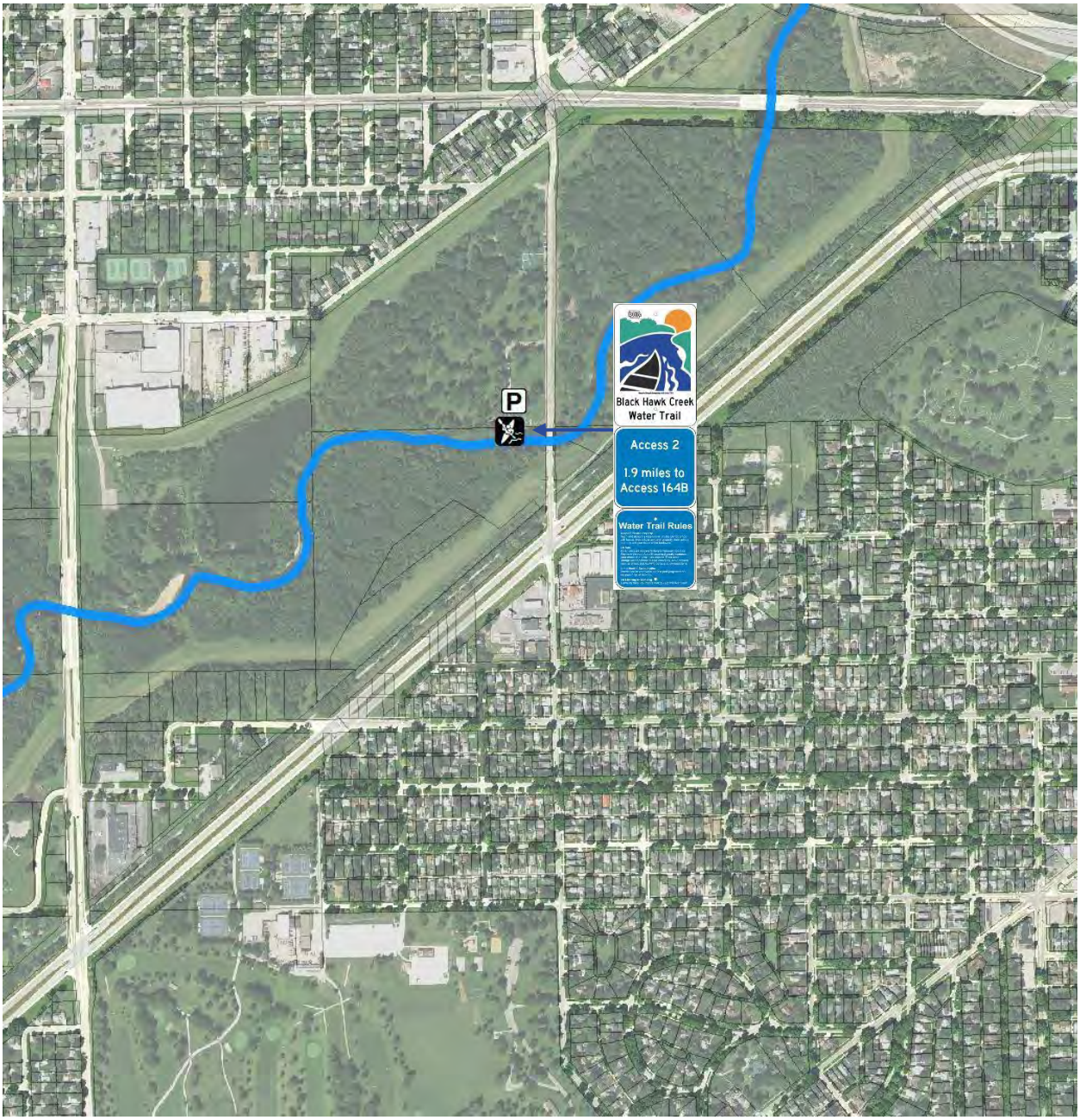
COST ESTIMATE

Figure 4-86: Cost estimate for improvements at Hope Martin Park

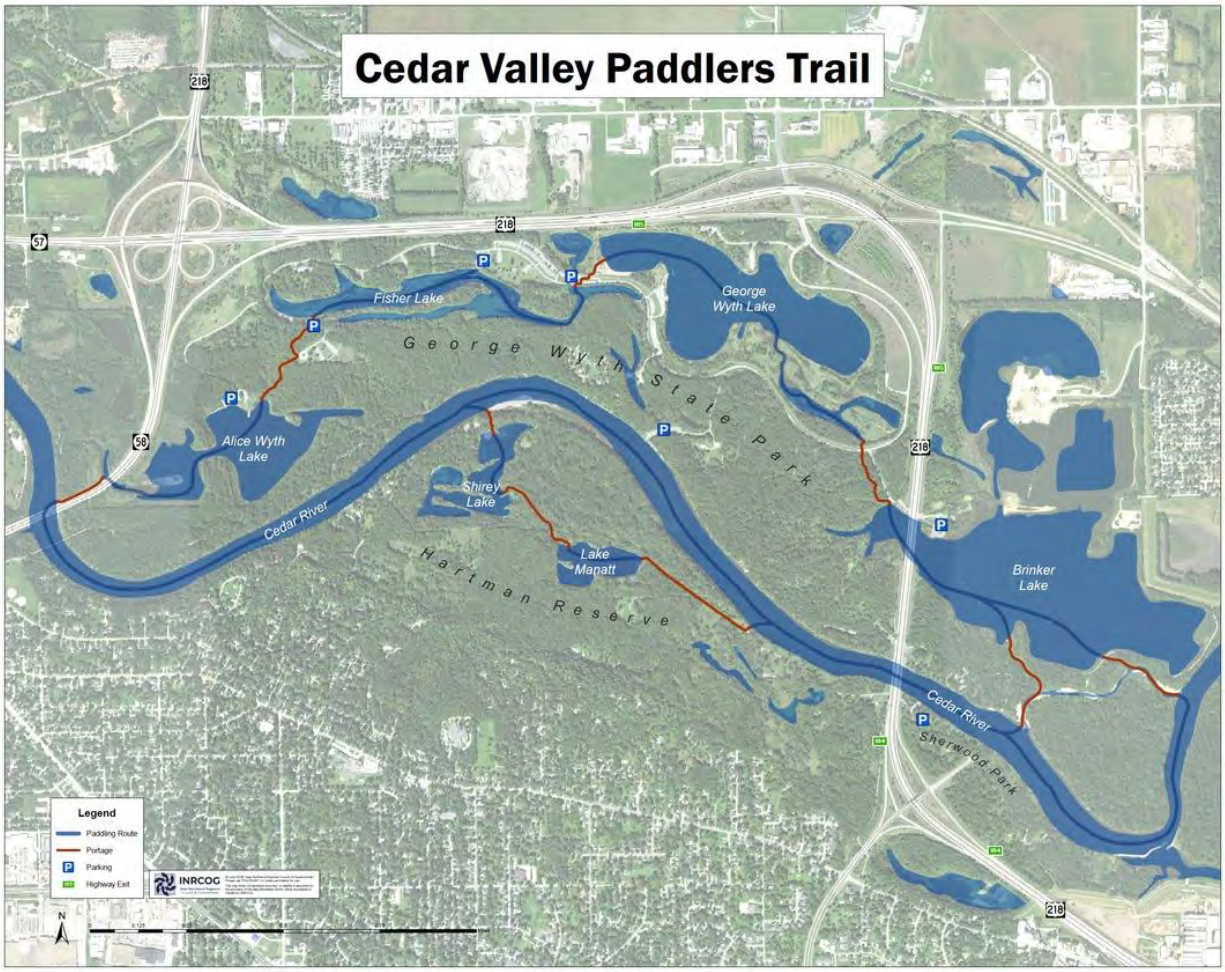
Item Description	Quantity	Unit	Unit Price	Total
Mobilization	1	LS	7,000	7,000
Wattle Installation, Removal, Cleanout	150	LF	4	600
Construction Fence	100	LF	10	1,000
Tree Removals	3	EA	1,000	3,000
Clearing & Grubbing	1	LS	5,000	5,000
Excavation, Class 10	461	CY	10	4,611
Site Grading	1	LS	5,000	5,000
Compaction with Moisture & Density Control	139	CY	7	972
Modified Subbase	350	TONS	26	9,091
Limestone Chips, 3" IDOT Gradation #8	25	TONS	28	711
Class A Road Stone, 6"	474	TONS	26	12,331
Class B Revetment	28	TONS	50	1400
LED Solar Light	1	EA	12,420	12,420
Bollards	342	EA	80	27,360
Bike Rack	1	EA	1,000	1,000
Native Plant Plugs @ 1.5' O.C.	4078	EA	4	16,311
Signage	3	EA	200	600
			SUBTOTAL	108,406
			Contingency (10%)	10,841
			TOTAL COST	**$119,247**

SIGNAGE

Figure 4-87: Signage Plan for Hope Martin Park



CEDAR VALLEY PADDLERS TRAIL



The Cedar Valley Paddlers Trail provides a truly unique experience for paddling enthusiasts. With 8.4 mies of water trial and 1.6 miles of portage spanning 6 separate lakes and the Cedar River, the Cedar Valley Paddlers trail is remisce of a Boundary Waters expedition. 4 of the trail's lakes (Alice Wyth Lake, Fisher Lake, George Wyth Lake,and Brinker Lake) are situated in George Wyth State Park on the northeast side of the Cedar River. The remaining 2 lakes (Lake Manatt and Shirley Lake) are located in the Hartman Nature Reserve Center on the southwest side of the Cedar River, an entity of the Black Hawk County Conservation Board. Each lake is unique and diverse, providing wonderful fishing, boating, and wildlife viewing.

Another attractive feature of this trail is the loop aspect. The course offers rewarding experiences for a variety of skill levels and ages. Within the main loop, paddlers will enjoy smaller secondary loops and can start and finish at the same location without back tracking.

Othe features include outstandng camping facilities, connection to an 80 mile network of hard surfaced trails, two state cultural districts, shopping, dining, and award-winning events and attractions that create a total package that outdoor recreationalists will find hard to resist.

PUBLIC COMMENTS

Written comments were received regarding the Cedar Valley Paddlers Trail:

- "It would be nice to have the portage put-in and take-out points improved to be less steep and better footing (particularly at the take-out from Alice Wyth to the Cedar River)… I assume this could be accomplished by some grading work, rip rap at the side slopes, and sand fill from the water line to the top of the slope. Then it could be incorporated with the mowing/weed maintenance around the parks… The portage between Alice Wyth and the Cedar River would ideally have some sort of path. When I've done it (a month or so ago was the latest) it was pretty much mud for a lot of what I determined to be the best path." – Waterloo resident

RECOMMENDATIONS

Although architectural site plan recommendations and cost estimates were not gathered for the Cedar Valley Paddlers Trail, the area would benefit from a number of considerations.

- Add additional signage for Fisher Lake to Alice Wyth Lake portage
- Alice Wyth Lake to Cedar River signage
- Sign to Shirey Lake
- Define portages from Shirey Lake to Lake Manatt to Cedar River
- Define portages from Cedar River to Brinker Lake
- Add signage from Brinker Lake to George Wyth Lake

ADDITIONAL AREAS OF INTEREST

LA PORTE CITY

La Porte City is currently developing two river accesses along Wolf Creek, a tributary to the Cedar River not included in the Master Plan project scope. These local efforts are supported by the Water Trails Master Plan, even though Wolf Creek is not a candidate for State Water Trails designation at this time.

APPENDICIES

APPENDIX A: PUBLIC MEETING MATERIALS

INFORMATIONAL HANDOUT

Visit www.CedarValleyWaterTrails.com for more information!

What is a Water Trail?

A water trail is a designated route for kayaks, canoes, and other watercraft. The rivers (and sometimes lakes) *are* the trail.

A major part of the water trails planning process is identifying improvements to each river access. Improvements to parking areas and boat launches will depend on the layout and topography of each individual site. Design of these improvements will be based on best practices and guidance from the Iowa DNR. Improvements must take into account stormwater flow, wheelchair accessibility, loading and unloading, habitat, and riverbank stability at each location.

The Iowa DNR has taken the lead in developing water trails in Iowa. The development of State-designated water trails is classified into four different categories: gateway, recreational, challenge, and wilderness. Gateway routes have the most public amenities, while challenge and wilderness routes are less developed and suited for more experienced paddlers.

Once the Water Trails Master Plan is complete, the Cedar River and Black Hawk Creek are expected to become State-designated water trails. Once each river receives State designation, grant applications for projects along the rivers will likely be more competitive from a statewide standpoint. City and County staff will have supporting documentation ready in advance, and projects will have been vetted through the local planning process.

What is a water trail?

Water trails include a variety of access locations that can be used for trips of various lengths and difficulty. The planning process will identify improvements for each access area and the difficulty of each segment between the accesses.

Below is a map of the existing access points to be included in the Black Hawk County Water Trails Master Plan:

Private Land

In June 2013, the Iowa legislature amended section 461C to extend protections granted to landowners who open their property for recreational use. The wording of section 461C has been strengthened to broadly and liberally favor landowners and other land holders.

Private land holders who permit use of their land for a recreational purpose

- **do not** extend any assurance that the premises are safe for any purpose,
- **do not** confer upon visitors the legal status of an "invitee" or "licensee" to whom the duty of care is owed,
- **do not** assume a duty of care to visitors solely because the holder is guiding, directing, supervising, or participating in any recreational purpose, and
- **do not** assume responsibility for or incur liability for any injury to person or property caused by such persons.

Section 461C does state, however, that liability would lie against the land holder "for willful or malicious failure to guard or warn against a dangerous condition, use, structure, or activity" or when the land holder charges money for use of their land.

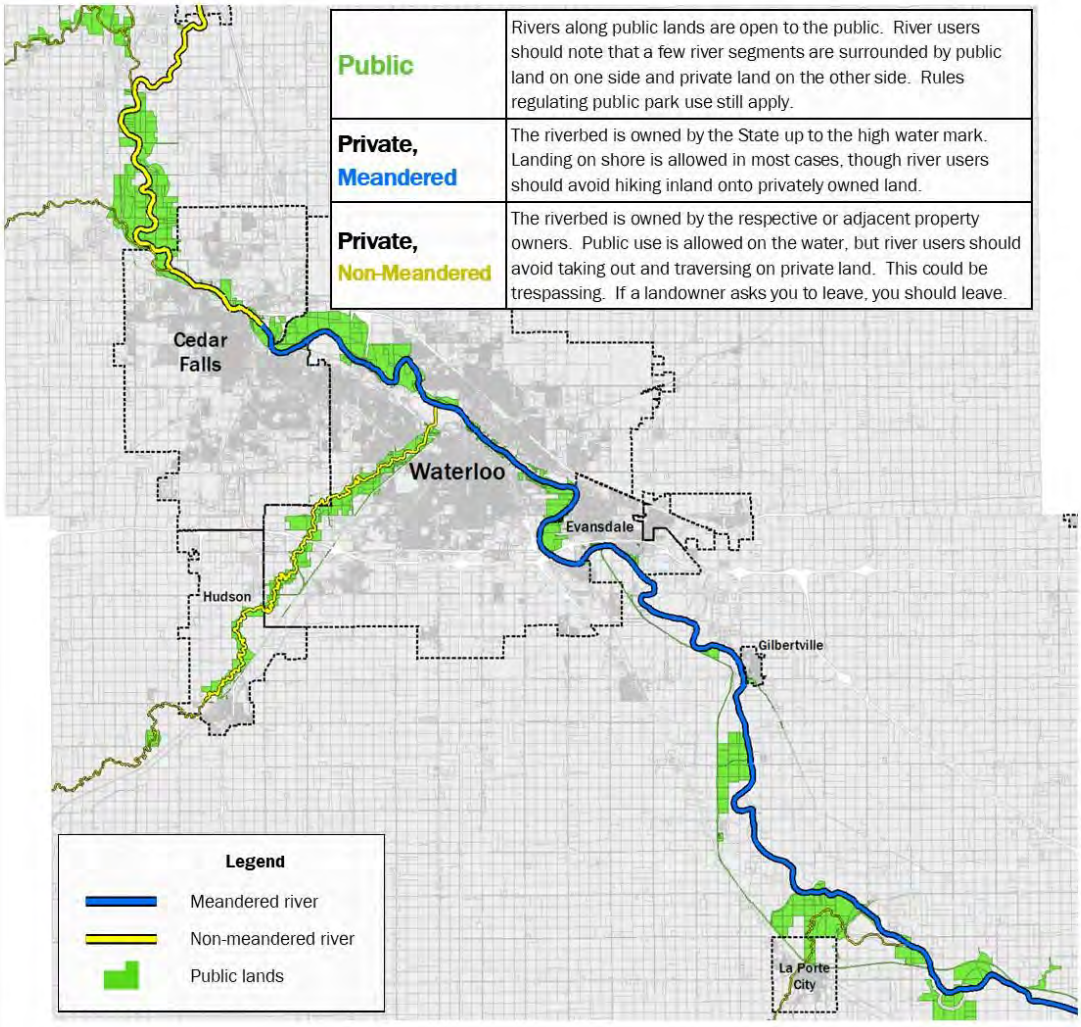
The information presented above is not legal advice or a legal opinion. It is for general informational purposes only. You should seek the advice of legal counsel before acting upon any of the information presented.

Meandered vs. Non-Meandered Rivers

In general, members of the public are allowed to float on any river in Iowa and engage in activities incident to navigation such as fishing, swimming, and wading. Two considerations that landowners and paddlers should both be aware of are rules for **meandered vs. non-meandered** rivers and rules for **public vs. private** land. The table below describes these rules.

Landowners interested in allowing free public use of their land are encouraged to contact the Black Hawk County Conservation Board at 319-433-7275 or the water trails coordinator at 319-235-0311 ext. 132.

Public	Rivers along public lands are open to the public. River users should note that a few river segments are surrounded by public land on one side and private land on the other side. Rules regulating public park use still apply.
Private, Meandered	The riverbed is owned by the State up to the high water mark. Landing on shore is allowed in most cases, though river users should avoid hiking inland onto privately owned land.
Private, Non-Meandered	The riverbed is owned by the respective or adjacent property owners. Public use is allowed on the water, but river users should avoid taking out and traversing on private land. This could be trespassing. If a landowner asks you to leave, you should leave.



PRIVATE LAND

The classification of meandered or non-meandered rivers, lakes and streams in Iowa determine ownership of banks and beds, not how curvy the bodies of water are.

Meandered parts of a river are owned by the State of Iowa and have clear on-foot access rights to the channel bottom and streambanks up to the ordinary high water mark.

Non-meandered bodies of water, private landowners own all of the land adjacent to and underneath the water, including banks and beds.

- Private Land – land above the high water mark on meandered bodies within private land. All land, including banks and beds on non-meandered bodies is private

When a property is publicly owned, water users on all streams are allowed to access adjacent land and sand bars, and are guaranteed on-foot access to channel bottoms.

- The stream bed s of meandered rivers, up to the ordinary high-water mark are considered publicly help property
- The stream bed and banks of non-meandered rivers are considered part of the adjacent property. Water Users on non-meandered rivers have only the right to float on the water surface and wade on the stream bottom.

LOCATION of MEANDERED BODIES OF WATER IN BLACK HAWK COUNTY

- Along the Cedar River, from Washington Park in Cedar Falls and south in classified as meandered until....

Map of Meandered and Non-Meandered Areas in Black Hawk County

RULES

Lighting Regulations

- If less than 23.0 feet long, Manually Powered Vessels When Underway should exhibit a white light visible for 360° around the horizon and visible from a distance of at least one mile away if operating on natural lakes, Corps of Engineers impoundments, border rivers, or impoundments on inland rivers.
- The required navigation lights must be displayed between sunset and sunrise and whenever the weather reduces visibility.

Life Jackets

- All vessels must have at least one USCG-approved wearable Type I, II, III, or V life jacket for each person on board
- On any Iowa waters, a child under 13 years old must **wear** a USCG-approved life jacket

Sandbars/Trespassing

- Respect private property. Never trespass to gain access.
- Disorderly behaviors can be addressed by uniformed and plain clothed officers, seasonal water patrol staff to reduce the problem

Park Times

- All areas of the Board shall be closed to public use between the hours of 10:30 pm and 6:00 am unless otherwise specified by the Board, in which case signs will be erected giving the public constructive notice of such change.
- Campsites are to be located 1/4 mile or more from all roads, or on opposite side of the river to discourage non water trail use

Type I: Wearable Offshore Life Jackets

These vests are geared for rough or remote waters where rescue may take awhile.

Type II: Wearable Near-Shore Vests

These vests are good for calm waters when quick rescue is likely

Type III: Wearable Flotation Aids

These vests or full-sleeved jackets are good for calm waters when quick rescue is likely.

TYPE V: Special-Use Devices

HISTORY

Water Trails are recreational corridors and routes on rivers and lakes that provide a unique experience for all water users. Water Trails can provide adequate access and can include various amenities. Coordinated signage and mapping systems guide users toward the types of experiences they seek. Iowa's Water Trails reconnect Iowans to waterways history, heritage, geology, fisheries and wildlife.

Pictures, Diagrams– historical timeline??

EMERGENCY RESPONSE

USNG

- An alpha numeric reference system broken down into three parts— Grid Zone Disgnation, 100,000 meter Square Identification, for regional area and Grid Coordinates for local areas.
-

Risk Management—Helps users select experiences that match their skills, equipment and expectations

1. Reduce accident potential through clearly communicating that journeys on water have an element of inherent and common risk.

2. Liability protections established by Iowa law

3. Develop an emergency action plan.

County and City Response- coordinated communication

Dam Safety

Emergency Response

In any emergency, the first response should be to call 911.

911 calls throughout Black Hawk County are sent to the Consolidated Public Safety Communication Center. The center combines police, fire, and emergency medical services and uses one radio system. Dispatchers can quickly communicate with the appropriate department to respond to an emergency. It is a good system and communication is in place.

The Master Plan may identify additional river accesses to improve emergency response. Only new accesses with an apparent emergency response benefit will be considered. Ongoing maintenance of existing river accesses is already a challenge for the cities and county.

Be sure that your phone is fully charged and the GPS or "Location" setting is turned on. In the event of an emergency, the dispatcher will be able to determine your location if this function is active. On many phones, this function can be found under the Settings, Privacy, or Connections menus.

Dredging

For a variety of reasons, the Water Trails Master Plan will not include any dredging activities:

1.) It is very expensive
There may have been a time when dredging was economical. However with rising costs and increased environmental protections, dredging has become a very expensive activity.

2.) It is temporary
Dredged areas become filled with sediment after flood events, and can require re-dredging on an annual basis even when there are no major floods.

3.) It destabilizes riverbanks
Water flow is less restricted by sediment (which has been dredged out) and acts as a stronger force against the riverbed and river banks.

4.) It's bad for fishing
Removing riverbed material results in the loss of fish spawning grounds which can negatively affect fishing and overall aquatic health.

5.) It's not very green
Dredging is not only bad for fish habitats, it is also a very energy-intensive activity. Fuel alone can easily make up 30 percent of the total project cost. A large dredge can use thousands of gallons of fuel per day.

Ongoing local projects placeholder

Ongoing Local Projects

Cedar Falls River Improvements

Image date January 2018

Downtown Waterloo Marina

Image date November 2017

Downtown Waterloo Whitewater

Image date July 2017

INRCOG

Parking Considerations

Drainage

Figure 3B-2.
Stormwater Flow From Parking Area

Access

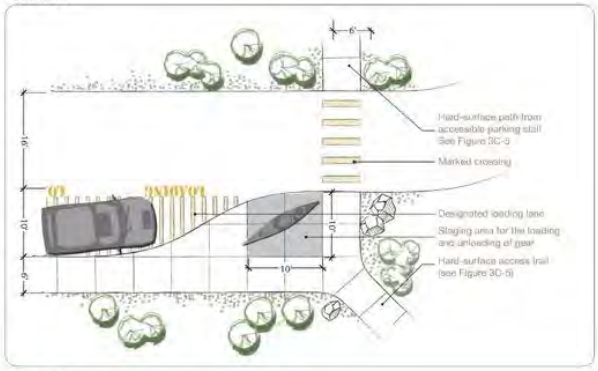


Figure 3C-6.
Staging Area for Universal Design Launch Areas

Filtration

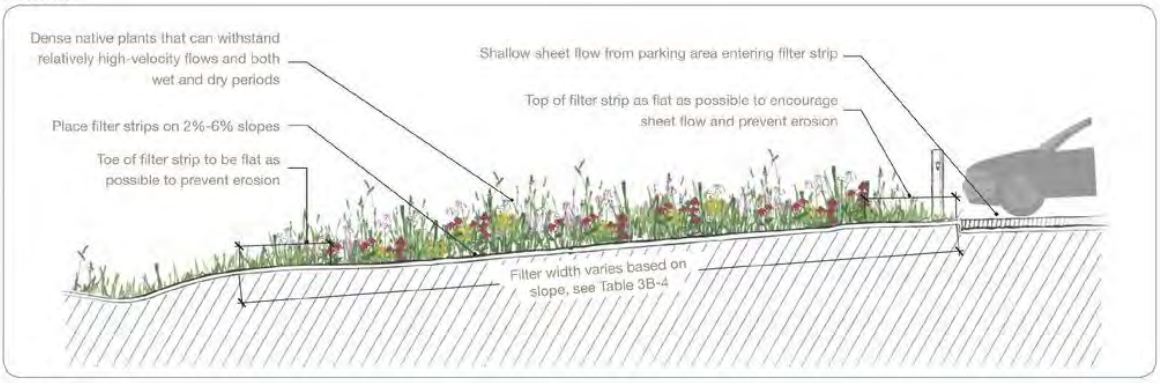
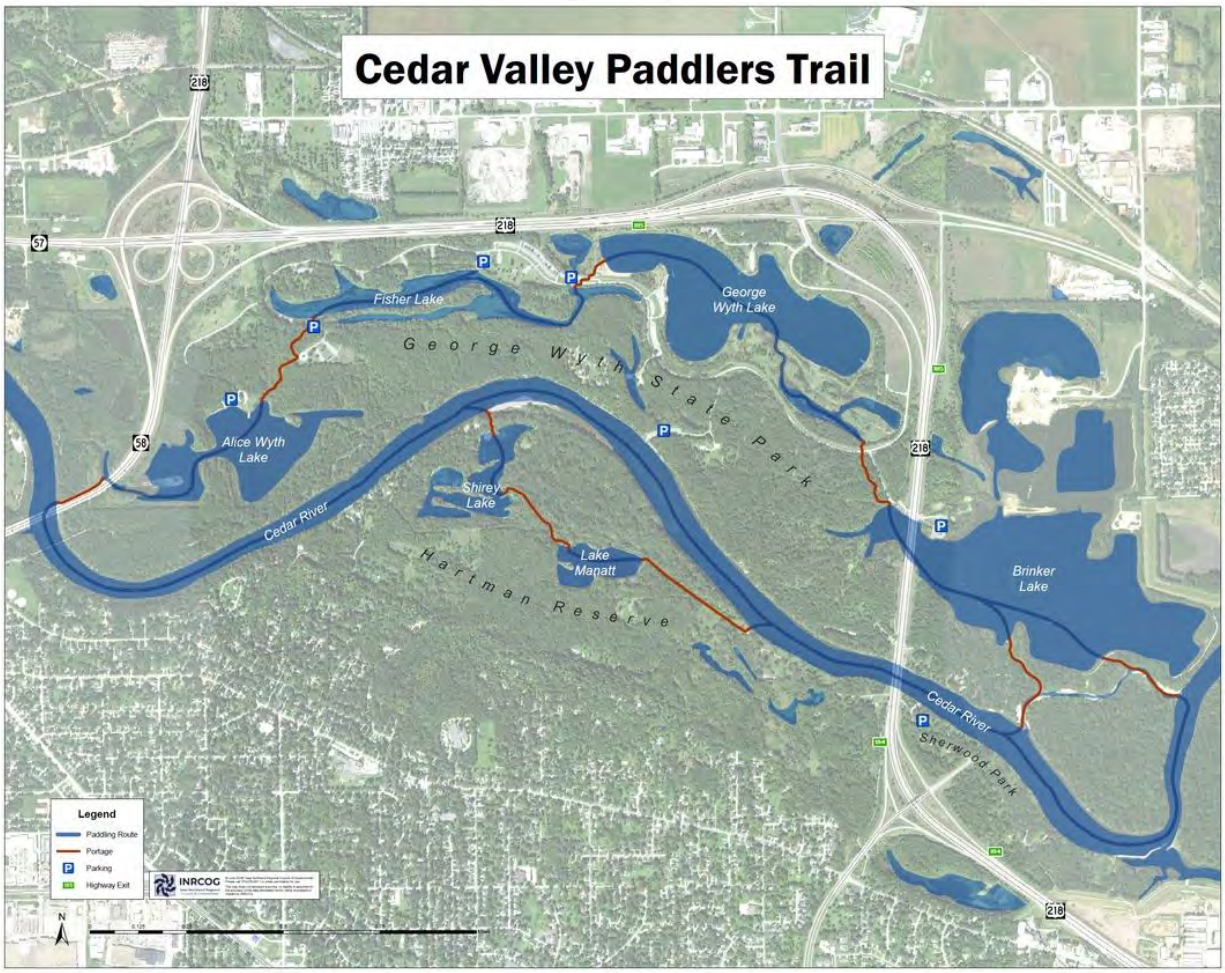
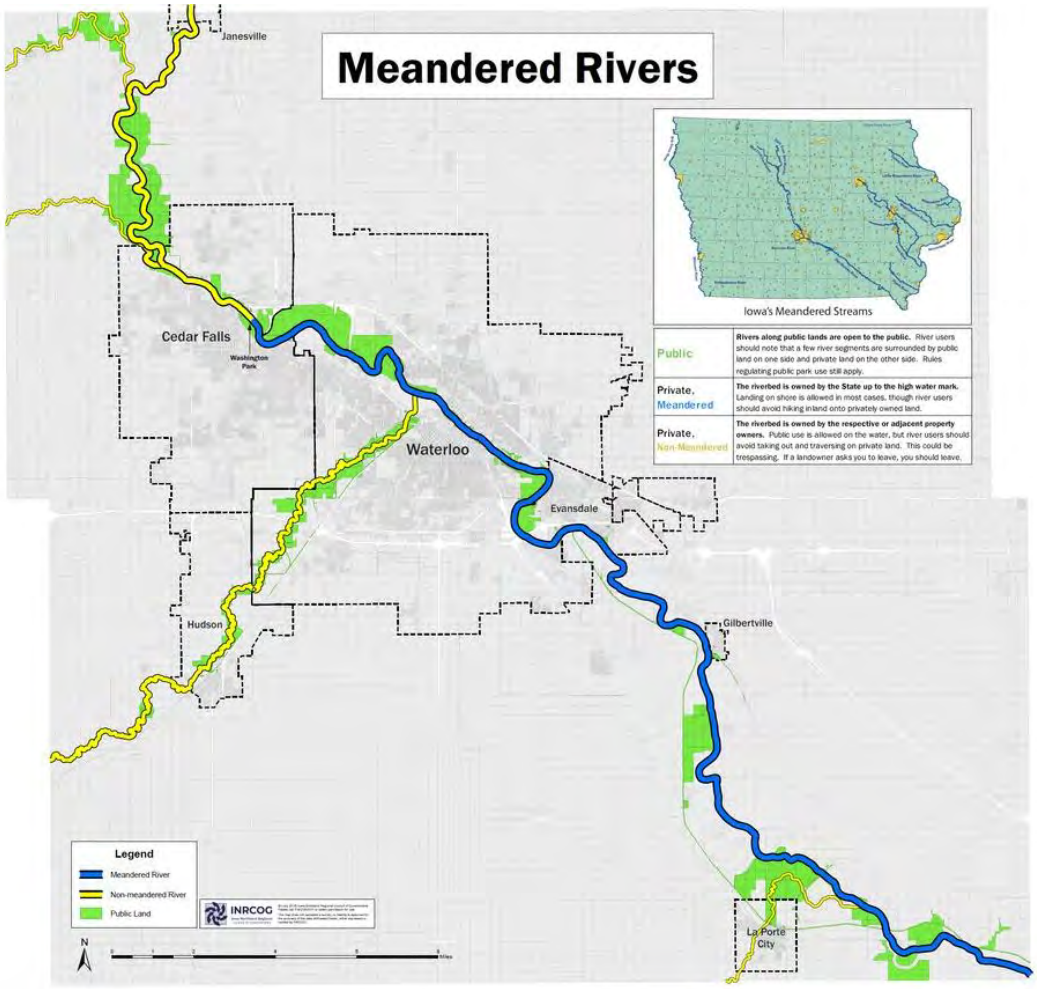


Figure 3B-8.
Vegetated Filter Strip

INRCOG

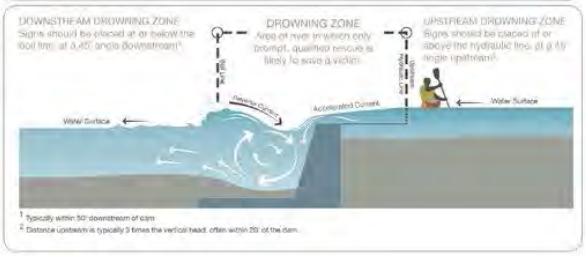
DISPLAYS


Cedar Valley Paddlers Trail
Fisher Lake
George Wyth Lake
George Wyth State Park
Alice Wyth Lake
Shirey Lake
Cedar River
Lake Manatt
Hartman Reserve
Brinker Lake
Cedar River
Sherwood Park
Legend
Paddling Route
Portage
Parking
Highway Exit
INRCOG
N


Meandered Rivers
Janesville
Cedar Falls
Washington Park
Waterloo
Evansdale
Hudson
Gilbertville
La Porte City
Iowa's Meandered Streams
Public
Rivers along public lands are open to the public. River users should note that a few river segments are surrounded by public land on one side and private land on the other side. Rules regulating public park use still apply.
Private, Meandered
The riverbed is owned by the State up to the high water mark. Landing on shore is allowed in most cases, though river users should avoid hiking inland onto privately owned land.
Private, Non-Meandered
The riverbed is owned by the respective or adjacent property owners. Public use is allowed on the water, but river users should avoid taking out and traversing on private land. This could be trespassing. If a landowner asks you to leave, you should leave.
Legend
Meandered River
Non-meandered River
Public Land
INRCOG
N

Signage

Dam Warning Signs



INRCOG

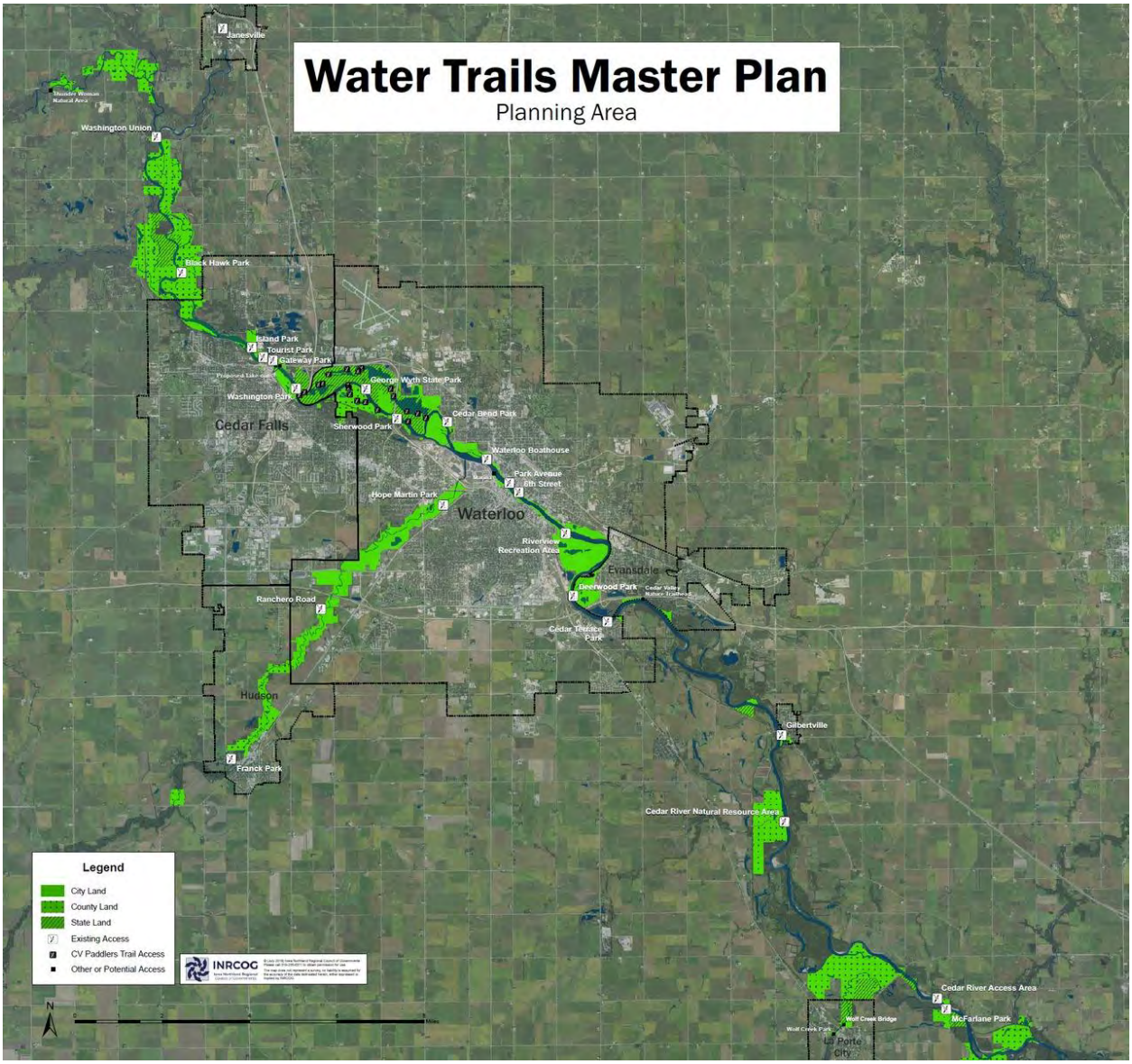
Access Signs

Name	Image	Size: H x W (in.)
Water Trail Name		18 x 12
Distance to Next Access		12 x 12
Water Trail Rules		12 x 12
Accessible Parking		18 x 12
Blue Access Number		18 x 24
Keep It Clean (Non-Meandered)		36 x 24

Road Signs

Name	Image	Size: H x W (in.)
Large Paddler		24 x 24
Small Paddler		12 x 12
Brown Access Number		18 x 24
Mile Arrow		18 x 24
Large Arrow		12 x 24
Small Arrow		6 x 12
Bridge	Highway 17 4.2 mi. to Access #31	18 x (Varies)

PUSHPIN ACTIVITY MAP



SURVEY FORM

Water Trails Master Plan

2018 Public Input Meetings Survey

1.) What city do you live in?

2.) Are there any maintenance problems you are aware of at any river access area in Black Hawk County?

3.) Is there anywhere you would have liked to use the restroom, but there was none available? If so, where?

4.) Is there anywhere you would have liked fresh drinking water, but there was none available? If so, where?

5.) Have you ever integrated bicycling in to your paddling trip? If so, where?

6.) Is there anything law enforcement and emergency response officials should consider to improve their service and the safety of the rivers?

7.) Would you participate in an "Adopt an Access" program and volunteer to clean up the access areas on a regular basis? If so, please provide contact information.

8.) What improvements would be most beneficial to you between the river and your city's downtown area?

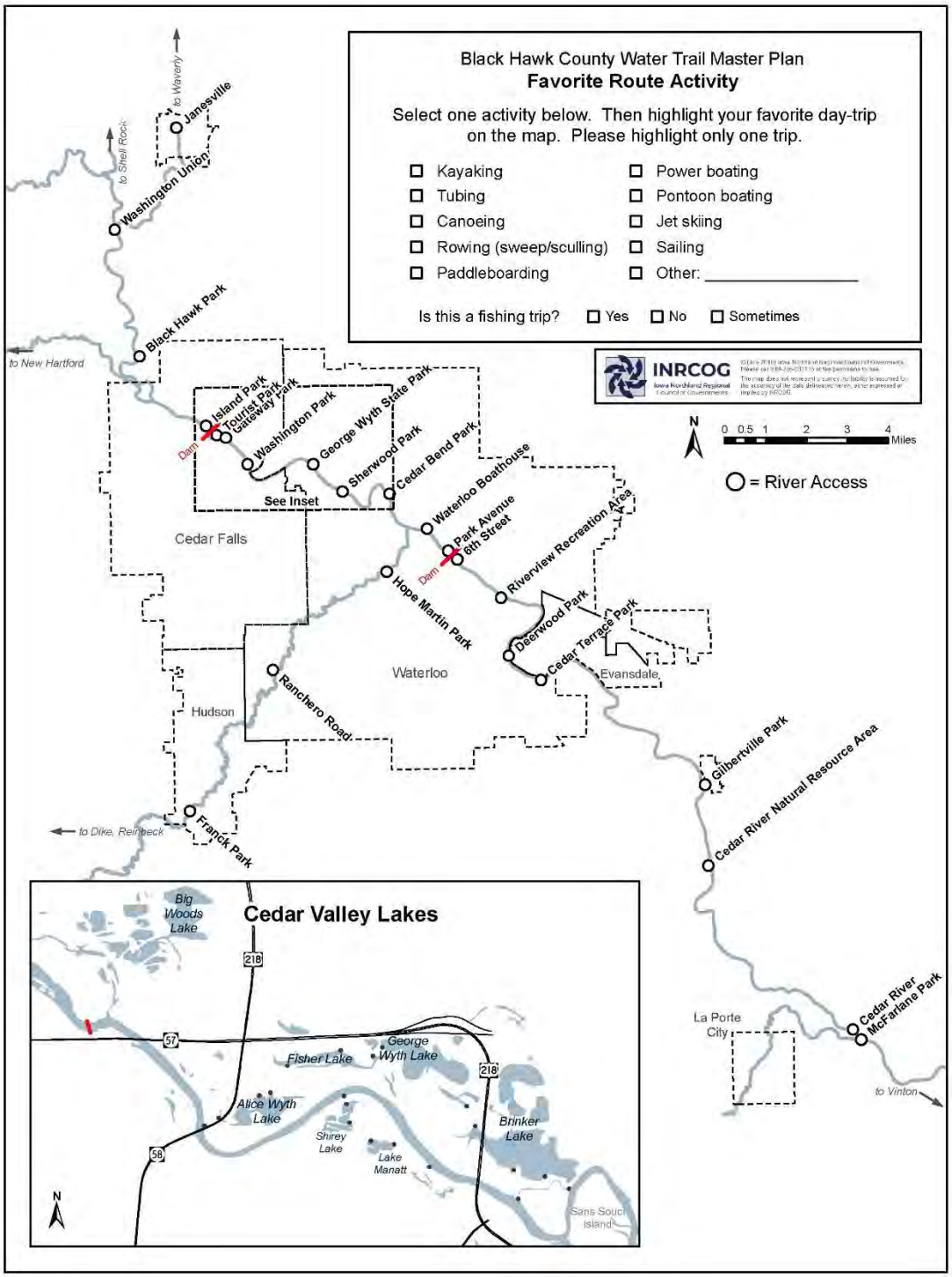
9.) Please rank the following list in order of what is most important to you
(1 = most important, 6 = least important)

_____ River access areas are clean and free of trash
_____ River access areas function well for loading and unloading
_____ River access areas include water quality and habitat considerations
_____ River access areas include trails for walking and bicycling
_____ River access areas include shelters, playgrounds, disc golf, and other park features
_____ River improvement are inviting and easy for families with children

10.) Please write any other comments, suggestions, or concerns below:

Turn over →

DRAWING ACTIVITY



APPENDIX B: WRITTEN SURVEY RESPONSES

RESPONSES RELATED TO DOWNTOWN IMPROVEMENTS

Black Hawk County Water Trails Master Plan Survey, 2018

Responses Related to Downtown River Improvements

ID	City	Response
13	Jesup	Ramp below lower dam on east side
67	Cedar Falls	Access points, water-related activities in downtown CF
81	Waterloo	Access to Cedar River Downtown Waterloo. Levee blocks access.
64	Waterloo	Access to the river downtown area
49	Cedar Falls	Access (easy) to downtown businesses; stop and grab a snack and cold beverage
19	Cedar Falls	Easily accessible and usable put in and take out points
30	Cedar Falls	Better entry points
50	Cedar Falls	Always need good put in and take out points
73	Waterloo	Open up/encouraging public access to river
88	Cedar Falls	Improved river access in downtown Waterloo
86	Waterloo	Inviting landings and easy points of access
31	La Porte City	More access to the waterways
42	Cedar Falls	A few more vantage points to stop to rest, with a bench perhaps. Not necessary to have full access point.
65	Cedar Falls	Better access marking in the water - i.e. Cedar River to Brinker Lake
41	Waterloo	Better signage, easier get-in/get-outs
33	Evansdale	Signage. Especially in Gilbertville, The area is hidden and hard to find
54	Cedar Falls	Signage
91	Waterloo	Signage
87	Cedar Falls	Signage designating destinations and distance
69	Hudson	Signs
85	Gilbertville	Signage to restrooms, shelters, etc. Drinking water signs
24	Cedar Falls	Well marked accesses
58	Cedar Falls	Boat or marina for south side of river north of dam
51	Cedar Falls	Areas to boat to, like W'loo. City docks at Olson's Park would be nice.
14	Cedar Falls	More kayak friendly boat ramps - WI has ones that are dual purpose for motor boats with paddling ramp on the side.
56	Janesville	Improve boat ramp in Janesville
44	Cedar Falls	Improve the shoreline where Olsens Boat House used to be so you can easily park a boat
15	Cedar Falls	Boat docks to be installed
33	Evansdale	Kayak docks
57	Cedar Falls	Ramp at Gateway Park
48	Cedar Falls	Kayak parking at Olson's boathouse shelter for easy access to Farmer's market and live music at Boathouse
53	Cedar Falls	Kayak docks at Island Park to get them in and out safely
51	Cedar Falls	Outdoor riverside restaurants
47	Cedar Falls	More public parks, places that can be rented, fire pits
72	Waterloo	A plaza with tables and shade would be nice. A patio bar that serves drinks and food would be popular.
84	Cedar Falls	Downtown seating/viewing.
38	La Porte City	A walking trail from downtown and along Wolf Creek to the CV Nature Trail. A sitting/gathering area with shade and tables/benches.
85	Gilbertville	Trail access
21	Waterloo	Brush and trash cleaned up
14	Cedar Falls	Garbage/recycling containers near ramps!
47	Cedar Falls	Trash cans
11	Cedar Falls	Trees in river
45	Cedar Falls	Remove large trees from river
46	Cedar Falls	Remove obstacles from water
51	Cedar Falls	If we were able to go past the dam area in a boat
8	Waterloo	Whitewater in Cedar Falls and/or Waterloo
26	Waterloo	Whitewater course
43	Cedar Falls	More public/usable places for boats to park when utilizing downtown or events such as Sturgis Falls/Live to 9. Many Cottage Row residents use their boats as transportation to that area.
32	Cedar Falls	Kayak/canoe racks similar to bike racks for folks who want to check out downtown and not have their boats swiped.
10	Waterloo	[illegible]
17	Waterloo	More river depth
73	Waterloo	Habitat, beautification
63	Cedar Falls	Clear out flood gate and close it
80	Waterloo	Better canoe and kayak
66	Black Hawk County	Just about anything. Our river is so underutilized.
77	Cedar Falls	Safety
34	Waterloo	I don't want my dollars being spent downtown

Key:

- Improve Access
- Signage
- Docks and Landings
- Attractions
- Clean up
- Fallen Trees
- Whitewater / Dam Related
- Parking
- Dredging
- Habitat
- Other

RESPONSES RELATED TO LAW ENFORCEMENT AND EMERGENCY RESPONSE

Black Hawk County Water Trails Master Plan Survey, 2018

Responses Related to Law Enforcement and Emergency Response

ID	Simplified Response	Full Response
1	Locator signs	Maybe mark it in case trouble occurs to help locate someone?
19	Locator signs	Implement the new geo-locator system
26	Mile marker signs	Mile marker signs for paddlers
33	River bank markers	Signage on the cedar river banks - acknowledging location. Even if it was numbered like the highway so you could tell people your location
41	Signs on bridges	Add bridge signage (river facing) so we can tell them where we are.
42	Mile marker signs	Mile markers along river (like on the highway) for reference points between access points.
59	GPS location information	GPS location data at access area
30	Enforce no swimming and no wake lakes	Enforce no swimming or wake lakes
31	Boats not slowing for kayaks	Big boats not slowing down for kayaks on the Cedar
50	Boats not slowing for canoes	Have had trouble in a canoe with motor boats not slowing to prevent wakes
51	Post "no wake" signs	Post "no wake" signs - Black Hawk campground area - too narrow
65	Jet skis are a pain	I don't think so. The jet skis are a pain, but it's their river too!
77	Power boaters inconsiderate	Power boaters are inconsiderate to those in slow moving crafts
8	Increased patrols	Increased patrols
34	Patrol Sherwood Park ramp	Patrol the ramp by Greenhill Rd. Lots of shady things happen there
43	Have rescue boat on water regularly	Cedar Falls would be better served to have a rescue boat on or near the water at all times (think Waterloo Fire Rescue)
61	Practice search and rescue	Search rescue practice
87	Be sure rescue equipment is ready	Be sure to have boats and rescue equipment available and ready
72	More access points, if practical	I suppose more access points would be good (if practical)
14	Safety education	Reinforce boater safety education - life jackets and appropriate boats for lone children - They do not realize the dangers on the river - Saw a family on the Cedar last month with a 7-8 YO girl solo in a kayak. Her arms were not long enough to paddle. It may have been okay in the lake, but not the river. Motor boaters (incl. jet skis) also need to be reminded to slow down near paddlers.
24	Better maps	Better map resources for users
32	Life jacket education	There should be more encouragement of paddlers to actually wear their life jackets/ pfds
73	Public education	Public education
12	Tree hazards	Dead Man Island has trees in the water. Someone died there and several others caught up under trees. That way all along river. Waterloo shores are not like that
60	Dangerous snag on Black Hawk Creek	Dangerous snag and portage 3.25 mi down river from Franck Park
89	Clear log jams, practice rapid response	Safety: log jams. Service: practice rapid response and access
2	Portages under bridges are creepy	Under bridges near Alice Wyth is a creepy spot doesn't feel safe to portage there
28	Cameras at Waterloo Boathouse parking lot	Install cameras at the Waterloo boathouse trailer parking lot
25	Big Woods Lake ramp too narrow	Widen the sand ramp on the South side of Big Woods. Don't allow both Cooks and Max Rentals to locate side by side on the south side it blocks the sand ramp access and potentially impedes emergency access for paddlers
40	First-aid kits	How about a blue light like they have on campus for use for cuts or injuries or if we see wounded animals?
47	Public posting to open or close gates	Public posting to open or close gates
48	Friendlier enforcement	General orientation toward river recreation. Appreciate safety checks but they could be done with a smile. Give warnings instead of tickets to floaters
58	Office on north side of river	Office on north side of river

Key:
- Signage
- Patrols, speed related
- Patrols, other
- Rescue
- Education
- Hazards
- Security
- Other

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Iowa Northland Regional Council of Governments

OTHER COMMENTS, SUGGESTIONS, OR CONCERNS

APPENDIX C: BIRD SPECIES IDENTIFIED ALONG THE WATER TRAILS

BIRD SPECIES INDEX

Species	Species	Species
Canada Goose	Bald Eagle	Tree Swallow
Trumpeter Swan	Red-shouldered Hawk	Northern Rough-winged Swallow
Wood Duck	Red-tailed Hawk	Purple Martin
Blue-winged Teal	Great Horned Owl	Barn Swallow
Mallard	Barred Owl	Cliff Swallow
Canvasback	Belted Kingfisher	Cedar Waxwing
Hooded Merganser	Red-headed Woodpecker	White-breasted Nuthatch
Wild Turkey	Red-bellied Woodpecker	Brown Creeper
Gray Partridge	Downy Woodpecker	Blue-gray Gnatcatcher
Ring-necked Pheasant	Hairy Woodpecker	House Wren
Pied-billed Grebe	Northern Flicker	Sedge Wren
Rock Pigeon	Pileated Woodpecker	Marsh Wren
Eurasian Collared-Dove	American Kestrel	Gray Catbird
Mourning Dove	Great Crested Flycatcher	Brown Thrasher
Yellow-billed Cuckoo	Eastern Kingbird	European Starling
Black-billed Cuckoo	Eastern Wood-Pewee	Eastern Bluebird
Common Nighthawk	Willow Flycatcher	Wood Thrush
Eastern Whip-poor-will	Least Flycatcher	American Robin
Chimney Swift	Eastern Phoebe	House Sparrow
Ruby-throated Hummingbird	Bell's Vireo	House Finch
American Coot	Yellow-throated Vireo	American Goldfinch
Sandhill Crane	Warbling Vireo	Grasshopper Sparrow
Killdeer	Red-eyed Vireo	Lark Sparrow
American Woodcock	Loggerhead Shrike	Chipping Sparrow
Spotted Sandpiper	Blue Jay	Field Sparrow
Great Blue Herron	American Crow	Vesper Sparrow
Green Herron	Black-capped Chickadee	Henslow's Sparrow
Turkey Vulture	Tufted Titmouse	Savannah Sparrow
Sharp-shinned Hawk	Horned Lark	Song Sparrow
Cooper's Hawk	Bank Swallow	Swamp Sparrow
Eastern Towhee	Bobolink	Eastern Meadowlark
Orchard Oriole	Baltimore Oriole	Western Meadowlark
Red-winged Blackbird	Brown-headed Cowbird	Common Grackle
Ovenbird	Common Yellowthroat	American Redstart
Yellow Warbler	Scarlet Tanager	Northern Cardinal
	Rose-breasted Grosbeak	

APPENDIX D: INTERPRETIVE ACCOUNT OF CEDAR RIVER BY DR. JAMES PEASE

Excerpt from
Report to IDNR River Programs
Interpretive and Informal Biological Reconnaissance

Submitted by:
James Pease, Ph.D.

Date Submitted: 8 July 2014 **Dates Surveyed:** June 11-14 and 18, 2014

CFS average during this time period: 5300 cfs on June 11-14, 10,000 cfs on June 18

JANESVILLE CITY PARK ACCESS TO WASHINGTON UNION ACCESS

UTM Beginning: 0543769 E – 4722011 N

UTM End: 0541334 E - 4718004 N

Approximate mileage: 4 miles

Description of this section: After putting in at the Janesville park, a small riffle is just downstream which may provide problems for beginning paddlers, especially at lower water levels. Two bridges, a RR and a highway, are downstream from there in Janesville and paddlers are advised to avoid the bridge abutments. If paddlers wish to avoid these hazards altogether, they may put in at a small city park on the south end of Janesville.

A large beach on the inside of the riverbend just south of Janesville has both mussel litter and human litter. A locally organized clean-up would enhance the beach and the town's relationship with the river. There are several beaches along this stretch and mussel shells are common on them, as are turtles, killdeer, and other beach birds. Some tree and bank swallows are found foraging over the river.

The middle ½ mile of this reach is nicely wooded with bottomland hardwoods. Bald eagles, herons, red-tailed hawks, turkey vultures, barred owls and even a few wood pewees are seen along this 4 mile stretch. However, there are significant stretches before and after that—especially in the last 2 miles above the Washington-Union Access—where grazing significantly impacts the riparian zone and the river. Honey locust trees dominate the bottomland pasture and cattle accessing the river for water break down the banks along the river. The absence of grass cover near the water contributes significantly to soil erosion of the banks. Another contributing factor has been that this is the junction of two rivers, the Cedar and the Shell Rock, that have undergone extensive flooding several times in the last decade. Still, grazing is the primary factor in the forest cover—or lack thereof—along the river in the last 2 miles above Washington-Union Access.

Several rather ramshackle cabins are found along the river, as well.

Major vegetation groups along the reach: The vegetation varies widely in this section of river, depending primarily on whether or not there is grazing taking place. In much of the upper half of the stretch, there is typical lowland hardwood woodland, with silver maple, cottonwoods, willow and some boxelder, with elms next to the water and walnut, some ash, hackberry, and oaks on benches farther above the water. The lower half of this section has been

and still is grazed heavily by cattle. While a few large swamp white oaks, silver maple, hackberry, and cottonwoods tell what the forest along here used to look like, it is now dominated by small and large honey locust trees, thistles and other inedible species in the understory.

Notable hazards and locations:

Riffle just downstream of put-in at Janesville may prove hazardous at lower water levels.

Notable landmarks and locations:

Alternate put-in at small Janesville City Park on south end of Janesville: UTM 0543912 E – 4720889 N

Adult bald eagle: 0543150 E – 4719456 N

Adult bald eagle: 0542739 E – 4718586 N

Shell Rock River joins the Cedar just above the Washington-Union Access.

Interpretive sub-themes: Grazing, woodlands, wildlife, and rivers—the relationship between them.

Recommended Experience Classification: Gateway or Recreational

WASHINGTON UNION ACCESS TO BLACK HAWK PARK ACCESS

UTM Beginning: 0541334 E - 4718004 N

UTM End: 0542279 E – 4713020 N

Approximate mileage: 5.1 miles

Description of this section: Beginning just below the Washington-Union Access, the river passes beneath the W. Cedar Wapsi Road steel span bridge and the landscape changes dramatically. Owing, in large measure, to the property destruction that resulted from the 2008 flood, there is now primarily publicly-owned land along the next 7 miles of river. All of this stretch of river is part of Black Hawk Park, owned and operated by the Black Hawk County Conservation Board. As a result, it has a wildness that is rivaled only by the stretch from North Cedar Park to Cedar Bend in Bremer County. It contains a broad floodplain of bottomland hardwood forest, numerous beaches on the insides of the numerous river meanders, and abundant wildlife.

Because the Shell Rock joins the Cedar just above Washington-Union Access, the water volume was nearly doubled on the day I paddled this stretch. The flooding and allowing the river to do what rivers do, have led to the creation of alternate channels in several locations, leaving islands both large and small. Turtles, great blue and green herons, deer, raccoons and other wildlife make use of the smaller backwaters, making exploration of them exciting. A wide variety of songbirds make use of the woodlands all along this stretch, including warblers, vireos, grosbeaks, orioles, wrens, catbirds, flycatchers, and many other songbirds. Similarly, beaches reside on the inside bends of turns in the river and mussel shells, shorebirds and an abundance of turtles—especially soft shelled—make use of them.

Because a shooting range is near the access at Black Hawk Park, paddlers need to be made aware of it. It can be heard up to 1 mile upriver. Paddlers need to understand that it is a safe and well-maintained range so that they don't think someone is shooting at them.

Major vegetation groups along the reach: This entire stretch of river is typical bottomland hardwood forest, with silver maple dominating near the water, allowing some cottonwoods, box elder, elms, and willows to pop through. It

is vegetated to the water's edge and, where sunlight is sufficient, riverbank grapes and poison ivy vines drape nearly into the water. On benches 4-6 feet above the water, walnuts, hackberry, ash, swamp white oaks, and a few Kentucky coffee trees are found. Elderberry and gray dogwood are common in openings. While a few honey locusts can also be found in this location, they are common only in small areas.

Notable hazards and locations:

Transmission lines cross the river: 0541487 E - 4715625 N

Notable landmarks and locations:

Adult bald eagle (soaring): 0541733 E – 4714342 N

Interpretive sub-themes: Public land and wildlife. Why public ownership benefits us all.

Recommended Experience Classification: Recreational

BLACK HAWK PARK ACCESS TO ISLAND PARK ACCESS

UTM Beginning: 0542279 E – 4713020 N

UTM End: 0544942 E – 4710150 N (beach at Island Park)

Approximate mileage: 4.8 miles

Description of this section: This section is one of transition, changing from the wildness of the river in Black Hawk Park to the urban river of Cedar Falls and Waterloo. Approximately half of this section is in each of the two zones.

The access at Black Hawk Park has water, picnic tables, a picnic shelter, vault toilets, and garbage cans, and the camping area of the park is not far from this access. There is ample parking, as well. Around the first bend of the river, paddlers will find the Black Hawk Park Campground on the left side of the river. It is possible, with some careful footwork, to put in or take out there as well (UTM: 0542628 E – 4712057 N). Many quiet backwaters, alternate channels, and islands continue to be a part of this portion of the river. Cabins appear as soon as the park land ends along the left side of the river and become homes as we approach closer to Cedar Falls. This section of the river is popular with anglers—in johnboats and on the shoreline—and with other water recreationists on jet-skis, pontoon boats, and speedboats in the mile just above the dam. If paddlers stay close to the right shore, they can avoid much of the traffic and still see wildlife and wild land on that side of the river. In fact, about ¼ mile above the Island Park Access, paddlers can duck into the shallow backwaters of an island on river right and share it with geese, bachelor mallards, cedar waxwings, orioles, blue flag iris, blooming dogwoods, butterflies, dragonflies, bees and turtles. It is a fitting end to a beautiful stretch of river.

Paddlers must be certain to get out of the river at Island Park to avoid the dangerous dam just below that point. There are two boat ramps, but if they are busy, paddlers can take out at the beach just below the ramps.

Major vegetation groups along the reach: Vegetation along the first half of this stretch is the same bottomland hardwood forest as is found in the previous stretch. When cabins and private land occurs along the river, of course, it changes to rip-rapped shoreline—some of it using rock rather than cement waste—with scattered trees and mowed lawns.

Notable hazards and locations:

The dam at Cedar Falls definitely must be avoided and a take out and portage at Island Park are necessary.

Notable landmarks and locations:

Interpretive sub-themes: Transitioning a river, and ourselves, from rural to urban.

Recommended Experience Classification: Gateway to Recreational

ISLAND PARK PORTAGE TO GATEWAY PARK ACCESS TO WASHINGTON PARK ACCESS TO GEORGE WYTH PARK ACCESS TO HARTMAN RESERVE ACCESS (NEW)

UTM Beginning: 0545643 E - 4709805 N (Gateway Park—just south of Main St. bridge)

UTM End: 0550226 E – 4707667 N (new Hartman Reserve access off Exit 184 from Hwy 218)

Approximate mileage: .5 to 1 mile portage, then 4 miles to new Hartman Reserve Access

Description of this section: While it is possible to put in at Tourists Park, which is closer to Island Park, the put it below the dam requires portaging a boat through a narrow woodland trail, lined with poison ivy, to eventually find a small sand inlet. The park and the inlet are popular with local young people and it is amply littered with beer cans, pop cans, bottles, and other paraphernalia. Tourists Park does have parking and a small picnic shelter, but is a disk golf course and appeals to a younger urban crowd (and thus the litter, even on the disk golf course!). I recommend that paddlers who have access to a vehicle to transport paddlecraft put in at Gateway Park, a bit farther downstream. Gateway has parking, restrooms, and a ramp to enable put-in. The only disadvantage is that immediately below the put-in, there are some challenging riffles and a small wall on river left. So it is necessary to cross immediately to river right, and that may be difficult for some paddlers. Standing waves in the area may necessitate a skirt for some paddlers or at least waterproof protection for cameras, etc. (Note: putting in at Tourists Park would not avoid these riffles, either, but rather would add some more upstream.)

Paddlers wishing to avoid this area altogether could put it farther downstream at Washington Park (UTM 0546386 E – 4708941 N) on river right. Since most will not portage on foot anyway, I'd recommend this as a better access for most folks. There is an existing boat ramp there and the park is owned and managed by the City of Cedar Falls and the slopes are gentle. Some negotiation with the city will be necessary to put in an official access, but it would be safer and more usable for most paddlers.

Once the paddler passes under the busy Hwy 58 bridge and the bike/pedestrian bridge just below it, the city is quickly left behind. Cliff swallow nests decorate the undersides of both bridges. The wooded slopes of Cedar Falls and the expanded woodlands of George Wyth State Park and Hartman Reserve quickly turn this urban paddle into a pleasant paddle through Iowa wildness. The bottomland hardwood forest holds a variety of birds and other wildlife. Spotted sandpipers and killdeer occupy the beaches, while turtles bask on the logs. Orioles, wrens, wood pewees, and other woodland birds call from the woods along the shoreline. The public land means that the riparian zone is wide, allowing deep woodland birds like scarlet tanagers and red-eyed vireos and other wildlife to be common, despite the urban location. Deer, foxes, squirrels and woodchucks are all common. Bike trails are found along both sides of the river and at least one interpretive sign is found along it near Hartman. It would be an excellent area to promote a Peddlers and Paddlers meeting point, making each aware of the other's trails. At George Wyth Park, an old, now abandoned, boat ramp is present along the bike trail at the "Pickles Place" gazebo, another place where Peddlers and Paddlers might be made aware of each other through interpretive signage. A camping area at George Wyth might also be made available to paddlers who wish to camp overnight, though no ramp or beach exists at the camping area at the present for paddlers to land. Perhaps a camping spot or two could be created and reserved for paddlers. The George Wyth Park ramp also intersects with the bike trail and is an excellent area for interpretive signage that can impact the knowledge of both peddlers and paddlers.

The inside bend of the river is Hartman Reserve and, like most riverbends, a beach area is attractive to both humans and wildlife. Some mussel shells on the beach reveal their presence in the river, and crows, geese, mallards, blackbirds, killdeer and sandpipers make use of the sand area. Spiny softshells, snappers, and other turtles bask on this beach, as well.

Major vegetation groups along the reach:

Typical bottomland forest of silver maple, cottonwoods, and willow dominates near the water, while on upland slopes walnuts, basswoods, and oaks punctuate the canopy.

Notable hazards and locations:

The hazards in the water below the Gateway Park Access are considerable and should only be undertaken by experienced paddlers.

Notable landmarks and locations:

The previous ramp at Hartman Reserve no longer exists as an access. Due to the 2008 flood and resulting FEMA acquisitions, Hartman added a number of acres to its holdings that were previously private land. As a result, they closed the access road off and moved it to the new location, just north and east of Hwy 218, Exit 184.

Interpretive sub-themes: Wildness in the midst of an urban environment

Recommended Experience Classification: Challenge if one puts in at Gateway Park. Recreational if accessed at Washington Park.

HARTMAN RESERVE ACCESS (NEW) TO CEDAR BEND PARK (BH CO.) TO EXCHANGE PARK ACCESS (LAST TAKE-OUT IN DOWNTOWN WATERLOO)

UTM Beginning: 0550226 E – 4707667 N (new Hartman Reserve access off Exit 184 from Hwy 218, Greenhill Road)

UTM End: 0553542 E – 4706190 N (Exchange Park Access)

Approximate mileage: 3.7 miles

Description of this section: The new access is easier to find than the previous Hartman Reserve Access (now closed) but is also more urban. It is right next to the noise of Hwy 218. This short stretch is an interesting urban/rural combination. The noise of the highway quickly fades as trees absorb the din as one moves downriver and into the bend of Cedar Bend. Much of the shoreline is rip-rapped with waste concrete, probably a remnant of the cabins that once existed along much of this area. As a result of flood buyouts over the last decade, few of the cabins or houses that were once a staple of this stretch are now here. Remnant stairs, private ramps, etc. reveal where they once stood. It appears that some few landowners have maintained their ownership of the land, now using temporary campers, RVs, etc. instead of cabins, to enjoy their riverbottom property. The Waterloo levee system begins about .4 mile southeast of the Hartman Reserve access, directly south of where the river takes the large horseshoe bend to the north. A somewhat confusing rock reef juts northeast into the river at that point also, seemingly encouraging the river—and paddlers—to take the bend north. Water from the bottomlands to the northwest also contribute water and wildness to the area.

The Cedar Bend area of the river is heavily forested with bottomland forest. Deer, great blue herons, green herons, belted kingfishers, great crested flycatchers, woodpeckers, swallows, and other river critters where all seen easily in this area.

As one reaches the northernmost bend in the river, the Waterloo levee on the northwest side of the city is visible from the river. At first just appearing as a rip-rapped area beyond the bottomland trees, the trees disappear and the levee (with the bike trail on its top) comes into full view along the eastern side of Cedar Bend. Cedar Bend Park and its access are evident on the east (left) side of the river. On the Cedar Bend island, a slough reaches back into the center of the island, beginning about halfway down the eastern side of the island. A paddle back into this quiet backwater is a great experience in discovering wildlife of this area.

As the river turns back to the east and into downtown Waterloo, there is an interesting contrast in land use which must have some fascinating background story. On river right is an area with stone docks and steps and patios that once must have held several expensive riverfront homes. They are gone now but the remnant stone waterfront remains. Across the river on river left an active neighborhood of modest homes persists on the river side of the levee, most with boat docks in front along the river. Both, I am sure, were equally flooded in the floods of the last decade, yet one neighborhood apparently didn't take the buyouts. Evidence of the most recent high water of summer 2014 was not hard to find. The background story is a mystery to me but I suspect is an interesting bit of Waterloo lore and politics.

As the river bends to the east and towards downtown Waterloo, it becomes fully an urban river. The noise from industry to the south (John Deere works?) is constant, traffic over the nearby roads and bridges is constant, and the flood walls that line the river through downtown Waterloo are visible in the distance. Yet the land along the river is still wild on the left, the non-manicured part of Exchange Park. The dense willows along the river house at least two beaver homes that I found, probably unknown to the park personnel and the neighborhood. Kingfishers also rattle along the river here, finding fish to eat and apparently oblivious to the noise of the industry and traffic.

The last access in Waterloo before the downtown is on river left at Exchange Park, just after the red-roofed Boat House on the waterfront. (Black Hawk Creek enters the Cedar River just across from Exchange Park.) The access is a boat ramp and has docks to which to tie up if so desired. The parking lot is ample and there are restrooms nearby.

Major vegetation groups along the reach: The treed portions of this stretch are silver maple dominated bottomland hardwoods. Some cottonwoods, willow, boxelder and elms are included in this mix. Because most of the land is only 1-3 feet above the water level (about 3500 cfs the day I paddled it), only trees capable of having wet roots survive here. I did find a patch of healthy swamp white oak on a backwater on the eastern side of the Cedar Bend island. A few walnuts and basswoods on higher benches are also found. Reeds canary grass, sedges, curly dock, dogwoods, and riverbank grapes are common throughout the stretch.

Notable hazards and locations: None if the river is at a reasonable level. When I tried this section before, the river was running much faster and full trees were floating down. I had no desire to fight them or the current….

Notable landmarks and locations:

Cedar Bend Park and Access: 0552056 E – 4707524 N

Interpretive sub-themes: The rural/urban river interface

Recommended Experience Classification: At water levels below 4,000 cfs, it can be classed a Recreational experience level, though Gateway paddlers could also use it easily.

RIVERVIEW PARK ACCESS TO CEDAR TERRACE PARK ACCESS TO GILBERTVILLE PARK ACCESS

UTM Beginning: 0556442 E – 4703460 N (Riverview ORV Park)

UTM End: 0564419 E – 4696058 N (Gilbertville Park Access)

Approximate mileage: 10.5 miles (after 2.5 mile portage through downtown Waterloo)

Description of this section: The Riverview Recreation Area Access has a parking area and a vault toilet at the ORV grounds. However, it is isolated (I wouldn't leave a car there overnight) and seems to be a bit of a dumping ground for anyone wanting to get rid of yard waste, carpet, etc. A local clean-up effort and increasing police patrol might make it a more desirable access. Alternate accesses include two downriver at Deerwood and Cedar Terrace Park. (However, nesting cedar waxwings were right above the Riverview Access!)

The left side of the river in the first part of this section has a large levee that stretches down to Hwy 20/380 approximately 3 miles downriver. It protects the southeast Waterloo area (and Evansdale) from flooding. Accordingly, the levee is covered with rip-rap, not providing the paddler with much to look at. The right side of the river is partially leveed down to Hwy 20/380 and also contains old cement rip-rap along some of the shoreline. However, part of the right shoreline is treed with bottomland hardwood forest, dominated by silver maple. This is typical along most of this whole length to Gilbertville, with walnut, swamp white oaks, and some cottonwoods, hackberry, honey locust, and box elder. Demonstrating how tolerant of humans they have become, a bald eagle nest was found in the first mile on the first and most heavily wooded bend in the river, despite the industrial area behind it. Song sparrows, orioles, robins, Canada geese, turkey vultures, mallards, great blue herons, red-winged blackbirds, cardinals, rough-winged swallows, barred owls, and turtles were also common along this stretch. True to an urban area, fresh rains flush out the storm sewers into the river, bringing with them lots of soil and rafts of human trash.

Frequent flooding in recent decades has created alternate channels and islands in the Cedar, including some throughout the Deerwood Park area and below. The isolated back channels, as in the rest of the river, create valuable nursery areas for aquatic wildlife and isolated nesting areas for birds and wildlife. Though floods can tear through them, these now quiet backwaters are critical for wildlife, especially in urban areas.

There is no access at Cedar Terrace Park, though an access exists a few hundred yards upriver off Belle Street in that area (between Ruby Dr. and Southcrest Dr.), primarily for emergencies (UTM). Paddlers could use it for river access, but there is no parking available in this residential area. No roads into Cedar Terrace Park exist, nor is there a river access there. Further down, just east of where the Cedar Valley Bike Trail bridges the river, an informal access has been created by local folks, very near to Hwy 20/380 (UTM 0559318 E – 4701065 N), though I am unsure how it can be accessed by road or if it is public land.

From there to Gilbertville, the river bends several times in its current floodplain and it is evident that it spills out onto its floodplain frequently. Some rip-rapping is present but most of the remaining 6 miles is wooded along the riparian area and wildlife is easy to find. Rock and sand beaches are common in the inside bends and softshelled turtles are found in abundance. Painted turtles, map, and snapping turtles make use of basking logs along the way and a wide variety of birds use the forests along the shoreline. Where higher land is found on the outside bends, upland oak forests are found. Portions of the river floodplain are labeled as part of a WRP easement: the Wetland Reserve Program in the Federal Farm Bill that has made permanent easements of much bottomland along Iowa rivers.

The Cedar Valley Bike Trail and the Cedar River Water Trail meet at a bend in the river about a mile above Gilbertville. A simple RR tie stepped access could be created there, allowing "Peddlers and Paddlers" to meet. Interpretive signage at that location could inform each group about respective trails. Below that area, the land on the west side of the river is, unfortunately, grazed. Honey locusts, of course, dominate the trees in this area. Homes line the bluff on the east above the river as it rounds the bend towards Gilbertville. After passing under the E.

Washburn Road bridge at Gilbertville, the access is at a small park on the left, on the southwest end of Gilbertville. The access is a boat ramp and there are picnic tables and a parking area, but no toilets, at this access. No Water Trail signs direct drivers or paddlers to the park.

Major vegetation groups along the reach:

Bottomland forest is most common along this stretch, dominated by silver maple, with cottonwoods interspersed and mulberry and boxelder in the understory. Willows dominate on the inside bends where sand and gravel beaches are found, grading back into large willows and cottonwoods. Benches above the bottomland forest find walnuts, ash, elm, and some swamp white oaks and white oaks, basswoods and some sugar maples are found in uplands well above the floodplain. Where enough light exists, Reeds canary grass, elderberry, and dogwood are found along the shoreline, with overhanging vines of riverbank grape and poison ivy common. Nettles, jewelweed and dock are herbaceous plants commonly found in the understory and river edge, as well.

Notable hazards and locations:

Because it is downstream of an urban area, large rafts of garbage join the trees uprooted by flooding and erosion. A regular clean-up of this stretch is strongly recommended. It could be organized and run locally so as to increase awareness and, hopefully, stewardship of the river.

Notable landmarks and locations:

Bald eagle nest: 0557771 E – 4703114 N (right side of river in big silver maple tree)

Deerwood Park Access: 0556734 E – 4701162 N (campgrounds, restrooms, parking, and picnic area)

Adult bald eagle in a snag: 0561914 E – 4698302 N

Interpretive sub-themes: The adaptability of wildlife to urban and suburban areas.

Recommended Experience Classification: Recreational, due to length

GILBERTVILLE PARK ACCESS TO CEDAR RIVER NATURAL RESOURCE AREA ACCESS TO BRANDON ROAD ACCESS

UTM Beginning: 564419 E – 4696058 N (Gilbertville Park Access)

UTM End: 0568837 E – 4687318 N (Brandon Road Bridge—not yet an access)

Approximate mileage: 8.1 miles

Description of this section: This section of river is a highly channelized portion of the Cedar. But because of public ownership along much of its length, it makes for an interesting paddle. At one time, prior to channelization, the river meandered over a broad floodplain. Today, much of that floodplain is farmed, obvious by the scarcity of trees on the west, and cattle grazing and degrading the bank in the first mile below Gilbertville. However, the east side is dominated by bottomland hardwoods in that same mile, showing the contrast in the priorities of private landowners.

The Cedar River Natural Resource Area is public land, owned and managed for hunting and wildlife by Black Hawk County Conservation Board. A gravel road into the area runs along a drainage ditch that drains farmland to the west and ends on the north side of where that ditch enters the river. With sufficient water levels, a paddle up that

ditch a few hundred yards reveals the interior of the silver maple bottomland forest and its inhabitants to the paddler. A brief history of the area should be included in a paddling brochure (consult with BHCCB).

The remaining six miles of this section is more meandering that the first 2 miles, though it does not occupy all of the twists and turns it once did. The inside bends of turns in the river are usually sand and gravel bars and are used by killdeer and spotted sandpipers for nesting, by bachelor mallards and Canada geese for loafing, and by turtles for basking. Dense willows that inhabit the inner parts of these bars hide deer, beaver, coyotes, and others coming to the river for a drink or a snack. Outside bends, if steep, hold colonies of bank swallows and the more hidden nest holes of rough-winged swallows. Belted kingfisher nest holes may be found there, as well. In wooded stretches, oriole nests overhang the water from silver maple branches, wrens, wood ducks and woodpeckers use tree cavities for nesting, while bluejays, great crested flycatchers, and great blue herons perch in the tree tops.

A mile-long island is found in the river about halfway between the CRNRA and the Brandon Road Access. Its island status and dense bottomland forest make it ideal wildlife habitat. Its importance is increased because the north side of the last 3 miles of this stretch has little habitat, with most of it grazed or cropped right up to the river edge. Some cabins and/or homes exist in this stretch, and farm machinery is found in and along the final mile of this stretch of river, often displayed as someone's idea of art/sculpture. In fact, a whole sandbar is filled with metal pig feeders that the river will soon claim (UTM 0567917 E – 4688019 N). How do we allow private landowners to get away with this? The same landowner is grazing cattle right down to the river on the north side here. It's a shame that such a nice stretch of river culminates in land that indicates a disdain for the resource. On the wooded public land to the south, a pair of adult bald eagles were perched on a snag, though no nest was found. Tolerant they are, indeed.

What is on the WT map as Brandon Road Access doesn't exist as an access. Upriver ¼ mile from the bridge on the NE side (next to or in the grazed land) there is a gazebo with the roof blown off and what appears to be an old boat ramp. However, there is no road to it from Brandon Road at this time. An access could be created on the SW side of the bridge on what may be public land, but it is too steep at this time.

Major vegetation groups along the reach: Silver maples dominate the hardwoods along this stretch, with mulberry, boxelder, and elm in the understory and some willows and cottonwoods. Riverbank grape and poison ivy vines are common along the bank. Unfortunately, so too is Siberian elm, a woody invasive that can quickly ruin a native woodland. A good stand of it is growing along the shoreline on the northeast end of the Cedar River Natural Resource Area. I do not know if it is elsewhere within that area but attempts should be made to remove it and treat the stumps with herbicide wherever it is found. Also along this stretch are notable Kentucky coffee trees, a tree with a seed that must be scarified to sprout. It is not common along any of the Cedar but, rather, is found here and there. Paddlers should look for its huge doubly pinnately compound leaves and curved exterior bark. In June, elderberry shrubs are blooming in the understory along sunny banks. They attract a number of pollinators to their fragrant flowers, and the berries they form will treat August paddlers to snacks and to views of many fruit-eating bird species.

On the interior of the few bends on this stretch, sand and rock bars are found and are usually grown up with a "willow wedge": that is, young, sprouting willows nearest the water grading up to large willow saplings or trees at the innermost part of the sandbar. Where mudflats exist and sun is sufficient, large stands of giant ragweed may be found.

Where uplands exist, white and bur oaks, ash, basswoods, hickories and other upland species dominate.

Notable hazards and locations:

Paddlers need to know and understand that the Cedar River Natural Resource area (in the second mile of this stretch) is a public hunting area and that it has a shooting range within, as well, so that they are not panicked by the sound of nearby gunfire.

Notable landmarks and locations:

Cedar River Natural Resource Area Access: 0564530 E – 4692883 N (gravel access and parking lot; no other facilities; access via gravel road; remote)

Mouth of drainage ditch out of CRNRA: 0564556 E – 4692734 N

Sub-adult bald eagle: 0565783 E – 4689214 N

Tree-smashed car on edge of river: 0566302 E – 4688238 N

Pair of adult bald eagles: 0568991 E – 4687764 N

Interpretive sub-themes: Responsibilities and obligations of public and private ownership. The bottomland hardwood forest. Unnatural selection.

Recommended Experience Classification: Gateway or Recreational.

BRANDON ROAD TO MCFARLANE PARK ACCESS TO WINEGAR ACCESS

UTM Beginning: 0568837 E – 4687318 N

UTM End: 0577570 E – 4683000 N, Winegar Access (actually Mount Auburn Access)

Approximate mileage: 7.1 miles

Description of this section:

From the Brandon Road Bridge to the Winegar Access, these 7 river miles are a pleasant completion to this water trail in Bremer and Black Hawk counties. Having started in a wild stretch of river outside of Plainfield, the river goes through an urban, highly channelized section of Waterloo and comes out on the lower end much worse for the wear. But, a few miles south of Waterloo, the river becomes rural again, for all the wildness and tameness, the good and the bad, that that implies. This final 7 mile stretch is mostly wild again.

Both the Cedar River Access and the McFarlane Park Access work well for paddlers. The latter also has a campground, water, toilets, showers, and picnic areas, and both have parking at the accesses. About a mile south of McFarlane Park, the Cedar Valley bike and water trails cross again. Also along that portion, several homes with docks are along the hill on the left side of the river. They have access to both trails! Cliff swallows also make their homes on the bike bridge—they, too, have access to both trails!

Some islands in the river and backwater sloughs add diversity to this paddle. Fruiting mulberries hang over the water, offering sustenance to birds, fish, and paddlers. Beaches exist on the inside bends of the river, where killdeer families entertain and spotted sandpipers do their dipping dance. A limestone outcrop ridge also appears along this stretch, betraying the existence of a reef many millions of years ago in this location. An oak savanna enhances this ridge, with large old red and bur oaks.

Like earlier stretches of this river, eagles, herons, catbirds, orioles and many other songbirds are found along the way. Deer are seen along the river and squirrels, raccoons, and other small mammals make the adjacent woodland their home. The presence of pileated woodpeckers in this stretch is a testament to its wildness.

Winegar Access is actually called Mount Auburn Access and Boat Ramp. Winegar Access is known by local folks, but can only be found from muddy and often flooded roads. The name change should be reflected on the Water Trail. No signs are present from the river, though there is one on the road.

Major vegetation groups along the reach:

Large silver maples dominate the area nearest the river and large cottonwoods take up the higher canopy. Some walnuts, elms, hackberry, swamp white oaks and basswood grow with them on the bench above. Mulberries and boxelder overhang the water, interspersed among the other bottomland trees. On banks with sufficient sunlight, Reeds canary grass fills the bank. On hills above the floodplain, basswood and red and white oak predominate, and sugar maples grow in one section on the north-facing shore where the limestone outcrop appears.

Notable hazards and locations: None on this stretch of river.

Notable landmarks and locations:

Cedar River Access: 0570182 E – 4686393 N (Access sign on road but not on river)

MacFarlane Park Access: 0570505 E – 4685999 N

Where Paddlers and Peddlers could meet: 0574611 E – 4684547 N

Adult bald eagle: 05766248 E – 4683719 N

Juvenile bald eagle (just west of Winegar Access ~1/4 mile –no UTM due to operator error)

Interpretive sub-themes: Wild again. Pileated woodpeckers—special and specialized.

Recommended Experience Classification: Gateway to Recreational

ITEMS OF INTERPRETIVE INTEREST ALONG THIS RIVER SEGMENT:

Bottomland forest

The Cedar River is a river rich in bottomland forest. It is composed of trees that are tolerant of flooding—able to have their roots in the water for long periods of time. Silver maples are often the dominant tree of this forest, forming multiple-stemmed trees that take up a lot of sky. Like the sugar and red maples of upland woodlands, they form dense canopies that allow little sunlight in for things to grow beneath. When they can get seeds to sprout, the fast-growing cottonwoods send a single stem up quickly, taking advantage of the abundant water to shoot skyward and break out above the silver maples. Willows choose the open and often barren sandbars and mudflats, quickly sending down a mat of roots that out-competes other trees and holds fast against rising river currents. A few other species—box elder, elm, ash, and mulberry—are able to establish an occasional roothold, but the silver maples, cottonwoods and willows are the top competitors here in the bottomland forest. On the edges, where sunlight creeps in at an angle, plants that need less light but do well on the water's edge, grow beneath the trees. Vines of grape and poison ivy often climb the surrounding trees to get to the sunlight and hang from them like curtains, competing successfully for the sun. Stinging nettles and jewelweed grow there, too, the jewelweed's juices curiously serving as a cure for the itch of the nettles' sting. When the river undermines a tree and carries it downstream, the open ground and mud are quickly inhabited. Millions of seeds of silver maple, cottonwood and willow, carried there by wind or water, find a place to grow, and the competition for sunlight begins again.

Pileated woodpeckers—specialists of Iowa's bottomland forests

Lucky paddlers of Iowa rivers may awaken to the *KA-KA-KA-KA-KA-KA-KA-KA-KA* call or loud drumming on a dead tree snag. They should be delighted to have this natural alarm clock sound off: it tells them that they are, indeed, in one of Iowa's most wild places. The species that has sounded the alarm is the pileated woodpecker, a nearly crow-sized, red-crested woodpecker that is found in Iowa only in the most mature and wild forests. Observant paddlers may have known pileateds were here: their rectangular foraging holes in trees tipped them off. The chisel-shaped bills of pileateds blast 3 inch long chips out of trees, in search of the carpenter ants that nest within, in the hollows of the rotten heartwood of cottonwoods, silver maples, sycamores or elms in the lowlands, or oaks and pines that may grow on the uplands along Iowa rivers. Iowa is known as a prairie state. As a result, most of our woodlands are restricted to the stream and river valleys where trees can find enough moisture and compete successfully over the prairie grasses. As a result, pileateds only find enough ants to eat where the trees are and where the trees are old enough to have rotten interiors and, therefore, ants. That's why seeing a pileated woodpecker flying across the river in front of you or hearing one is a special treat: it indicates that the woodlands you are paddling along are diverse and old. Pileateds wouldn't be there if they weren't. And if the drumming awakened you, you know you are in the several square-mile territory of a pileated. Get up and begin your search for the 4-5 inch diameter hole in a dead tree, 30-50 feet off the ground. You may be rewarded in finding the nest cavity of one of the most uncommon birds of Iowa's wild bottomland woodlands!

Unnatural selection

A species survives if it is fit to survive in an area. Plant or animal, it must find food and water and survive the elements of weather and climate. If it is not fit, it perishes in that environment. Weather, predators, water, food availability, competition: all influence whether or not a species thrives or dies in a given area. It's a matter of natural selection: those that are most fit survive; those that are not fit, die. It's why some species like silver maples, cottonwoods, and willows are so common along Iowa rivers. They can withstand having their roots in the water where species like red oaks and shagbark hickories cannot. Humans, too, are a factor in the selection. In gardening and agriculture, we choose to let some species survive and others not. But sometimes our agricultural practices unwittingly select for some species to survive and others to die. Paddlers along Iowa's rivers can witness this as they paddle and observe the tree species along the shoreline. Sometimes, the forest is diverse along Iowa rivers, having box elders, swamp white oaks, and elms, in addition to the silver maples, cottonwoods, and willows in the bottomland forest canopy, and dogwoods, viburnums, elderberries, grapes, and poison ivy in the shrub layer. But sometimes, all those disappear and one species dominates. Most often, that is the honey locust (*Gleditsia triacanthos)*, its fine feathery leaves showing in the sun and the long, sharp, branched thorns crowding its trunk. What's happened is that the landowner has allowed his or her cattle to graze the woodland next to the river. Cattle will eat all of those other species, but not honey locust. Thus, honey locust was selected by the cattle to survive and all the other diverse species were eaten. Grazing a river bottom is bad for the water quality and the riverbanks, we know. But the unnatural selection of cattle is also bad for the bottomland woodland and the wildlife that once lived there.

Bald Eagles—Back from the Brink

Before Euro-Americans came to Iowa, bald eagles were common here and nested all over Iowa. Though harvested by Native Americans for feathers, they were also revered as important spirits and taken with care, and sparingly. Their populations were healthy. But they were viewed as competitors for livestock by new settlers and were often shot, with no laws to protect them, even though they were the national symbol of a young nation. By 1900, they had stopped nesting in Iowa. After World War II, new miracle chemicals were available, chemicals that took care of other pests that threatened crops. But organo-chlorine pesticides like DDT inadvertently threatened things higher in

the food chain, animals like eagles. Because the pesticide tended to accumulate in the fats of many species that encountered it, animals at the top of the food chain—like bald eagles—got huge doses of it in the fish and other things they ate. The effect was to reduce their ability to lay eggs, especially eggs that had thick enough shells to withstand incubation. Eagle populations plummeted in the 1950s and 1960s, as few new eaglets were being born. Their future as a species was in doubt across the nation. Fortunately, scientists and politicians found common ground and, as a society, we outlawed the use of DDT in the U.S. in 1972. While it took some years to cleanse it from the ecosystem (it is still around today but in much lower levels), it was a success. Eagle populations, and those of other top predators, began to grow. Though some eagles always came here in the winter to fish in open waters below dams and other areas, they didn't nest here. But by the late 1970s, they began to nest again in Iowa, at first only along the Mississippi River. Many thought that Iowa was too tame and eagles were too wild to ever nest here in large numbers. But eagles have taught us otherwise. Today, there are over 300 bald eagle nests in Iowa, many of them along our interior rivers. Paddlers of the 21st Century can now marvel at their strength and grace, at the huge nests they build in big cottonwoods, sycamores and silver maples, and think how they—with the help of the right human decisions—have come back from the brink.

Quiet backwaters

The flowing water of a river is a lure that draws paddlers. From the rhythm of a slowly moving river to the wild strength of whitewater, it's the flow that draws us back. There are many other species that are drawn to flowing water, too. From the caddisflies that anchor their camouflaged homes to logs and rocks, to crayfish in search of a scavenger meal, to water snakes waiting for a fish to swim beneath, to adult small mouth bass lurking in a hole—all are drawn to moving water. But the quiet backwaters hold the secret to a healthy and wildlife-filled river. The backwaters are often created when a river is in flood, allowed to naturally flow over its floodplain. With the melting of winter snows or the fall of heavy spring rains, the river rises and overflows its banks. It finds or scours out new channels over the land, fills holes that were once dry with water, fills old channels in which the main river once flowed. As the water level goes down, those holes and channels are left behind, now filled with water, while the river returns to its banks. Sometimes they are connected to the river by a thin stream of water or by the below ground flow of groundwater. But, compared to the flowing river, these backwaters, ponds, oxbows, and vernal pools have no regular flow. But they teem with life. Damselflies, dragonflies, backswimmers, whirligig beetles and many other invertebrates lay eggs there. So, too, do frogs and salamanders. Fish leave behind eggs that develop into fry that feed on the plankton, algae, and invertebrates. These quiet backwaters are the *nurseries* for many dozens of species of young wildlife, allowing them to develop and grow. The young develop quickly in the warmer backwaters that are often rich with the nutrients and minerals that the young need to grow. Without them, we would have no adults living in the river. The quiet backwaters are what gave them the opportunity for life and growth. Later, when the river rises again, they are ready to join earlier generations of wildlife—and paddlers—in the rhythm and flow of the river.

Swallow hard

As you pass under bridges that cross Iowa rivers or round a river's horseshoe bend, you may be greeted by the calls of a few or hundreds of sparrow-sized birds on the wing. As they deftly dip and dive around you, they emit calls of *dzrr, dzrr, dzrr* or a husky *vrreer* or *vrrrt*. These are several of Iowa's swallow species, birds that eat insects on the wing. Rivers, of course, are a good place to find flying insects. Unlike the flycatchers that use a "sit and wait" strategy, swallows fly around constantly, opening their beaks to capture flies, moths, mosquitoes, and other flying insects over the water. (Warning: flying around with your mouth open may catch flies!) But look around as they dip and dive near you and you will likely find their nests. Bank swallows are colonial nesters. From a dozen to several hundred will dig nests in mud banks over the water. If you look closely, you will see 2 to 3 inch holes lined up along the bank. They are often (but not always) one to two feet below the top of the bank and usually all in the same soil layer deposit. Why not higher or lower, and how do they choose? No one knows. But the holes go back into the

bank two and up to four feet, dug by a pair of bank swallows with their feet at the rate of about 5 inches per day! Their nest is put at the end of the tunnel and lined with some dried grasses. Their cousins, the rough-winged swallows, also use bank dens but they are more solitary, with only one, two or three pairs in a given bank, and the tunnel is not as deep into the soil. They are rivaled in engineering feats only by their cliff swallow relatives who build gourd-shaped nests of mud under cliffs and bridges (especially cement bridges, because the mud sticks to them better.) Each nest is built by a pair of swallows (or reused and repaired each year) out of 900 to 1200 pellets of mud carried from a mud pond, usually within ½ mile of the nest site. How do they know which mud is best? Again, no one knows. But they must be good at choosing: look how well those mud nests adhere to an overhanging cliff or the underside of a bridge, withstanding the vibrations of vehicles speeding by above. In all three species, the young better be pretty sure they know how to fly on their first time out of the nest, because a wet landing or hungry predator may await below!

Bachelor males

As you round the bend of an Iowa river, you may spy a dozen or more male mallards (called "drakes") lying on the inside beach, their green heads iridescent in the sun. What's this, a mallard version of Beach Party Bingo? Why just males? Where are the hens? Back in the spring, male and female mallards pair off, the drake constantly courting the hen and fiercely defending her against any other drake interloper. But, once the eggs are laid, and especially after she begins to sit on the eggs, he apparently gets bored. Or, more generously, rather than risk revealing her location to hungry predators, the drake goes off and joins other newly bachelored drakes—former rivals—and eats plants in shallow water, drinks from the river, and lays around catching some sun rays on the beach. After the hen hatches the eggs—assuming they haven't been eaten by a hungry skunk or raccoon—she's in charge of raising the chicks, teaching them where to find food, protecting them from predators, and getting them to a healthy adult size. They then join back together with the bachelor males to migrate southward in the fall, and the cycle begins all over again. Ah, the life of the bachelor drake mallards!

Engineering a nest

Paddlers on most any Iowa river can hear the clear whistle notes of an oriole's song. Be they Baltimore or orchard, orioles sing happiness to paddlers. But their engineering feats will amaze you even more. Using just their beak and their feet, they pull strips of bark from grapevines, plant fibers from the stems of old goldenrods and milkweeds, and dried blades from grasses and sedges. Then they weave them into a 5 to 7 inch deep cup, including weaving the rim of the cup around the "Y" branches of a tree, often 20 or 30 feet above the water. The hanging nest must withstand summer windstorms, rain, and even hail. After lining it with fine grasses and any hair they can find, they lay 4 or 5 eggs in there and incubate them for a couple of weeks by sitting on them. Again, they accomplish all this weaving using just their beak and feet. Sounds easy? You try it: using just your mouth and feet (no hands with opposable thumbs, please), gather plant fibers, weave them into a hanging net that will withstand Iowa's summer winds and rains. Oh, and hang it over the river, 20-30 feet high, and put your kids in there…. Would *you* trust *your* engineering skills? Orioles trust theirs. Admire their handiwork and their engineering as you float beneath their nest!

RECOMMENDATIONS ON HOW/WHERE INTERPRETIVE INFORMATION COULD BE SHARED WITH THE PUBLIC:

Because this water trail travels through some small towns and through urban areas, there are a number of areas where interpretive information can and should be shared. It could include interpretive signs at strategic points, kiosks with maps, brochures that are available at appropriate locations (including retailers like Crawdaddy Outdoors in Waverly), and through County Conservation areas and parks, as well as web-based information that might include cell-readable QR codes.

Sites I believe are appropriate for interpretive signage include:

- North Cedar Park (include in camping area kiosk, not at ramp)
- Cedar Bend Park (Bremer Co., in park at top, near parking lot with directional signs to the access)
- Three Rivers Park Access (include in kiosk near boat ramp)
- Kohlmann Park, Waverly (improve informal access and provide directional signage; a 3 or 4 sided kiosk could also be on the corner, west end of the bridge over the dam, giving information about the water trail and the bike trail, as well as interpretive info)
- Janesville City Park Access (at the top of the ramp, near the Lions picnic shelter that both invites and informs)
- Black Hawk Park (at the access ramp and in the park, especially in the campground area, with brochures available there)
- Island Park Access Ramp (near the ramp so both boaters and paddlers can learn from it and make each group aware of the other)
- Gateway Park Access (near the ramp and bike trail—cross-fertilize both groups and include info about other places to put in)
- Washington Park (directional signage needed)
- George Wyth Park Access (next to the ramp and in the camping area kiosk; peddlers and paddlers could meet and learn about each trail)
- Hartman Reserve (at the Nature Center but likely not at the ramp—too isolated and will invite vandals)
- Exchange Park (near the ramp along the trail)
- Cedar Terrace Park Access (needs directional signage to it, if indeed they choose to use it)
- Cedar Valley Bike Trail gazebo, ~ 1 mile north of Gilbertville (create a simple RR tie step access there for paddlers; create signage that emphasizes Peddlers and Paddlers and tells both about trail etiquette and natural history of the valley)
- Gilbertville Park Access (needs directional signage)
- McFarlane Park Access (kiosk in camping area and interpretive sign at access)
- Mount Auburn Access (interpretive sign about the trail and the river near the ramp)