

ICE AGE NATIONAL SCENIC TRAIL

Environmental Assessment: Corridor Plan for Rock County, Wisconsin



Prepared by:

**National Park Service
Ice Age National Scenic Trail
Cross Plains, Wisconsin**

Wisconsin Department of Natural Resources

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**U.S. DEPARTMENT OF INTERIOR
NATIONAL PARK SERVICE**

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**Corridor Plan and
Environmental Assessment for
Rock County, Wisconsin**

EXECUTIVE SUMMARY

The National Park Service (NPS) has prepared this Environmental Assessment (EA), also referred to as a Corridor Plan, to evaluate the potential environmental impacts of the Proposed Action to designate a corridor for the Ice Age National Scenic Trail (NST) within Rock County, Wisconsin. This Corridor Plan will help guide agencies and private volunteer organizations in their efforts to create a route for the trail. Once complete, there will be between 65 and 75 miles of trail from the Rock/Walworth County line west to the Green County Line. Each segment of trail will be developed as funds and approvals allow with a goal of a continuous completed trail through the county. The proposal is to establish a corridor, approximately 2-5 miles wide, within which lands for the trail may be acquired, developed, managed, and protected for the Rock County portion of the Ice Age NST. This will help guide agencies and private volunteer organizations in their efforts to secure a route for the trail.

On October 3, 1980, an amendment to the National Trails System Act (NTSA) (16 U.S.C. 1241 et seq.), authorized the establishment of the Ice Age Trail as a National Scenic Trail in Wisconsin. Congress did identify a general route for the trail. When complete, the trail will extend over 1,200 miles, from Interstate State Park on the St. Croix River in Polk County to Potawatomi State Park in Door County, tracing features left by the last continental glacier that swept over Wisconsin. Statewide, more than 670 miles of the trail are built and open for use including 22 miles of Ice Age NST in Rock County. The eventual continued development of the Ice Age NST in Rock County is dependent on willing landowners.

The NPS and Wisconsin Department of Natural Resources (WDNR) and Ice Age Trail Alliance (IATA) will jointly coordinate to determine a more specific route following corridor designation. A Core Team was formed to evaluate a proposed corridor, possible trail route options, and conduct a public involvement process in Rock County. The Core Team included representatives from NPS, WDNR, the IATA, Rock County, and the cities of Janesville and Evansville. The Triad is composed of the NPS, WDNR, and IATA and is continuously working to establish the trail guided by the Memorandum of Understanding (MOU) which can be found at:

https://www.nps.gov/iatr/getinvolved/upload/IATR_MOU_TRIAD_Fully_Executed_508.pdf.

Support and review was also provided by the Rock County Volunteer Ice Age Trail Chapter.

This EA fulfills required planning for resource and visitor use management and development guidance per Directors Order 2: Park Planning and Directors Order 12: National Park Service NEPA Handbook. This plan is consistent with the general guidance of the 1983 Comprehensive Plan for Management and Use of the Ice Age National Scenic Trail (Comp Plan). The Proposed Action is consistent with the NPS mission and requirement to uphold National Environmental Policy Act (NEPA) of 1969, National Historic Preservation Act (NHPA) of 1966, and the Endangered Species Act (ESA) of 1973.

Written comments on the Ice Age National Scenic Trail Corridor Plan and Environmental Assessment for Rock County, Wisconsin, will be accepted by the NPS and WDNR until May 10, 2023. You may comment online at <http://parkplanning.nps.gov>

Or you may address your comments to:

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Acronyms

ACOE	U.S. Army Core of Engineers
BNHC	Bureau of Natural Heritage Conservation
CPP	Corridor Planning Process
CWA	Clean Water Act
DCA	Dispersed Camping Area
DOI	Department of Interior
DOT	Department of Treasury
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FWS	U.S. Fish and Wildlife Service
IATA	Ice Age Trail Alliance
ICAG	Ice Age National Scientific Reserve
LUG	Local Units of Government
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NHI	National Heritage Inventory
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
NST	National Scenic Trail
NSTA	National Scenic Trails Act
NWR	National Wildlife Refuge
PA	Programmatic Agreement
PILT	Payment in Lieu of Taxes
ROS	Recreation Opportunity Spectrum
SCORP	Wisconsin Statewide Comprehensive Outdoor Recreation Plan
SFA	State Fishery Area
SFWA	State Fishery and Wildlife Area
SHPO	State Historic Preservation Officer

SNA	State Natural Area
SWA	State Wildlife Area
USDA	U.S. Department of Agriculture
WDNR	Wisconsin Department of Natural Resources
WEPA	Wisconsin Environmental Policy Act
WPA	Waterfowl Production Area

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CHAPTER ONE: BACKGROUND

The path of the Ice Age Trail was originally envisioned by Raymond Zillmer in the 1950s. Zillmer founded the Ice Age Trail Park and Trail Foundation, now the Ice Age Trail Alliance (IATA), and pursued efforts to establish the trail and create a National Park in Wisconsin. In 1964, the nine-unit Ice Age National Scientific Reserve (ICAG) was created. Many of the units became state parks that are associated with the Ice Age NST. The Ice Age Trail Council (now IATA) and volunteers across the state of Wisconsin began to determine ways to connect already existing trails and create new segments to fulfill Zillmer's vision. In October 1980, an amendment to the National Trails System Act (NTSA) was approved making the Ice Age NST one of eleven National Scenic Trails in the United States. In 1987, the Wisconsin State Legislature formalized, through (s 23.17), legislation designating the trail as a State Scenic Trail, assigning the WDNR responsibility for coordinating the involvement of state agencies in the trail project and cooperating with the NPS.

The purpose of the Ice Age NST is to preserve some of the finest features of Wisconsin's glacial landscape, as well as other scenic, natural, and cultural resources, while providing opportunities for low impact recreational and educational activities such as walking and hiking. The Purpose and Significance of Ice Age NST can be reviewed at:

<https://www.nps.gov/iatr/learn/management/upload/508-purpose-and-sig.pdf>

The Comprehensive Plan (Comp Plan) provides general guidance on where to locate the trail, and states that the trail shall follow the terminal moraine or glacial features left by the last glacial advance. The trail follows the path of the last advance of the glacier that covered the majority of Wisconsin approximately 15,000 years ago, during the last Ice Age. The Wisconsin Glaciation lasted from about 100,000 to 10,000 years ago. During the Pleistocene epoch, the glacier advanced and receded across Rock County several times creating the landscape that we see today. In its wake it also left numerous geologic features such as the terminal and recessional moraines, kettle ponds, glacial drainageways, and outwash plains. Wisconsin's legacy from the glaciers and meltwater streams of the Ice Age is a landscape of great diversity and beauty. The state contains world renowned examples of many landforms that are evidence of continental glaciation. These include moraines, eskers, kames, kettles, drumlins, wetlands, tunnel channels, and lakes (see Appendix C Definition of Terms).

In addition, the trail connects five of the nine ICAG Units and many other Federal, state, county, and local parks. The NPS administers the trail in close cooperation with the Triad, counties, local governments, and other private organizations that are working to help build and maintain the Ice Age NST. A MOU between the Triad entities outlines their respective roles and responsibilities for the acquisition, development, operation, maintenance, and protection of the trail. A copy of this MOU can be found at:

https://www.nps.gov/iatr/getinvolved/upload/IATR_MOU_TRIAD_Fully_Executed_508.pdf.

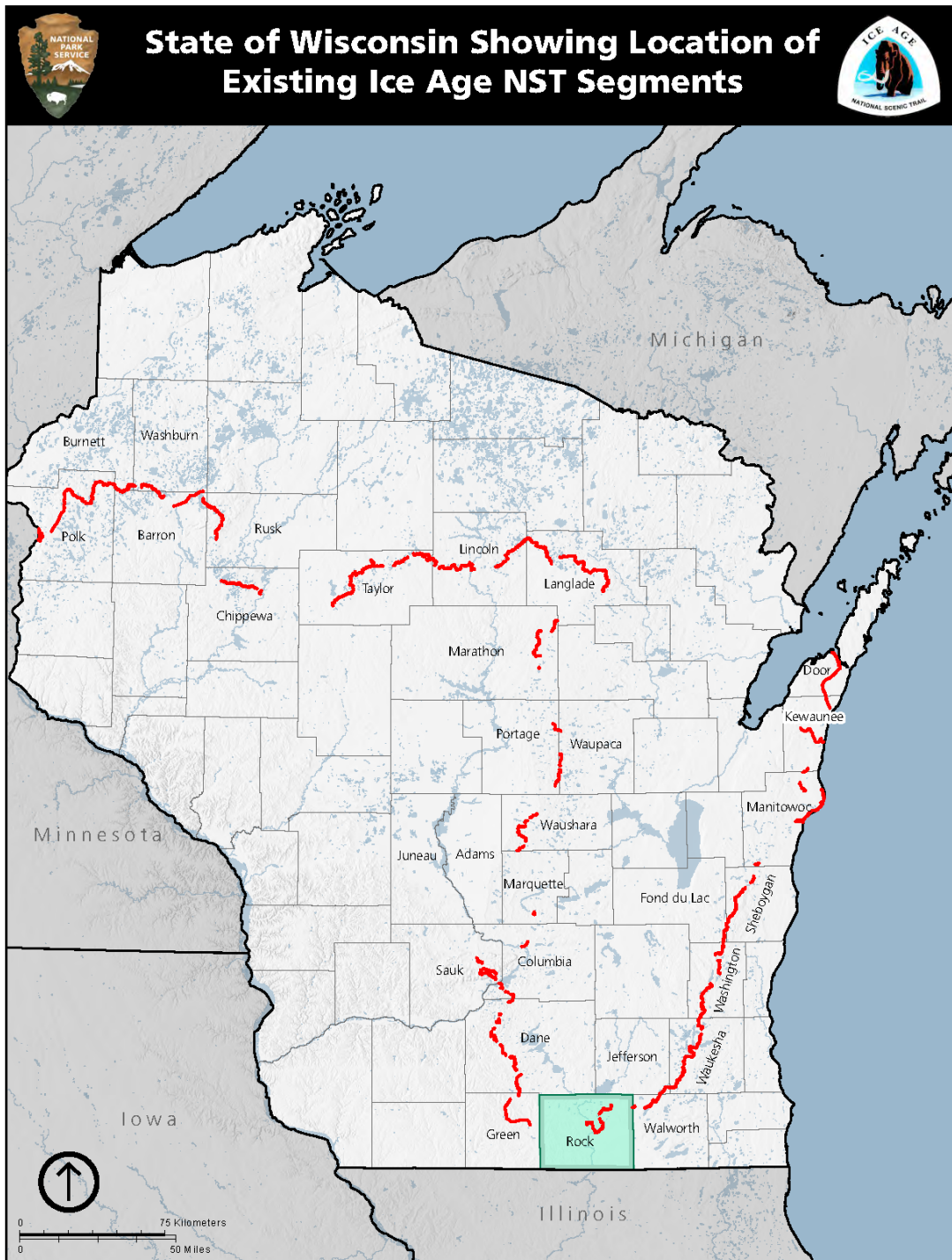
The WDNR is responsible for implementing state laws that protect and enhance Wisconsin natural resources including but not limited to air, land, water, flora, and fauna. Approximately 280 miles of Ice Age NST are located on WDNR properties. The WDNR assists in the planning

and development of the Ice Age NST, provides grants for acquisition and maintenance of the trail, and acquires and accepts gifts of land for the trail.

The IATA is a member based non-profit organization that continues to develop the Ice Age NST into one of the premier hiking trails in the United States. They maintain the trail and its associated lands, promote the trail, raise money to support the trail effort, assist in planning, and acquire lands for the trail. In addition, the IATA is an Accredited Land Trust and can acquire and retain properties. The IATA also maintains the trail and its associated lands, promotes, and raises money to support the trail effort, and assist in planning for the trail.

The Rock County Chapter of the IATA officially formed in 1988 as a hiking group. Today they sponsor hikes, work outings, and presentations to create awareness and promote the trail. On August 26, 2022, the Rock County Chapter brought forth a resolution to the Rock County Board of Supervisors asking for their continued support of the Ice Age NST in Rock County. The Board approved the resolution. On March 7, 2015, the City of Evansville passed a resolution in support of the Ice Age NST and the Wisconsin Stewardship Program. Copies of these resolutions can be found in Appendix F.

The Ice Age NST has the potential of crossing both public and private lands. Private interests may be affected by the trail in a variety of ways such as the purchase of nearby or adjacent lands, community economic development, or change of land use from agriculture to conservation. However, participation in selling land or having the trail cross private land is voluntary.



Map 1 Project location map with Rock County and Existing Ice Age Trail

1.1 THE ICE AGE NATIONAL SCENIC TRAIL

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1964, the nine-unit Ice Age National Scientific Reserve (ICAG) was created. Many of the units became state parks that are associated with the Ice Age NST. The Ice Age Trail Council (now IATA) and volunteers across the state of Wisconsin began to determine ways to connect already existing trails and create new segments to fulfill Zillmer's vision. In October 1980, an amendment to the National Trails System Act (NTSA) was approved making the Ice Age NST one of eleven National Scenic Trails in the United States. In 1987, the Wisconsin State Legislature formalized, through (s 23.17), legislation designating the trail as a State Scenic Trail, assigning the WDNR responsibility for coordinating the involvement of state agencies in the trail project and cooperating with the NPS.

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The Ice Age NST has the potential of crossing both public and private lands. Private interests may be affected by the trail in a variety of ways such as the purchase of nearby or adjacent lands, community economic development, or change of land use from agriculture to conservation. However, participation in selling land or having the trail cross private land is voluntary.

CHAPTER TWO: PLANNING, ISSUES, AND CONCERNS

2.1 THE CORRIDOR PLANNING PROCESS (CPP)

When Congress authorized the Ice Age NST, it directed that “administration of the trail shall be the responsibility of the Secretary of the Interior...”; the Secretary delegated this administrative responsibility to the NPS. This EA has been prepared to carry out the Secretary’s responsibility in section 7(a)(2) of the NTSA [16 U.S.C. 1246(a)(2)] and to uphold the NPS responsibility to comply with National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and the Endangered Species Act (ESA). In addition, the findings in this document support the WDNR's environmental analysis and review requirements under the Wisconsin Environmental Policy Act (WEPA) of 1972.

The Comp Plan provides general guidance on where to locate the trail. It states that the trail shall follow the terminal moraine or glacial features left by the last glacial advance. The purpose of this Corridor Plan is to guide a specific route for the trail by establishing a corridor within which lands may be acquired for the trail, and to do so through an open process involving affected agencies, landowners, trail users, and the public. The future development of the trail is dependent on willing landowners. The impacts of the development of the trail are not fully analyzed in this EA, the impacts will be analyzed at the trail building phase.

The planning process for Rock County began in 2006 with a meeting of representatives from the NPS, WDNR, IATA staff and volunteers, and staff from both Rock County and the City of Janesville. This group, better known as the Core Team, was formed to oversee the planning process. Their task is to provide input to the NPS on conceptual ideas for a corridor and possible route options for the Ice Age NST.

The corridor is defined by locating clusters of outstanding, interpretable glacial and biological features, public lands, as well as areas of continuous scenic beauty. After these features are mapped, their patterns typically reveal a very general, natural alignment for the trail. The width of the corridor is usually on a landscape scale of 2-5 miles, although in the case of large

significant features it can be wider. The corridor includes desirable features for the user to walk or gaze upon, or to be preserved. Another reason for the corridor's width is it allows flexibility in working with landowners since participation in the project is voluntary. Pursuant to section 23.09(2)(d)10., Wisconsin Statutes, the corridor will establish the area within which WDNR may acquire lands for the Ice Age NST. The corridor also defines the area within which federal and private involvement in land protection and acquisition for the Ice Age NST may occur.

When the corridor is first proposed, the geologic features, aesthetic values, distant views, and natural environment are taken into consideration. Most of these elements are contained within the proposed corridor, but some are located outside of it and can be seen from high vantage points within the corridor. Conceptual trail routes are then designed to connect these various features. These views serve as a visual representation of how the glacier shaped the landscape of Wisconsin and created its diverse biological ecosystems and water resources. These features act as landmarks for hikers and as a map or way-finding system to identify where they are along the route of the trail.

The trail is the actual tread and surrounding space that is maintained for the purpose of passage along the route. The trail width may vary from 18 inches to 72 inches depending on the Recreation Opportunity Spectrum (ROS) classification. NPS has identified 3 major categories for the ROS that can be found along the trail: Urban, Rural/Roaded Natural, or Semi-Primitive. Almost all the proposed Ice Age NST in Rock County beyond the communities of Milton, Janesville, and Evansville will be located in a Rural/Roaded Natural setting and will average 24-30 inches in width. Additional information related to NPS ROS can be found in Chapter 2 of the Handbook for Trail, Design, Construction and Maintenance at: https://www.nps.gov/iatr/getinvolved/upload/2021-508_Ice-Age-National-Scenic-Trail-Handbook.pdf

2.2 PRELIMINARY ESTIMATED COSTS OF LAND ACQUISITION

Depending on the route selected, the Ice Age NST through Rock County is expected to be 65-75 miles in length when completed. It is difficult to determine the exact cost of acquiring and developing the remaining trail since the trail's exact location is not known.

Some of the trail will be located on existing public lands and sidewalks, particularly through the City of Evansville, meaning that lands or easements will need to be acquired for approximately 40-45 miles to complete the route. From a cost standpoint, much of the land most appropriate for trail development is also the same land that is in highest demand for rural home sites as well as hunting lands. These rolling tracts with their scenic character offer the types of features that command a premium price over traditional agricultural lands.

Recent property sales of land in the proposed Ice Age NST corridor have been upwards of \$2,200 (agricultural) to \$7,500 (developable) per acre for 40-acre parcels. For example, if 40 miles of trail would need to be developed on lands presently under private ownership, at an average width of 100 feet (equivalent to 12 acres per mile), the total land acquisition cost would be in the range of \$1,248,000 to \$30,000,000. This translates to about \$31,200 to \$90,000 per mile for each 100 feet of average railway width acquired. Realistically, the railway width will vary along its entire length because its' breadth is determined by several factors including land

use, geography and what the landowner desires. Estimated costs for acquiring lands for the trail are listed in Table 1.

2.3 PRELIMINARY COSTS OF TRAIL DEVELOPMENT

Most of the trail built in Rock County will be a constructed tread composed of mineral soil. Aside from the cost of tools, the labor will be provided by volunteers from the IATA. There will be steep or wet areas that the trail will cross requiring sidehill construction or surfacing such as puncheon, turnpike, or boardwalk. For example, while the exact location of the trail is unknown at this time, placing the trail through the Lima Marsh State Wildlife Area (SWA) may involve the construction of long sections of puncheon (600 and 900 feet). At an estimated cost of \$12 per linear foot, these sections of puncheon could cost between \$7,200 and \$10,800 each. However, it should be noted that the majority of puncheon, turnpike, or boardwalk likely to be constructed in Rock County for the Ice Age NST will be considerably shorter, generally spanning between 10 and 75 feet.

COST OF TRAILWAY FOR ICE AGE NST
Assuming \$2,600 to \$7,500 per acre

Average Trailway Width	40 Miles	45 Miles	50 Miles
100 feet (12 acre/mile)	\$1,248,000 to \$3,600,000	\$1,404,000 to \$4,050,000	\$1,560,000 to \$4,500,000
200 feet (24 acre/mile)	\$2,496,000 to \$7,200,000	\$2,808,000 to \$8,100,000	\$3,120,000 to \$9,000,000
330 feet (40 acre/mile)	\$4,160,000 to \$12,000,000	\$4,680,000 to \$13,500,000	\$5,200,000 to \$15,000,000
660 feet (80 acre/mile)	\$8,320,000 to \$24,000,000	\$9,360,000 to \$27,000,000	\$10,400,000 to \$30,000,000

Table 1 Cost of Trailway for Ice Age NST Source: December2021 acrevalue.com/sold-land/WI/Rock

Depending on the trail's location, three to five bridges will be required on the Rock County segment of the Ice Age NST. The trail is also expected to encounter several intermittent streams and/or drainage swales which should not require significant bridges. A reasonable estimate for bridge construction costs county-wide is \$45,000. This estimate assumes that four new bridges will be constructed at \$10,000 each, and some minor construction cost (\$5,000) may be required to span smaller swales and intermittent streams.

Parking is presently available at several locations within the proposed corridor and, depending on the trail's location, the number of new parking lots that need to be constructed can be minimized. Existing parking in Rock County can be found roadside at the Clover Valley SWA, Lima Marsh and Storrs Lake SWAs. Additional on-street parking may be available in the

unincorporated community of Lima Center. There are several opportunities to park and access the trail in the city of Milton. There are also parking lots and trailheads associated with the Milton-Janesville Ice Age rail trail; and throughout the City of Janesville, including the Hwy 26 pedestrian bridge, Palmer Park, the Rotary Gardens, Riverside Park and the Arboretum west of Town. There is a considerable gap in available parking between the Arboretum, and the City of Evansville with the only public parking currently available located around Gibbs Lake County Park. Parking is available on street and at several city parks and lots in the City of Evansville. Between Evansville and Magnolia Bluff County Park there are five parking areas associated with the Evansville SWA. If the trail does not utilize the public lands and parking lots of the SWA, additional parking will be needed between Evansville and the county park.

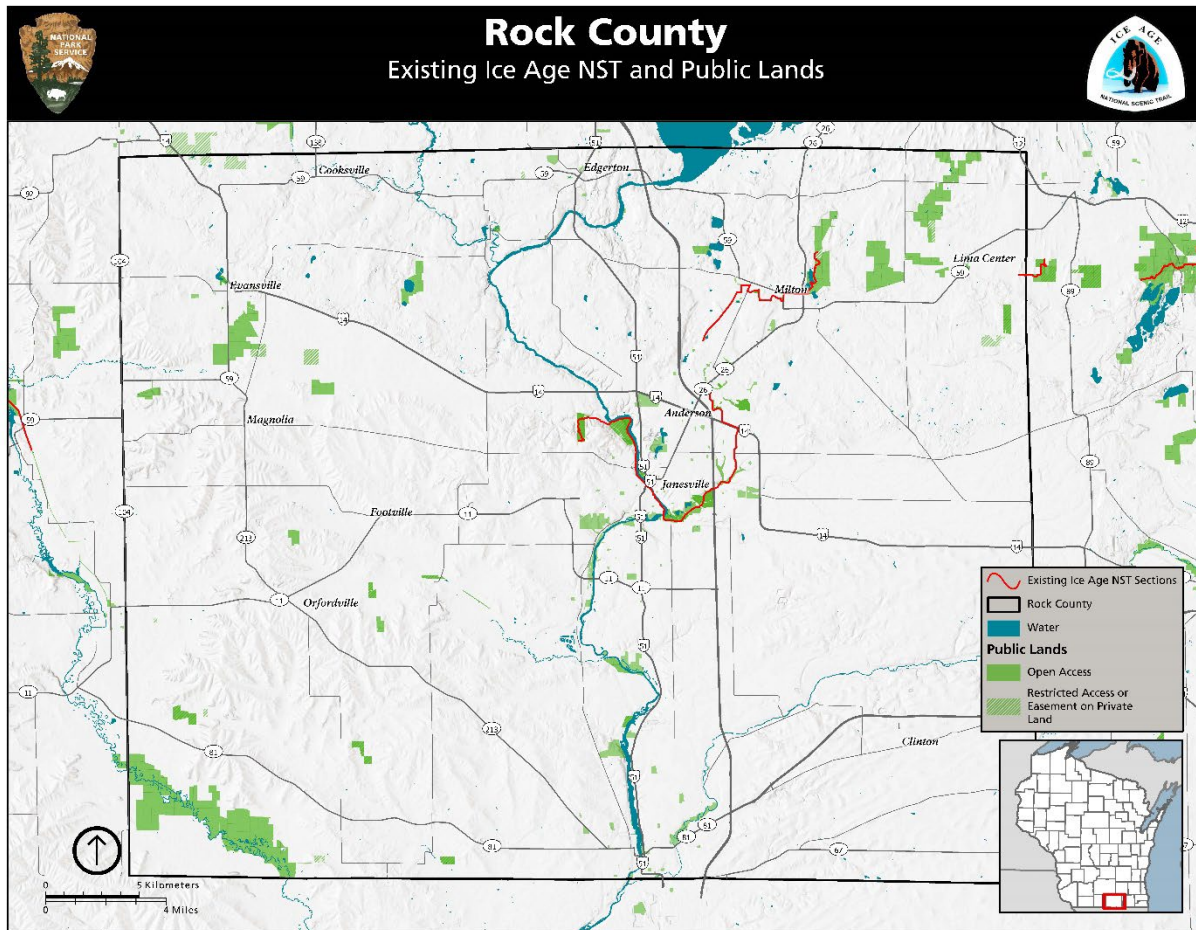
To provide adequate parking for trail users, an additional 3-4 small parking areas may need to be constructed. These would be designed for approximately 2-5 vehicles, A total estimated cost of \$18,000 is projected for constructing and improving parking areas. This is based on an average cost of \$6,000 per lot. Simple information kiosks will be placed at each existing parking area and those to be developed. A minimum of 9 informational kiosks will need to be designed and constructed: Lima Marsh SWA, Janesville HWY 26 pedestrian bridge, Arboretum, Gibbs Lake County Park, E of Gibbs Lake CP, W of Gibbs Lake CP, Evansville (2), and Magnolia Bluff County Park. Based on an estimated cost of \$700 per unit, the total cost for the new kiosks is estimated at \$6,400.

Interpretive exhibits may be placed on a few public lands that have important stories regarding glaciation or the natural resources of the site. Depending upon the complexity and number of individual panels, these exhibits may cost between \$4,000 and \$5,000 each. For three sites, the cost is estimated to be approximately \$12,000-15,000. Possible locations include Lima Marsh SWA, Rock River, Gibbs Lake County Park, Evansville SWA, and Magnolia Bluff County Park.

The only public camping currently available in the proposed corridor is an equestrian group camp located at Gibbs Lake County Park. Camping for through-hikers is available by permission from the county at Gibbs Lake and Magnolia Bluff County Parks. Based on the approximate spacing of 10-12 miles, at least two additional opportunities for dispersed camping will need to be established. Since dispersed camping has no amenities, purchase of the land would be the cost.

CHAPTER THREE: PURPOSE AND NEED

The of this project identify and evaluate potential Ice Age NST overland (off-road) in Rock County, from the Walworth County line west to the Green County line. The need is to meet the long-term goals of the 1983 Comp Plan. Once the corridor is established, it will define the area where the Ice Age NST will exist and be built in the future. At the time of construction, the impacts of development will be analyzed. Some of those impacts are mentioned in this EA as connected actions. The maps illustrating the route through Rock County from the Comp Plan can be found in the Appendix A.



Map 1 Ice Age NST and Public Lands, Rock County, Wisconsin

CHAPTER FOUR: ALTERNATIVES

4.1 ALTERNATIVE DEVELOPMENT PROCESS

The NPS and WDNR propose to establish a corridor within which lands for the trail may be acquired, developed, managed, and protected for the Rock County portion of the Ice Age NST. The design of the proposed Ice Age NST corridor is based on several factors: general adherence to glacial features, linkage to public lands for support facilities and interpretive opportunities, provision for a varied and scenic hiking experience, preservation of significant natural features, and reasonable directness of route. The goal of establishing the Ice Age NST would best be met by the federal, state, and private partners having specifically delineated authorized areas in which to work.

During the summer and fall of 2012, the planning team developed three alternative corridors for the trail, whose boundaries were defined by roads, section lines, and the Rock River. All three alternative corridors incorporate the existing Ice Age NST through Milton and Janesville and connect to Magnolia Bluff County Park. They contain glacial features such as moraines, a tunnel

channel, kettle ponds, and outwash plains; and diverse biological communities including wetlands, lakes, woodlands, and restored prairie.

Descriptions of alternative strategies for establishing the Ice Age NST are presented below. Alternative 1 is the No Action Alternative. Alternative 2 is referred to as the Johnstown Moraine and Rock River East option. Alternative 3 (Preferred) is labeled as the Johnstown Moraine Rock River West option, and Alternative 4 is identified as the Orfordville Eroded Moraine option. Each alternative begins at the Walworth County line near an existing trail segment at Clover Valley State Wildlife Area (SWA) and incorporate existing Ice Age NST segments in Rock County. These existing trail segments presently provide a recreational corridor and resource protection that could be used as a foundation to complete the trail and create greater user satisfaction through additional site enhancements. Since Magnolia Bluff County Park was identified as a primary point of interest in the county, the western endpoints of each alternative are also identical.

4.2 ALTERNATIVES CONSIDERED BUT DISMISSED

Several possible corridor locations were considered at the beginning of the planning process. These potential corridor segments are described and evaluated in the Preliminary Scoping Report prepared by the Core Team in December 2010. Twelve possible corridors were identified as part of the 2010 effort. Many of these corridor segments overlapped one another. The Core team reviewed the resulting segments and came up with four unique possible corridor combinations. These four conceptual corridors (A, B, C, and D) were then presented for broad public review and input by local officials and citizens regarding their desirability and feasibility.

Of the four conceptual corridors presented to the public, two were dismissed (A and D), primarily because they failed to incorporate existing segments of the trail. Two others (B and C) were further developed through the Corridor Planning Process into the three Alternatives that were presented during the 2013 open house meetings. Maps of the alternatives can be found in the [Appendix B](#).

This EA analyzes Alternatives 1 and 3, the No-Action and Preferred alternatives, respectively.

4.2.1 Alternative 2: Johnstown Moraine-Rock River East (dismissed)

Alternative 2 incorporates nearly all the existing Ice Age NST segments in Rock County, and most public lands located in this part of the county including Storrs Lake and Lima Marsh SWA. Existing, certified segments of the Ice Age NST wind through Janesville for approximately 11 miles on hard surfaced sidewalks and dirt footpaths, part of an extensive greenbelt system that encompasses drainage ways that were carved from glacial meltwaters. Portions of the trail follow the Rock River offering great views and opportunities to appreciate the natural, geologic, and historic areas. The city also has extensive support facilities such as restaurants, hotels, and parking to support the trail.

From Janesville, Alternative 2 heads north and west along the east side of the Rock River, avoiding the shoreline development before crossing the river at Indianford. Since the existing trail currently continues west from Janesville's Riverside Park through the Robert O Cook Memorial Arboretum, a portion of existing trail may need to be abandoned as the official route

of the Ice Age NST. Doing this would result in utilizing an existing bridge at Highway 14 to reach the east side of the Rock River.

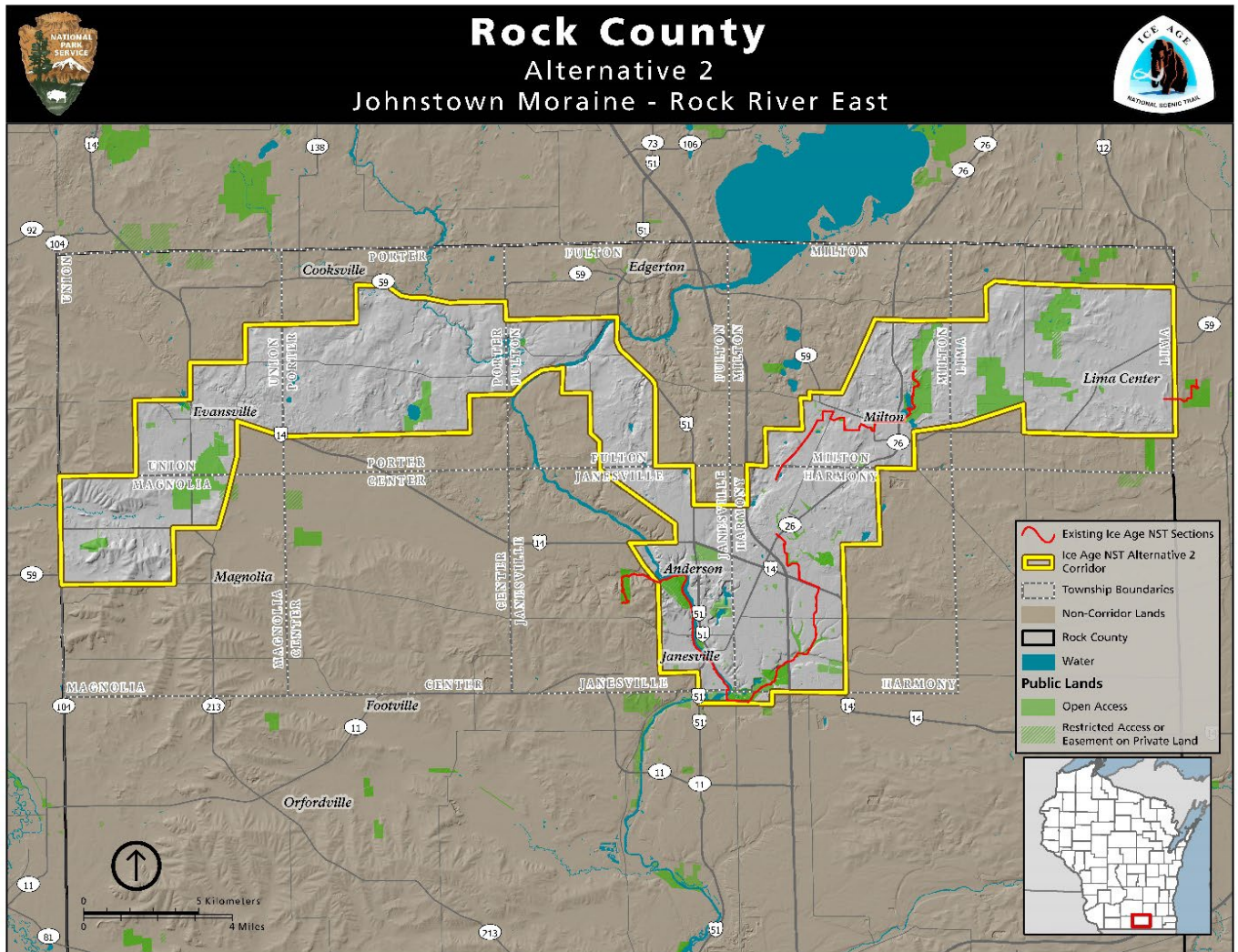
Northwest of Janesville, Alternative 2 crosses an outwash plain and climbs onto the hummocky terminal Johnstown Moraine north of Janesville. Land use composed of a mix of rural agriculture and woodlands. In this alternative, a bridge at Indianford would be used to re-cross the Rock River.

West of Indianford lies the community of Fulton. Murwin County Park in Fulton offers potable water and vault toilets. This portion of Alternative 2 includes the junction of the Yahara and Rock Rivers, and a scenic portion of the terminal moraine. South and west of Fulton lies the county's largest park, the two hundred ninety-nine-acre Gibbs Lake County Park, which has many miles of trails, picnic facilities, and toilets.

Due west from Gibbs Lake County Park is the city of Evansville. This community provides customary services including overnight accommodations. Located within the city limits are several National Register Historic Districts, Civilian Conservation Corps historic sites, and other points of interest. The city's golf course is located at the edge of the terminal moraine on the north side of town. South of town the landscape changes again. Here there are bluffs and valleys reminiscent of the driftless area.

Alternative 2 includes the Evansville SWA and Magnolia Bluff County Park. These two properties provide an opportunity to contrast two dynamically different landscapes, the wildlife area being one of open rolling hills and wetlands, and the bluff highlighting beautiful views of the countryside from atop striking rock outcroppings as well as diverse plant communities such as an oak hickory forest and restored prairies. Support facilities include parking, picnic areas, drinking water, restrooms, and an extensive trail network. The proposed corridor terminates west of the park at the Green County Line.

Alternative 2 was dismissed because it did not include all the existing segments of the Ice Age NST. This option would also require two additional crossings of the Rock River, one utilizing the U.S. Highway 14 bridge to reach the east side of the Rock River and another at Indianford to cross back.



Map 2 Alternative 2: Johnstown Moraine-Rock River East

4.2.2 Alternative 4: Orfordville Eroded Moraine-Southern Option (dismissed)

Alternative 4 begins at the Walworth County line near Clover Valley SWA and incorporates nearly all the existing Ice Age NST segments in Rock County.

Rather than focusing on the terminal Johnstown Moraine, Alternative 4 heads due west from where the existing trail on the west side of Janesville ends. It crosses an area of old drift and features the highly eroded Orfordville Moraine, deposited during previous continental glaciations. This is the most direct alternative being considered, providing an opportunity for views north towards the Johnstown Moraine, and some unusual rock formations.

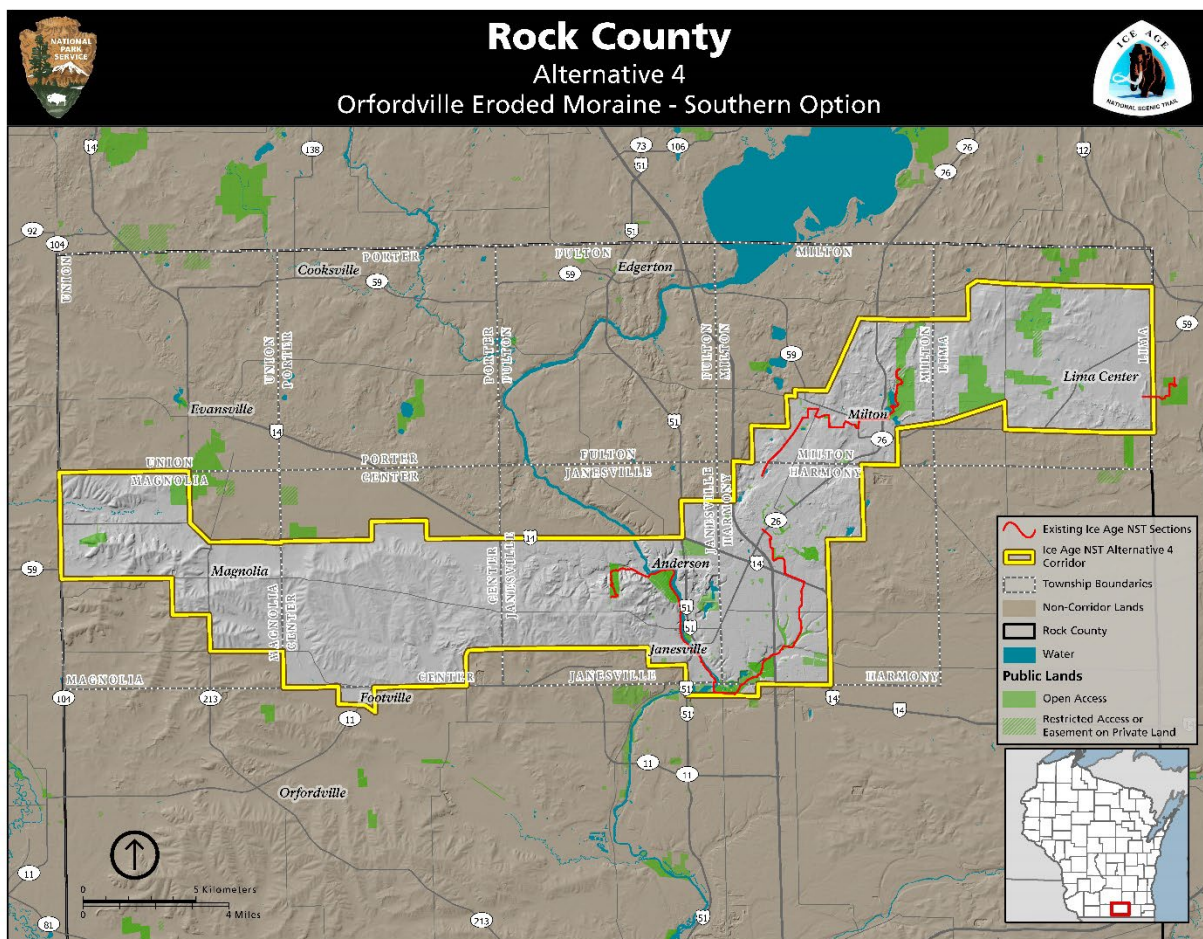
Moving west/southwest toward Footville, the corridor passes through rolling farms, mostly in corn or alfalfa, alternating with scattered subdivisions and wooded lots. On the northern side of

Footville is a geological oddity known as Stand Rock. It is a 20 ft. tall monument or “stack” of eroded sandstone situated in a recovering prairie field. The monument is privately owned.

Footville is a rural community of about 800 people in western/central Rock County. The village has a post office and several local dining options. Footville possesses the first lighted softball park in the county, with bathroom facilities under the grandstand. Nearby Bass Creek Golf Course offers food and potential shower facilities.

Alternative 4 turns slightly north at Footville, incorporating Stand Rock (privately owned) and Magnolia Bluff County Park before terminating at the Green County Line.

Although Alternative 4 was dismissed because it did not focus on the glacial features of the Wisconsin glaciation and did not include many of the public lands and potential support facilities contained within Alternatives 2 and 3.



Map 3 Alternative 4: Orfordville Eroded Moraine

4.3 ALTERNATIVES CONSIDERED

4.3.1 Alternative 1: No Action

Under the No Action Alternative, the Secretary of the Interior's responsibility under the NTSA to select a specific route for the trail would not be carried out and no corridor to more specifically identify the route of the Ice Age NST would be established. The WDNR and/or other local and state entities could potentially continue to pursue the development of a trail, but there would be no direct NPS involvement. Local and private partners working to establish the trail could continue to be guided by the general route referenced in the Comp Plan, which for the most part is a conceptual route and could deviate from it at their discretion.

Any activities by partners to acquire lands for the trail would be done with limited or without federal funds or technical assistance. The project would rely on WEPA and the WDNR's programs and policies regarding natural and cultural resource protections. Planning, public involvement, and implementation activities would be carried out by local, state, and trail advocates.

4.3.2 Preferred Alternative: Johnstown Moraine- Rock River West (retained for analysis)

This alternative fulfills the Purpose and Need, and the intent of Congress and the Wisconsin State Legislature for the establishment of the Ice Age NST. This alternative is based on an evaluation of the geological, biological, cultural and historic features, and social characteristics of Rock County, as well as the fieldwork of representatives of the Core Planning Team, and comment and input from county and local jurisdictions, landowners and residents.

Under the Preferred Alternative, a corridor that is approximately 2-5 miles in width extending from east to west through Rock County has been identified and would receive State and Federal approval. Within this corridor, a trailway that is approximately 50-1000 feet or more in width would be acquired for Ice Age NST purposes. The corridor is intentionally designed to be wide enough to allow flexibility in working with willing landowners to site the trail since all participation in the project is voluntary. A wider trailway may be necessary to incorporate significant features of a particular area or to protect viewsheds of scenic areas. The established corridor will aid in the definition of areas desired for purchase using private, state, or federal funds and will serve as advisory information for town and county land use planning.

The Preferred Alternative establishes a new recreational resource and provides resource protection that will support the extension of the Ice Age NST through a region of existing trail segments (Walworth and Green Counties). Therefore, bringing the goal of, "a continuous statewide footpath" closer to completion. The Preferred Alternative also connects all the existing trail segments across Rock County.

At the Walworth County line, an established Ice Age NST Trailhead at Clover Valley SWA offers an effective access point for the Rock County portion of the trail. This modestly populated area of the county is characterized by rolling to flat terrain, lands in agricultural use, scattered woodlots, prairie, grassland, and intermittent to extensive wetland features. This area is known as the Dane-Jefferson Drumlins and Lakes Land type association though no drumlins or lakes are present in the corridor. This land type association extends nearly to the Milton/Lima town

line boundary where it transitions to the East Johnstown-Milton Moraine land type association as it crosses Otter Creek. Glacial features associated with the Milton recessional moraine such as glacial kettles, and erratics are found here. Development consists primarily of single-family homes and farms set amidst pastoral views that incorporate subtle shifts in topography. This area of Rock County is a mix of public and private ownership with land use patterns that will provide a varied and intimate hiking experience although the low marsh areas, like the Lima Marsh SWA.

West of Lima Marsh SWA, the corridor encompasses Otter Creek, a small stream that flows into Lake Koshkonong to the north, and the Storrs Lake SWA. There is an existing segment of the Ice Age NST within the SWA which follows the eastern shore of Bowers Lake.

Continuing west, the Preferred Alternative encompasses the city of Milton. The community has a rich history and provides all necessary visitor services. It serves as an access point to an existing section of the Ice Age NST that overlays a multi-use Rails to Trails path connecting Milton to Janesville. This path also bridges the area between the Milton recessional moraine and the terminal Johnstown Moraine, which edges the northern portion Janesville.

There is an existing certified segment of the Ice Age NST that winds through Janesville for approximately 11 miles on hard surfaced sidewalks and dirt footpaths. The trail follows an extensive greenbelt system in the city that encompasses drainage ways that were carved out from the meltwaters of the glacier. Portions of the trail follow the Rock River, which offers great views and opportunities to appreciate the natural, geologic, and historic areas found in Janesville. The path of the Ice Age NST in Janesville links to over 25 continuous miles of off-road public trails. Extensive restaurants, hotels, city parks, gardens, and public restrooms are available in proximity of the city trail network. From the banks of the Rock River at Riverside Park, the trail enters an area characterized by the Orfordville Eroded Moraines, sometimes referred to as 'old drift.' North of Marsh Creek, the corridor transitions to an area of outwash in front of the Johnstown Moraine that is home to the Rock River Prairie.

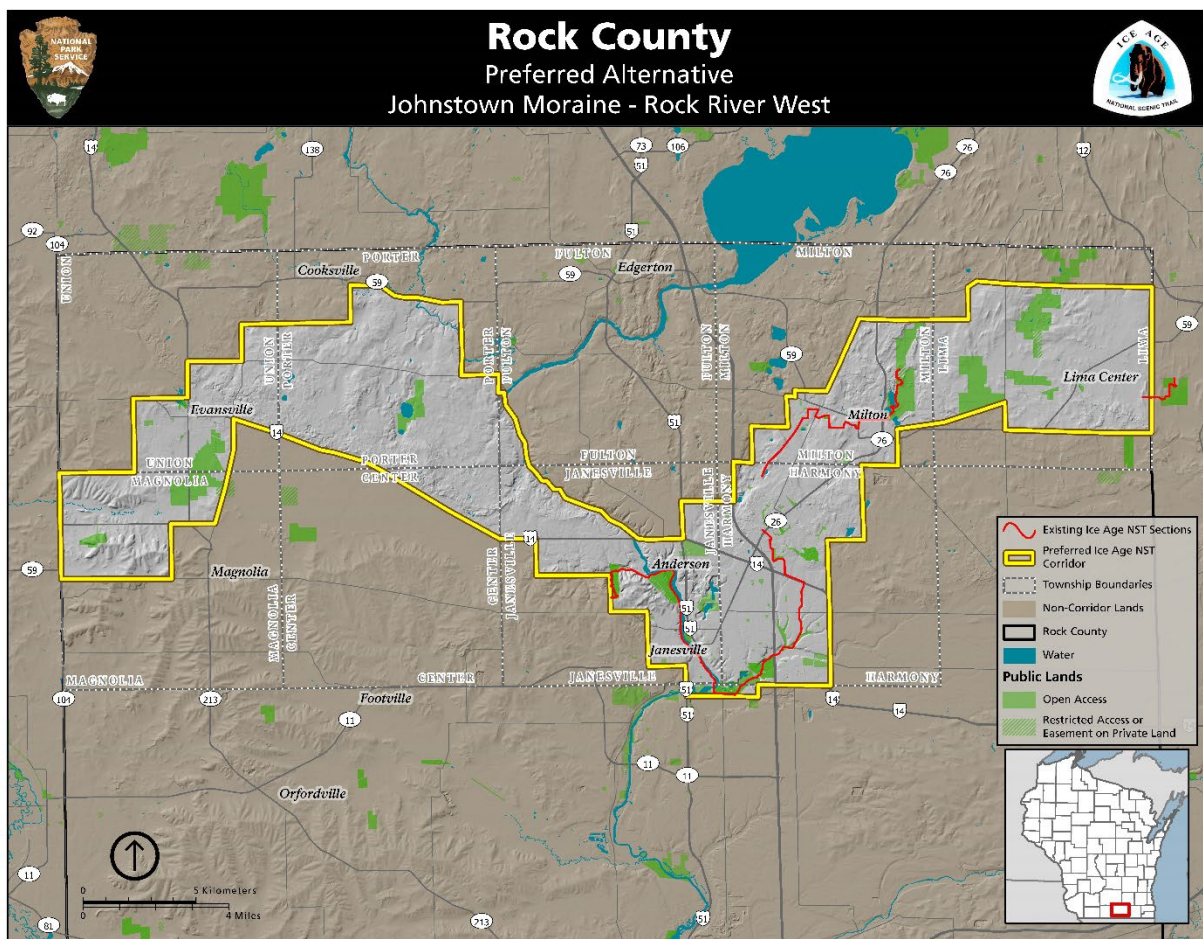
The Preferred Alternative continues north and west into the Town of Porter, incorporating a small portion of the SW corner of the Town of Fulton near the Rock River. This portion of the Preferred Corridor includes a few small residential developments. Gibbs Lake County Park is also located in this portion of the Preferred Alternative and features a large kettle lake and its associated wetlands. There are existing hiking and equine trails on the property, which may also afford an opportunity for a dispersed camping area.

From Gibbs Lake County Park the Preferred Alternative follows the Johnstown Moraine west to the City of Evansville in the Town of Union. There is limited development between Gibbs Lake County Park and the city. Evansville contains several Historic Districts including Lake Leota Park in addition to a full range of visitor services that could be of use to hikers. The trail through Evansville could serve to connect other pedestrian routes through the community, historic districts, local parks, and several of the city's schools. There is little residential development beyond the city's boundaries.

Heading south from Evansville, then west towards Magnolia Bluff County Park, the corridor incorporates three distinct landscapes: the Rock River Prairie, Orfordville Eroded Moraine, and the Sugar River Valley near the Green County line.

Considered part of the Rock River Prairie, the Evansville SWA is located south of the city's industrial area. This public property features the spring fed Allen Creek, some associated wetlands, and gently rolling upland hills. South of the city's main public-school campus, the landscape similarly features gently rolling hills and expansive views, but fewer wetlands than the Evansville SWA.

Whether the trail leaves Evansville via the Evansville SWA or south from the school campus, it will eventually cross over to the Orfordville Eroded Moraine. Magnolia Bluff County Park has a commanding view of the surrounding landscape and may afford hikers an additional camping opportunity. Heading west from the county park, the trail would cross into the Sugar River Valley near the county line and eventually make a connection to an existing segment of the Ice Age NST that is co-located on the Sugar River Trail, a former railroad grade that parallels the Sugar River in Green County.



Map 4 Preferred Alternative-Johnstown Moraine Rock River West

CHAPTER FIVE: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential impacts of the No Action Alternative and the Preferred Alternative for each resource retained. Not all resources were retained for analysis, some were dismissed, and the dismissal criteria can be found in Table 2. The resource topics presented in this chapter correspond to the environmental issues and concerns identified during internal scoping.

In accordance with the Council on Environmental Quality (CEQ) regulations, the environmental consequences analysis includes the direct, indirect, and cumulative impacts (40 CFR 1502.16) of each alternative. The methods used to assess impacts vary depending on the resource considered, but generally are based on a review of pertinent literature and studies, the information provided by on-site experts and other agencies, dialogue with tribal partners, professional judgment, and NPS staff knowledge and insight.

The affected environment describes existing conditions for those elements of the natural and cultural environment. These descriptions serve as a baseline for understanding the resources that could be impacted by implementation of the proposed action.

According to the 2022 Council on Environmental Quality (CEQ) revised regulations, “effects or impacts” are changes to the human environment that include reasonably foreseeable (1) direct effects, (2) indirect effects and (3) cumulative effects [40 CFR §1508.1(g)]. This EA also includes the analysis of cumulative impacts per CEQ revised regulations (§1508.1(g)(3) there are defined as “... effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions”.

The following were considered when assessing the potential impacts of the proposed action:

- Both short- and long-term effects.
- Both beneficial and adverse effects.
- Effects on public health and safety.
- Effects that would violate Federal, State, Tribal, or local law protecting the environment. [40 CFR § 1501.3(b)]

None of the alternatives analyzed in this EA would violate any federal, state, tribal, or local laws that protect the environment.

For all topics analyzed, “short-term” impacts are construction-related impacts and “long-term” impacts would be based on the nature of the resource.

5.1 LOCATION AND DESCRIPTION OF ROCK COUNTY

The Preferred Alternative is located within Rock County in the south-central part of the state. The county forms part of Wisconsin’s southern boundary. It covers 721 square miles, contains six cities, three villages, 20 towns and multiple unincorporated hamlets and is bounded by Wisconsin counties Dane and Jefferson to the north, Green to the west, Walworth to the east, and Illinois’ counties Boone, and Winnebago to the south. The City of Janesville serves as the

county seat, and with a population of at 65,630 (U.S. Census, 2020). is the largest municipality. Rock County is located approximately 40 miles south of Madison, the state capital, 75 miles east of Milwaukee, and 95 miles northwest of Chicago. The county is connected to these urban areas and other regional state and national locations via a network of state and national highways including Interstates 90/39 and 43, and U.S. Highways 26, 51, 11 and 14. The proposed Ice Age NST corridor is oriented in an east-west direction through the northern half of the county, where the glaciers came to a halt and includes the City of Janesville.

The primary land use outside the urban areas is agriculture, with woodlands and managed forests present in small numbers. According to the *Rock County Agriculture Value and Economic Impact* report prepared by the University of Wisconsin Extension service, Rock County ranks among the top Wisconsin counties in corn, soybean, and food-grade soybean production. Besides cash crops, there is a strong livestock industry, including dairy, beef, and pork production. The number and size of farms in the county has remained consistent. The 2020 report shows 1,587 farms with an average size of 222 acres.

Following the Black Hawk War of the early 1800s, the county's population and agricultural production began to increase in the 1830s. Needing access to mills and markets, roads and railroads were developed to connect the cities and villages, and other industries established. In the early 20th century, Rock County emerged as a regional industrial center, particularly the cities of Beloit and Janesville. The Parker Pen Company, a global manufacturer, was founded in Janesville in 1891. General Motors Corporation opened one of its first automobile assembly plants in the City of Janesville in 1919.

Rock County offers abundant opportunities for recreational activities such as biking, fishing, hunting, camping, bird watching, hiking, golfing, cross-country skiing, and snowmobiling. The county owns and maintains 21 county parks and 4 multi-use trails totaling 943 acres. Within the City of Janesville, there are an additional 2,609 acres of parks and open space accounting for about 12% of the city's total land area. Included in the county's recreational amenities are several existing segments, totaling 22 miles, of the Ice Age NST located between the Clover Valley SWA at the Walworth County line, and Cooks Arboretum west of Janesville. From the Walworth County line the trail meanders in discontinuous segments west towards Milton. It follows a former railroad grade from Milton to Janesville, where the route then loops around the southern part of the City, before following the Rock River north and west through Riverside Park's Devil's Staircase and continuing on to its current terminus at Robert O Cook Memorial Arboretum.

5.2 IMPACT TOPICS CONSIDERED

To comply with the NEPA, an analysis of a Preferred Alternative on elements of the environment is required. Impact topics are either retained or dismissed based on their potential to impact the environment. Some elements of the environment are subject to requirements specified in statutes, regulations, or by executive order, such as those governing air, water, and threatened or endangered species. Based on the alternatives retained for analysis, the following are impact topics that have been either retained or dismissed; a rationale is provided for dismissal.

Past, Present, and Reasonably Foreseeable Future Actions Impact Topics Retained and Dismissed			
Resource	Retain	Dismiss	Rationale for Dismissal
Geology (and Paleontology)	X		
Soils and Vegetation (Forestry, Rangeland, Farmland, Prime & Unique Farmland, Grazing Permits, Noxious Weeds, Invasives, Exotics, T&E, SSS, Fuels & Fire Management)	X		
Water Resources (Surface and Ground Water Quality & Quantity, Hydrology, Floodplains, Wetlands, Riparian, etc.)	X		
Wild & Scenic Rivers		X	There are no designated Wild and Scenic Rivers in the Affected Environment.
Air Quality		X	Air quality would not be affected because of either alternative considered in any measurable way.
Acoustic Resources (Natural Sounds, Soundscapes, etc.)		X	The quality, type and level of acoustic resources present in the current environment would not be affected in any measurable way because of implementing either alternative.
Wildlife (General Wildlife, Fisheries and Other Aquatic Species, Threatened and Endangered, Special Status Species, Invasive Species, etc.)	X		
Recreation Resources (Visitor Use and Management, Visitor Experience, Visual Resources & Values)	X		
Historic and Cultural Resources (Archeology, Ethnography, Historic Structures, Cultural Landscapes, Museum Collections, etc.)	X		
Resources of interest to Tribal Nations (Archeology, Ethnography, Cultural Landscapes, Ancestral Lands, etc.)	X		
Socioeconomics (Local Economies, Lands & Realty, Tax Base, etc.)	X		

Environmental Justice		X	Implementing either alternative would not have any disproportionately high adverse effects on minority and/or low-income communities within the study area.
Human Health & Safety (Public Health, Traffic, Hazardous Materials Exposure, etc.)		X	Overall, implementing the Preferred Alternative would likely have beneficial impacts to human health as it would increase recreation opportunities; however, it would be difficult to quantify those benefits.

Table 2 Impact Topics Considered

5.2.1 Trends and Reasonably Foreseeable Planned Actions

- **Future and connected actions**
 - Following the completion of this planning effort, planning for trail development will occur. The development of the trail will be analyzed as each individual segment is proposed. All natural resources, cultural resources, and threatened and endangered species will be analyzed to determine if adverse impacts would result from trail development.
 - The NPS, WDNR, and IATA plan to acquire land in the future. NPS acquisitions will be analyzed to determine if they would result in adverse impacts.
- **Development**
 - Rock County has continued to have an increase in population. These population trends could result in an increased demand for resources and available housing in the county.
 - Due to the continuation of current development trends, new home construction, gravel extraction, and associated infrastructure such as new access roads may also increase. Statewide, significant portions of the terminal moraine are being developed for houses.
 - Increased demand may increase the price of land making it more challenging for NPS, WDNR, and IATA to acquire land with unique geologic features. These unique lands offer spectacular views making the land a highly desirable building site.
- **Climate Change**
 - The trend for increased precipitation is likely to continue, therefore, increasing surface water levels, could impact the way the trail is built. Increased surface water may result in the need to build more boardwalks, especially in areas near lakes and waterways.

5.3 GEOLOGY

5.3.1 Affected Environment

Beginning about 2 million years ago, the climate began to periodically cool and warm. During the colder periods, averaging 100,000 years each, ice sheets as much as three miles high at their centers formed in the Hudson Bay region of Arctic Canada and spread outward across northern North America, including Wisconsin. During warmer periods, averaging 10,000 years in duration, most of the ice sheets melted away. This cyclical process occurred as many as two dozen times during the 2 million years of the Pleistocene Epoch. Portions of Wisconsin were blanketed many times by these ice sheets, but evidence of these events is mostly buried beneath the deposits left by the most recent glaciation.

Approximately 25,000 years ago the last phase of the Wisconsin Glaciation began. During its colder periods, ice advanced into lowlands now occupied by Lakes Superior and Michigan, Green Bay, and the Fox River. As it flowed across the State of Wisconsin, it was impeded by the uplands of the Bayfield, Keweenaw, and Door Peninsulas, and was split into six major lobes including the Green Bay Lobe.

The landscape of Rock County results from the interplay of bedrock geology and glacial landforms produced during the Wisconsin and earlier glaciations (pre-Wisconsin). The most recent glacial deposits were left in Rock County from the Green Bay and Michigan Lobes of the Wisconsin Glacier are moraines, or ridges formed by unsorted gravel, sand, and boulders carried by the glacier and deposited at various times along its outer edge. In the northern one-third of the county, north of Janesville, the primary glacial landforms are the Johnstown and Milton moraines, the terminal moraine and first recessional moraine of the Green Bay Lobe, respectively.

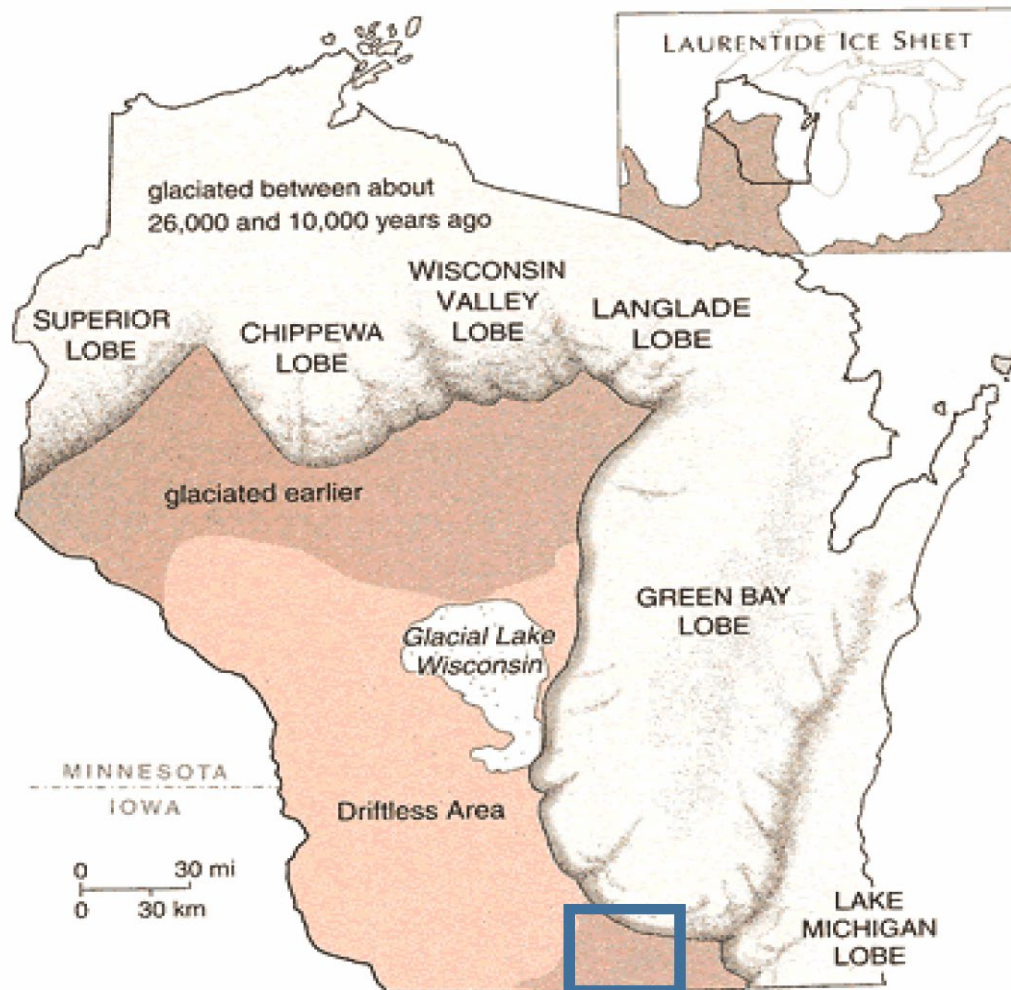
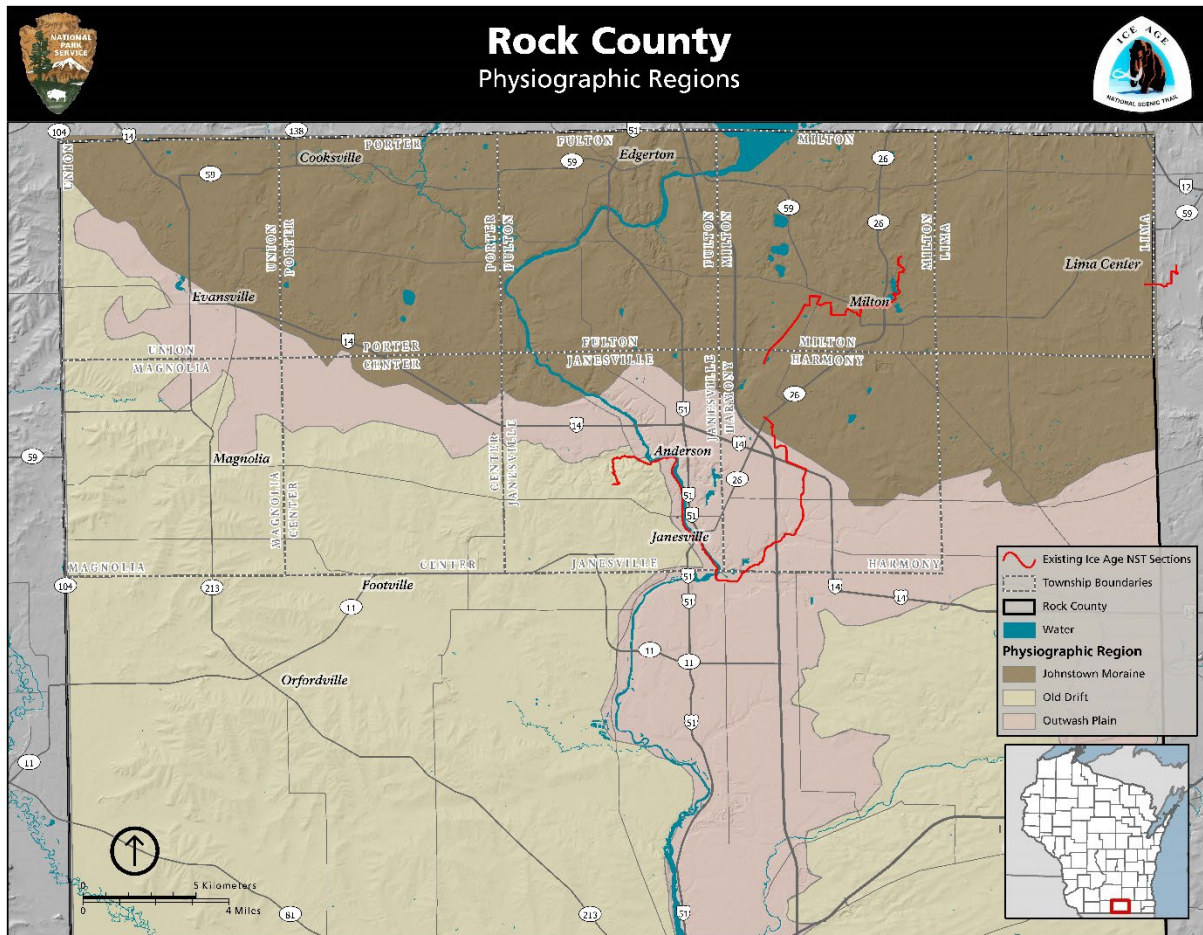


Figure 1 Glacial Lobes in Wisconsin-. Robert H. Dott Jr. and John W. Attig. Roadside Geology of Wisconsin. Mountain Press. 2004.

The Johnstown and Milton moraines trend from east to north/northwest across the county. The moraines are generally composed of poorly sorted sediment containing several grain sizes deposited at the glacier's edge or till. Tills and similar deposits of these moraines are formally classified into the Horicon Member of the Holy Hill Formation. The Johnstown Moraine is one of the most prominent and continuous primary glacial landforms in Rock County. The depressions, or kettles, between the hummocks show that the glacier margin was relatively dirty and stranded many blocks of ice which melted during de-glaciation. Although the back of the moraine is relatively indistinct in some places, nearly everywhere the front of the moraine is striking because of its high relief coupled with an abrupt transition to nearly flat outwash plains. In many places the moraine can be clearly seen from several miles away.



Map 5 Physiographic Regions of Rock County

Prominent zones of outwash (sand and gravel deposited by meltwater streams) parallel the front of the Johnstown Moraine in the eastern and western parts of the county. In the eastern half, a wider zone of outwash follows the front of the Johnstown moraine. Both zones of outwash merge in the Janesville area and follow the Rock River valley southward to Beloit and into northern Illinois. Historically, these outwash plains were covered with prairie vegetation and is referred to as the Rock River Prairie Land Association (WDNR, 2011.)

Late Wisconsin drumlins occur for many miles north of the Johnstown and Milton moraines in northeastern Rock County and show the generally southward flow of the Laurentide Ice Sheet during the last glaciation. These landforms were the topic of another classic work in Wisconsin geology by W.C. Alden, *Drumlins of Southeastern Wisconsin*, published as United States Geological Survey Bulletin 273 in 1905.

Several distinct till units considered to be 'old drift' were deposited prior to the last part of the Wisconsin Glaciation or during earlier pre-Wisconsin glaciations occur in southeast and southwest Rock County, with the Orfordville Eroded Moraines being located southwest of Janesville and the Bergen Moraines to the south and east of the city. In most places the tills are relatively thin or patchy and occur on top of stream dissected uplands that are underlain by Paleozoic sedimentary bedrock. In general, these deposits don't preserve any primary glacial

landforms, such as drumlins or moraines, except for the Bergen Moraines. Here, drumlin-like hills cover two prominent uplands both north and south of the Turtle Creek Valley. The Sugar River Valley occupies the extreme southwestern corner of the county.

Rock County preserves excellent examples of late Wisconsin glacial landforms but it also includes a rather unique area of pre-Wisconsin glacial deposits underlain by Paleozoic bedrock. Additionally, southeastern Wisconsin, including Rock County, is one of the first regions to have had its glacial deposits and landforms documented in detail. Thomas Chrowder Chamberlain and William C. Alden, both icons in early American glacial geology, laid the foundation of Midwestern glacial geology by their studies of this region.

The Rock River, located within the Preferred Alternative, can also attribute its path to the melting of the Green Bay Lobe. The river's ancestral valley was deeply cut into the bedrock. As the glacier retreated the valley filled with glacial outwash to a depth of at least 396 feet below the present land surface. From its headwaters in Theresa Marsh Wildlife Area in Dodge County, the Rock River flows southwest through the Horicon Marsh Wildlife Refuge, draining the area between the Wisconsin River and Lake Michigan. From Horicon Marsh Wildlife Refuge, the Rock River flows southwest and is joined by the Crawfish and Bark Rivers before entering Rock County. Leaving Lake Koshkonong in northern Rock County it is joined by the Yahara River. From here the Rock River flows north to south through the center of the county and the cities of Janesville and Beloit before crossing the border into Illinois.

The Preferred Alternative has topographic characteristics that are iconic examples of features formed in front of, at the edge of, and underneath the furthestmost advance of the glacial ice sheet. This variety of geologic features will provide educational and interpretive opportunities for hikers, students, and other trail users.

5.3.2 Environmental Consequences on Geology: No Action Alternative

Under the No Action Alternative, the trail may or may not be built by state or local entities. If built by state or local entities, there would be no obligation to adhere to NEPA mandates and its associated natural and cultural resource protection. If the trail is built by state or local entities, there would be no obligation to adhere to NEPA mandates and its associated natural and cultural resource protection policies, and it would be up to the state to enforce NEPA policies.

Cumulative Impacts: Under the No Action Alternative, when combined with the reasonably foreseeable future actions and trends described in Section 5.2.1, potential loss of interpretation and protection of geologic features may occur. This potential long term adverse impact would prevent the NPS from fulfilling the intent creating a NST that interprets the superior geologic features in Rock County. If acquisitions are not made to protect these features, there's potential that geologic features could be used for development or extraction. These activities could result in short-term and long-term adverse impacts to the surrounding ecosystem and the destruction of the feature would be permanent.

5.3.3 Environmental Consequences on Geology: Preferred Alternative

Under the Preferred Alternative there could be permanent protection of some of the geological resources described above from disruptive land uses. Protection of the corridor, combined with

increased public awareness could have a long-term beneficial impact on these unique geologic features.

Cumulative Impacts: When combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1, the Preferred Alternative, would not result in any added measurable short- or long-term adverse impacts to geologic resources. The Preferred Alternative could provide long-term beneficial impacts through the protection to geological resources if land is acquired in areas where the trail may be developed. If the trail is developed in areas with unique geologic features, preservation of these resources would benefit the public in perpetuity by creating unique opportunities for education, recreation, and scientific study.

5.4 SOILS

5.4.1 Soils Affected Environment:

Most soils in Rock County were directly or indirectly a result of glaciation. Glacial till is the most common parent material for soil development followed by glacial outwash within the county. Residuum from weathered dolomite and sandstone is also common. The remainder of the parent material is composed of lacustrine deposits commonly found in extinct glacial lakes, alluvial deposits associated with sediment transported by water, and colluvial deposits transported by gravity and generally located at the base of slopes.

Native vegetation also plays an important role in soil formation. Tall grass prairies and open oak forest covered Rock County in the millennia since the glaciers retreated. Soils formed under prairie have a thick, fertile surface layer formed by dense, deep-rooted grasses and forbs. Forested soils tend to have thinner, lighter colored, surface layer. Plants hold onto, protect, and shape soil with fine rootlets that search for water and nutrients. In turn, plants give back organic matter in dead roots and leaves, which feed organisms. Tunnels from old roots aid infiltration and water holding capacity.

There are three main soil associations in the county, each with a distinct glacial origin. These are the Kidder-St. Charles soils of the Johnstown and Milton Moraines, the Plano-Warsaw-Dresden soil association of the outwash plains, and the Edmond-Rockton-Whalan series of the Orfordville Moraine (USDA-SCS, 1977).

The landscape of the northern one-third of the county features the Johnstown End Moraine and recessional moraines from County Road A north to the county line. These mark the edge of the most recent glacial event, the Wisconsin Glaciation, which ended about 10,000 years ago. Nearly all notable impounded or kettle lakes in the county are in this region where the Kidder and St. Charles soil association dominate. The area is characterized by uneven terrain; short steep slopes, an abundance of kettles (closed depressions), extensive wetlands, and few streams.

The Kidder-St. Charles series consists of very deep, well drained soils formed in thin loess and loamy till or just in loamy till. These soils are found on ground moraines, end moraines, and drumlins including the Johnsonville Moraine that stretches across the northern half of the county. The slopes of these deposits range from 0 to 35 percent. Many areas are used for cropland such as corn, soybeans, small grain, and hay. Some areas are used for pastureland, and some are in woodland. Native vegetation is mixed hardwood forest. Common trees are red oak

(*Quercus rubra*), white oak (*Quercus alba*), shagbark hickory (*Carya ovata*), and white ash (*Fraxinus americana*).

The extensive outwash plain east of Janesville is dominated by the Plano-Warsaw-Dresden soil association. The Sebewa-Kane soil association is also found in the region but to a lesser extent. The soils in this area are primarily silt loam-to-loam, underlain by glacial till or stratified sand and gravel and are used primarily for agricultural purposes. The native vegetation of this area was primarily prairie with some patches of hardwood forest present.

The Orfordville eroded moraine in the southwestern part of the county, also known as the Western Uplands, is the oldest landscape in Rock County. This landscape was formed by the early Pleistocene glacial ice sheet more than 30,000 years before present and by differential erosion of bedrock. Deep valleys cut into the underlying sandstone and dolomite bedrock formations, extensive ridges, numerous headwater streams, and the wide wet floodplain of the Sugar River characterize this area. The fragile Edmond-Rockton-Whalan soil association dominates the uplands of this region. The soils in this region are primarily sandy loams underlain by shallow bedrock.

5.4.1.2 Environmental Consequences on Soils: No Action Alternative

Under No Action, the trail may or may not be built by state or local entities. If built by state or local entities, there would be no obligation to adhere to NEPA mandates and its associated natural and cultural resource protection policies, and it would be up to the state to enforce WEPA policies. Impacts to soils would depend on where and how other entities choose to build the trail. When constructed, the trail may or may not go through a design and layout process, that includes development of possible alternative alignments and analysis of potential soil impacts. The assessment of impacts might not be ascertained, may be greater than negligible, and could be long-term or permanent to glacial deposited soils in locations of unchecked erosion.

Cumulative Impacts: The No Action Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 could potentially lead to long-term adverse impacts to soils. If trail segments are constructed without NPS involvement it is possible that trail building methods could lead to adverse impacts to soil. These impacts could start as short term, but if not properly mitigated could lead to long term impacts to soils. If the trail is developed using unsustainable practices and trail building methods that don't align with the [NPS Trail Building Handbook](#) the development could lead to erosion, run off, compaction, and hazardous conditions. These poorly developed trails are unsuitable and can directly and indirectly impact natural and cultural resources, such as loss of glacial soils through erosion, loss of native plants indirectly through loss of host soils and potential for exposure of or damage to cultural resources through erosion.

5.4.1.3 Environmental Consequences on Soils: Preferred Alternative

Under the Preferred Alternative, if the trail is developed it would be situated to the greatest extent practicable in suitable soils to minimize the possibility of compaction or erosion. Soil type, slope, and drainage would all be taken into consideration at the planning stage for each project. Soils will be analyzed further when the route for the trail is determined, and trail is being proposed for construction.

During construction, best management practices would be used to limit the area of disturbance. Erosion control techniques such as sidehill construction and drainage dips would be employed. If the trail must cross a wet areas bridges would be used to minimize adverse impacts. In addition, monitoring of the trail will identify any cumulative erosion problems so that appropriate erosion control actions can be taken. Overall, in the long-term, impacts to soils would be negligible considering the amount of soil impacted in the context of the county as a whole.

Cumulative Impacts: The Preferred Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 would not add a measurable increase in adverse impacts but could result in short-term (during construction) adverse impacts to soils that would be minimized or avoided through mitigation measures. The Preferred Alternative would allow the NPS to require best management practices such as sustainable trail building practices, soil conservation measures and other mitigation measures to minimize or avoid soil impacts. Overall, long-term impacts would likely be beneficial to native plants and cultural resources through preserving soil and plants in place and mitigating or preventing erosion.

5.5 VEGETATION

5.5.1 Vegetation Affected Environment:

The pre-settlement vegetation of eastern Rock County consisted primarily of forests of Bur and White oak atop the moraine, and vast outwash covered by prairie. These plant communities were the result of natural succession influenced by fire and other factors. Natural communities remain scattered throughout the Preferred Alternative, though much of the land has been converted to agricultural production. Today, woodlands cover 7.7 percent of the Preferred Alternative and 10.6 percent lies in grassland, wetlands, marshes, and conifer swamps, along with their associated vegetation and wildlife.

According to the WDNR, Rock County lies entirely within the Southeast Glacial Plains Landscape. This ecological landscape contains significant marshes, notably Lima Marsh SNA, as well as fens, sedge meadows, wet prairies, tamarack swamps, and floodplain forests. The only tamarack bog found in Rock County can be found in Lima Marsh SNA, located in the Preferred Alternative between Milton and the Clover Valley SWA.

Geographically, there are three distinct land type associations: East-Johnstown-Milton Moraine, Rock River Prairies, and Orfordville Eroded Moraines. The Johnstown and Milton Moraines are characterized by hummocky moraine and outwash plain with scattered lake plains. Soils are predominantly well drained silt over calcareous sandy loam till or gravelly sandy outwash. Common natural habitat types include wetlands, sugar maple/basswood-white ash/viburnum-gray dogwood, and sugar maple/basswood-white ash/blue cohosh-sweetroot.

The Rock River Prairie SNA is a nearly level outwash plain, soils are predominantly well drained silt over calcareous gravelly sandy outwash or silty and sandy lacustrine. Habitat types found here include prairie, sugar maple/basswood-white ash/blue cohosh, and sugar maple/basswood-white ash/blue cohosh-sweetroot.

The Orfordville Eroded Moraine is a rolling till plain and erosional surface. Soils are predominantly well drained silt and loam over calcareous loam till, clayey residuum. Common habitat types include sugar maple/basswood-white ash/blue cohosh, and sugar maple/basswood-white ash/blue cohosh-sweetroot.

Located in the hilly western upland region of Rock County at the edge of the Orfordville Eroded Moraine is Magnolia Bluff County Park. The second highest point in the county encompasses a cliff of Galena dolomite and St. Peter sandstone, the bluff, including its narrow ridgetop, has been shaped by natural drainage ways with open and shaded cliffs flanking the sides. Southern dry mesic forest dominated by black oak covers most of the area. Paper birch can be found on the north facing slopes. The cliffs present another community type featuring ebony spleenwort (*Asplenium platyneuron*), smooth cliffbrake (*Pellaea glabella*), rusty woodsia (*Woodsia livensis*), spike-moss (family *Selaginellaceae*), common rockrose (*Helianthemum nummularium*), bird's-foot violet (*Viola pedate*), huckleberry (family *Ericaceae*), and small skullcap (*Cutellaria leomardii*). The state threatened kitten tails (*Besseyia bullii*) also occurs here. On the crest and upper slope of the bluff is a small dry prairie remnant with little bluestem (*Schizachyrium scoparium*), side oats (*Bouteloua curtipendula*), grama grass (genus *Bouteloua*), rock sandwort (*Minuartia dawsonensis* formerly *Arenaria stricta*), and blue-eyed grass (*Sisynchium*). A portion of the Magnolia Bluff County Park was designated a State Natural Area in 2011.

A final category of vegetation, which includes residential plantings and agricultural fields, both abandoned and currently cultivated, represent about 50% of the Preferred Alternative's unincorporated area. Residential plantings include native and ornamental species. Agricultural crops grown in this area are primarily corn and soybeans, followed by silage, forage, and hay. Old fields of various ages are present and exhibit a range of successional plant species. (USDA Census of Agriculture, 2012)

Invasive and noxious plant species tend to have been introduced intentionally (e.g., ornamental landscape, erosion control, range improvement) or accidentally released into an environment lacking in that species' usual predators or other similar controlling factors. Invasive species can affect natural environments, such as those found in National Parks and Forests, State Parks and Natural Areas, aquatic and riverine systems, as well as agricultural areas. According to Executive Order 13112, the Invasive Species Act, an invasive species is "a species that is: 1. non-native (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health."

5.5.2 Environmental Consequences on Vegetation: No Action Alternative

The No Action Alternative, the trail may or may not be built by state or local entities. If not built, it is assumed that existing development trends would continue into the reasonably foreseeable future. If built by state or local entities, there would be no obligation to adhere to federal NEPA mandates and its associated natural and cultural resource protection policies, and it would be up to the state to enforce WEPA policies and NHI. Although there is the potential that the trail may be developed opportunistically, there is an equal chance that there would be no development at all and if that were the case, the affected environment would not change. Environmental consequences on vegetation would be no different than existing conditions.

Cumulative Impacts: The No Action Alternative when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 could potentially

lead to added long-term adverse impacts through the loss of unique vegetation features due to community development. In instances where the vegetation could be lost, these losses could exist both short and long term and would be adverse. In instances where the trail may be developed and ESA consultation is not complete, threatened and endangered species could be impacted. These sensitive species may not be protected and could be permanently lost. In addition, if noxious or invasive species are introduced along the trail, the NPS would not be able to assist in preventing the spread of these species. The spread of these species could cause a direct impact to native plant populations. Indirectly, these habitat losses could impact other natural resources including wildlife.

5.5.3 Environmental Consequences on Vegetation: Preferred Alternative

If the trail is developed, the linear trail will promote an increase in biodiversity of vegetation on lands purchased for the trail as well as on the public lands it connects. In many instances the development of the trail would have less adverse environmental effects than many of the existing land uses. Current agricultural land practices make the soils prone to erosion and use of pesticides and herbicides may have an adverse effect on the ecosystem. Depending on the trailway's width, it will create an improved biological habitat for birds and wildlife by supporting plant diversity, allowing natural processes to occur, and reducing fertilizer and pesticide use.

Threatened and Endangered Species and Species of Concern -Vegetation: Pursuant of the Endangered Species Act, the NPS and its partners are required to avoid impacting threatened and endangered species while constructing the Ice Age NST and follow mitigation measures when applicable. A site-specific review would occur when the trail is developed.

The Preferred Alternative would not impact any state or federally listed threatened species, endangered species, or species of concern and depending on specific circumstances may protect sensitive resources. Consultation and coordination would include formalizing mitigation measures to be applied during construction activities that may include the avoidance of certain areas during specific times of the year and insuring compliance with the ESA and Wisconsin's state endangered species law codified in WDNR Chs. NR 1-99; Fish, Game and Enforcement, Forestry and Recreation; Chapter NR 27.

Invasive Vegetation Species: Under the Preferred Alternative, planned and coordinated development and maintenance of the Ice Age NST would occur, which would include monitoring and eradicating invasive non-native plant species. This is part of the regular trail maintenance activities conducted by the IATA's local chapters, and on state lands by WDNR staff. Control of invasive non-native vegetation into native ecosystems would provide both a short and a long-term beneficial impact. These beneficial impacts to vegetation health and would promote increased biodiversity by discouraging habitat fragmentation and resource destruction.

Control activities follow the recommendations outlined in the *Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants* (edited by Randy Hoffman and Kelly Kearns). This publication provides information about the identification, monitoring, and control of exotic and invasive species in a manner sensitive to both individual species and natural communities. It was produced by WDNR, Bureau of Endangered Resources in May 1997.

To mitigate the spread of invasive and noxious plants, an exhibit and boot brush could be located at the entrances to Ice Age NST segments to inform hikers about the existence of invasive species, their effect on the native environment, appearance, and control measures. These interpretive materials include information about how the hiker can help to limit the spread of invasive species by staying on the trail and using the boot brushes.

Cumulative Impacts: The Preferred Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 would not add any adverse impacts in the long-term, however there could potentially be some short-term adverse impacts during construction. If the trail is developed and land is acquired for the trail, this would benefit vegetation biodiversity in areas that are otherwise agricultural monocrops and reduce the number of pesticides and herbicides that are used. In addition, if native or noxious weeds were introduced or are existing, local chapters would help eradicate those species indirectly benefiting local wildlife and native plant diversity. With the selection of the Preferred Alternative, the NPS would be able to oversee the future development of the trail and ensure that trail building has no adverse long-term impact on wildlife and native plants. Moreover, the Preferred Alternative would ensure that trail development is compliant with the ESA, section 7.

5.6 Water Resources

5.6.1 Water Resources Affected Environment:

Rock County contains part or all of 12 watersheds in two different basins, the Lower Rock River Basin and the Grant-Platte-Sugar-Pecatonica River Basin. The county has 3,549 acres of surface waters or 1% of its total area (Wisconsin DNR). Rock County is home to all or part of three rivers and fifty streams extending a total of 308 miles. Rivers include the Rock, Sugar, and Yahara. There are a few major named creeks: Turtle Creek, Allen Creek, Badfish Creek, Bass Creek, Marsh Creek, Otter Creek, Taylor Creek, and Raccoon Creek. Two popular lakes are the impoundments of Lake Koshkonong (Rock River) and Leota Lake (Allen Creek); Smaller impoundments have been restored to streams with the removal of dams in the last few decades on Turtle Creek (Shopiere), the Yahara River (Stebbinsville and Fulton), and Bass Creek above Afton. The Rock River has dams at Indianford, Janesville, and Beloit.

The only stream in the Preferred Alternative noted in the WDNR's Outstanding and Exceptional Resource Waters Program is Allen Creek south of the City of Evansville. This designation indicates that Allen Creek has excellent water quality, high recreational and aesthetic value, high quality fishing, and is free from point source or non-point source pollution. (Rock County Comprehensive Plan, 2009)

Stream patterns east of the Rock River tend to have low gradients and are commonly associated with wetland complexes. They are slow flowing streams and are usually adjoined by wetlands. Sand, silt, and muck are the most common substrate or stream bottom. Conversely, west of the Rock River, streams tend to have high gradients and dendritic drainage patterns.

All naturally occurring lakes and ponds found in Rock County are in the northern half of the county in the Johnstown Moraine High Relief area. Kettle or seepage lakes have been formed in the depressions left by the glaciers. Water levels in seepage lakes are controlled predominantly by groundwater, an outlet if one exists, and surface water runoff to a lesser extent. Seepage lakes

can easily become pollution sinks when sediment, nutrients, and other pollutants settle and accumulate in the basin. Well-known seepage lakes are Clear Lake (no outlet), Storrs Lake (Otter Creek), Gibbs Lake (Gibbs Creek), Grass Lake (no outlet), and Bowers Lake (Otter Creek).

Threats to the surface water include soil erosion due to land development and agricultural practices, contamination from pesticide over-use in permeable soils, depletion from over irrigation, and various other point and non-point sources. Loss of wetlands due to development activities also threatens the water system. The Rock County Land Conservation Department recently completed an update of its Land and Water Resource Management Plan (2020-2030) to address these concerns.

Trail construction in wetlands is subject to permitting under federal regulations administered by the U.S. Army Corp of Engineers (USACE) and the Environmental Protection Agency (EPA). Executive Order 11990, Protection of Wetlands, requires federal agencies to avoid, where possible, impacts to wetlands. Wisconsin State Law also has provisions regulating the construction of trails in wetlands and stream crossings. When water structures are constructed, placement of fill materials or structures in wetlands would be subject to state and federal regulation. The impacts of these projects would also be analyzed when the projects are proposed. The rules in place that govern activities in Wisconsin wetlands include NR 1.95 and NR 103, Wisconsin Administrative Code. Any work on the bed or banks of navigable waters, including bridges, is governed under Chapter 30, Wisconsin Statutes. Permits from the WDNR would be needed to construct bridges and approaches or conduct development activities in wetlands.

5.6.2 Environmental Consequences on Surface & Ground Water Resources: No Action Alternative

Under the No Action Alternative, if the NPS would not participate in the development of the Ice Age NST through Rock County and other entities would take the initiative, it is unknown if impacts to water quality could occur as a result. Placement of water structures and development of trail around water bodies can have negative impacts on water resources, if improperly constructed. If built by state or local entities, there would be no obligation to adhere to NEPA. The project would rely on WEPA and the WDNR's programs and policies regarding the protection of surface and ground waters.

Cumulative Impacts: The No Action Alternative when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 could have some added long-term adverse impacts, if the trail is developed opportunistically without NPS oversight. Without NPS oversight the trail could have a direct impact to water depending on if the policy mentioned in Section 5.6.1 is complied with. If bridges, boardwalks, and the trail is built without NPS involvement it could indirectly impact wildlife if regulatory measures are not followed. Short-term the impacts may not be obvious, but if proper construction methods are not followed and construction projects are not properly permitted, these impacts could generate long-term issues such as erosion, bank destabilization, dangerous waterway crossings, and navigational hazards.

5.6.3 Environmental Consequences on Surface & Ground Water Resources: Surface & Ground Water Resources: Preferred Alternative

The Preferred Alternative would incorporate rivers, kettle lakes and ponds, water impoundments, streams, marshes, and wetlands into the experience of the trail. Constructing the trail around these water features affords the opportunity to preserve them as well as interpret their significance within the landscape. Bridges would be constructed to span creeks and streams, as well as boardwalks through wetlands. Ongoing monitoring of water crossing structures would identify and alleviate issues that may come up over time. Wisconsin State Law NR 1.95 and NR 103 of the Wisconsin Administrative Code regulate the construction of trails and bridges in wetlands and crossing of streams. Any work on the bed or banks of navigable waters, including bridges, is governed under Chapter 30, Wisconsin Statutes. Permits from the WDNR would be needed to construct bridges and approaches or conduct development activities in wetlands.

The USACE and the EPA under Section 404 Clean Water Act (CWA) have jurisdiction over wetlands and navigable waters, and permits must be obtained under Executive Order 11990, Protection of Wetlands. The NPS has an obligation to uphold the CWA and to avoid, where possible, impacts to wetlands and navigable waterways. Before trail construction begins on any portion of the Ice Age NST, including the building of structures such as bridges and boardwalks and placement of fill materials, the NPS and WDNR require that all the necessary permits be obtained.

During construction, there could be some negligible short-term adverse impacts to water resources because of minor sedimentation, and temporary stream bank destabilization. Utilizing best management practices would greatly minimize these impacts. As with other resources, however, the trail would offer beneficial opportunities for conservation of natural resources, including water quality, which would be long-term and regional.

Cumulative Impacts: When combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2., the Preferred Alternative, could have added long-term, direct beneficial impacts to the protection of water resources due to the requirement to comply with water regulation and policies mentioned in Section 5.6.1 and indirectly benefit any resources that could be impacted by the improper construction near to or in a water resource.

5.7 WILDLIFE

5.7.1 Wildlife Affected Environment:

The varied topography and vegetative communities found among the major physiographic regions of the county are prime habitat for a variety of upland and wetland wildlife species. Forest, savanna, grasslands, cropland, streams, lakes, marshes, and transition zones from one cover to another provide shelter and a progression of food sources for many species to thrive. Whitetail deer (*Odocoileus virginianus*) and wild turkey (*Meleagris gallopava*) are common in agricultural areas. Large wetlands provide food and rest for migrating waterfowl and as homes for amphibians, reptiles, and fish.

Wetland complexes that support waterfowl breeding are found in the northeast section of the County. Lake Koshkonong and area wetlands are home to many resident and migratory birds

and is a recognized Important Bird Area (IBA), a designation earned from the Wisconsin Bird Conservation Initiative, a cooperative of state and federal organizations. The western section of the county lends itself to grasslands for upland birds and is considered the best pheasant and bobwhite quail habitat (*Colinus virginianus*) in the state. Rock County is also home to the Rock Prairie Giant Canada Goose (*Branta canadensis maxima*) flock in winter. The flock's summer nesting grounds are in southeast Manitoba, Canada.

Healthy and sustainable wildlife populations depend on a clean environment and adequate habitat for food, cover, and water. Land use and development are negatively affecting their environment and habitat. Development and rural home building are fragmenting woodland and grassland habitat, disturbing wildlife travel corridors, cover, and food sources. Non-point source pollution from agricultural and urban land uses are degrading surface waters to the point that they no longer support the variety of fish species that they were once capable of sustaining. The draining and filling of wetlands are destroying habitat and breeding grounds for fish and other species (Rock County Water and Resource Management Plan, 2019).

Wildlife areas owned and managed by DNR are open to a full range of traditional outdoor recreational uses that rely on healthy wildlife populations. These include hunting, fishing, trapping, hiking, nature study, and berry picking. The wildlife areas in Rock County are Turtle Creek, Avon Bottoms, Footville, Evansville, Storrs Lake, and Lima Marsh.

5.7.2 Fisheries Affected Environment:

The waters of the study area contain a variety of fish species. Warm-water species such as northern pike (*Esox Lucius*), muskie (*Esox masquinongy*), bass (family *Microterpus*), bluegill (*Lepomis macrochirus*), crappie (family *Centrarchidae*), and other panfish inhabit the various lakes of the proposed corridor. Walleye (*Sander vitreus*, synonym *Stizostedion vitreum*) is a very popular warm water game fish found in the Rock River.

Cold water species such as brook trout (*Salvelinus fontinalis*), brown trout (*Salmo trutta*), and rainbow trout (*Oncorhynchus mykiss*) are not generally found as there are no faster flowing streams with temperatures of less than 75 degrees Fahrenheit. Potential impacts to fisheries include increased sedimentation, stream bank destabilization, and increased exotic species. Trail developers would work with the local WDNR wildlife biologist and water regulation and zoning staff to ensure that when construction of the trail occurs, potential impacts are minimized.

5.7.3 Threatened and Endangered Species

Section 7 of the ESA requires that actions authorized, funded, or carried out by federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, the federal agencies, or their designated non-federal representative, must consult with the USFWS to determine if the proposed action will have any impacts on listed species or critical habitat. Under Wisconsin State Statute 29.604 and Administrative Rule Chapter NR 27, the state of Wisconsin also assumes responsibility for the protection of federal and state endangered species under Section 7 of the ESA.

A revised list of federal threatened and endangered species, which may be present in the Preferred Alternative, was obtained from USFWS iPaC System on September 22, 2022. The updated list included seven (7) threatened, endangered, and candidate species and no critical habitats. The update list represents a dynamic change from the previous list, reinforcing the need to review individual trail development projects as they are presented. Threatened species currently listed include the northern long-eared bat (*Mysotis septentrionalis*), eastern prairie fringed orchid (*Platanthera leucophaea*), prairie bush-clover (*Lespedeza leptostachya*), and Mead's milkweed (*Asclepias meadii*). The list also includes the endangered rusty patched bumble bee (*Bombus affinis*), the candidate species monarch butterfly (*Danaus plexippus*), and the experimental population, non-essential whooping crane (*Grus americana*).

The Wisconsin DNR's Endangered Resources Program monitors endangered, threatened, and species of special concern and maintains the state's Natural Heritage Inventory (NHI) database of rare species in Wisconsin. NHI data are exempt from the open records law because of their sensitive nature; however, maps of general locations of reports, species lists, and statuses are available to the public.

The WDNR NHI list for the Preferred Alternative was obtained September 2022. Within the Preferred Alternative, there are 43 threatened, endangered and species of concern, and 14 critical habitats listed copy of this list is included in Appendix G.

5.7.4 Environmental Consequences on Wildlife: No Action Alternative

Under No Action the NPS would not be involved in the development of the trail, and attaining a continuous, permanently protected corridor is unlikely. As with other resources, potential beneficial impacts because of deliberate conservation of certain habitat areas may or may not happen. If others acquire land and build the trail, then impacts to threatened and endangered resources would be dependent on their compliance with ESA and coordination with USFWS, and WDNR NHC. If they do not coordinate, there could be long-term adverse impacts on wildlife.

Cumulative Impacts: The No Action Alternative when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 could lead to the loss of wildlife. If the trail is developed without NPS involvement, trail contractors would not be required to comply with the ESA. This could directly impact threatened and endangered species habitat. If water structures are built without NPS oversight it could indirectly adversely impact fish and sensitive aquatic and wetland species in the long-term.

5.7.5 Environmental Consequences on Wildlife: Preferred Alternative

A continuous trail through Rock County would help to preserve open space, create wildlife corridors, and protect sensitive habitats, which would be beneficial for wildlife. During construction of the trail, some negligible, short-term, adverse impacts to wildlife and threatened and endangered species could occur, including limited displacement of certain species, however, overall patterns of use would not change. Over time, hikers would not have any measurable impacts on wildlife as they become accustomed to their occasional presence. All potential impacts would be mitigated by following Best Management Practices and regularly consulting with the FWS as the trail is developed.

The Ice Age NST as a wildlife corridor would allow species to navigate human development, and not become isolated due to habitat fragmentation. It would also contribute to greater diversity and expansion of species, particularly insect pollinators and bird species. In the long term, the preservation of habitats associated with the trail would have long term and regional beneficial impacts.

There could be some negligible, short-term adverse impacts to fisheries during construction activities caused by possible erosion, sedimentation, and temporary stream bank destabilization. The impacts, including some displacement, would be temporary and localized, and fisheries would recover quickly. In the long-term, as a result of proper trail design, coordination with WDNR, and best management practices, impacts to fisheries would be beneficial, and localized.

Cumulative Impacts: The Preferred Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 would not result in any added short or long-term increase in adverse impacts. Further land acquisition and development of the Ice Age NST into adjacent counties and beyond could extend the protected trailway. This could have a long-term direct benefit to biodiversity, avoid future habitat fragmentation, and serve as a wildlife corridor. The Preferred Alternative would allow the NPS to directly oversee potential trail development and ensure compliance with the ESA. This would directly benefit threatened and endangered species in the long-term.

5.8 RECREATION RESOURCES

5.8.1 Affected Environment Recreation Resources:

The Ice Age NST is intended to be primarily a hiking foot trail. Other compatible uses may include winter activities such as snowshoeing and cross-country skiing. However, some trail segments may not be suitable for cross-country skiing unless this activity was considered in the initial design and layout. In general, horses, bikes, and snowmobiles are not allowed on the trail except for those sections where they are an allowed use, such as state/county recreational trails.

The Preferred Alternative contains public lands that provide the public with an array of recreational opportunities. In the 1990s, the State of Wisconsin began to expand Clover Valley SWA in Walworth County, which adjoins Rock County's eastern boundary. Volunteers enthusiastically constructed trail through this SWA, whose property boundaries expanded west to flow over the county line into Rock County. Today the Clover Valley Segment is approximately 1.5 miles in length.

In 2003, three miles of the Ice Age NST was marked and certified through the City of Milton. The City of Milton segment begins in the Storrs Lake SWA and extends west into Milton via Storrs Lake Road where it passes the historic Milton House NHL. This segment traverses south at State Highway 26 to High Street where it follows city sidewalks westerly, passes behind Milton High School, then meanders to the Merchants Row area of downtown Milton, where it links with a multi-use Rails to Trails path which runs some 4 miles south to Rotamer Court north of Highway 26 in Janesville.

In 2004, the IATA's Mobile Skills Crew built and signed 2 miles of trail through Storrs Lake SWA just east of Milton. The Storrs Lake Segment begins at Bowers Lake Road and winds south

to Storrs Lake Road.

Janesville, with a population of 63,000, is the largest city in the state with an Ice Age NST segment in Rock County. The Janesville Segment begins just north of State Highway 14 at North Wright Road. Much of this segment is non-traditional in that the trail is asphalt surfaced to a width of 10'. The trail runs 6 miles south through a lush, vegetated greenbelt, crossing the Rock River over a 365' historic wooden railroad bridge. Numerous public special interest areas exist along this segment including Janesville's Palmer Park, Blackhawk Golf Course, Rotary Gardens, and Lions Beach. Once on the west shore of the river, the Ice Age NST is on city sidewalk and some paved trail surfaces through the downtown. At the crossing of State Highway 51 (Centerway Avenue), the trail becomes very scenic and meanders along the Rock River shoreline to the city's Riverside Park. Midway through the park, the trail merges into the newly established Devil's Staircase segment and for nearly a mile this trail segment follows a beautiful limestone bluff along the river where it eventually crosses a portion of Riverside Golf Course and terminates at North Washington Street. The Ice Age NST in Janesville is approximately 10 miles in length.

To the west of the city, the trail's Arbor Ridge Segment traverses an area of bedrock hills including the Cook Memorial Arboretum-Janesville Schools Outdoor Laboratory and the valley of Marsh Creek.

In 2022, trail was signed and cleared going through Gibbs Lake County Park. In addition, in 2022, a resolution was passed to have the trail go through the Evansville School District. This trail route intends to pass through school forests and prairies that were built by students and teachers dating back to 2007.

Collectively, there is a relatively good supply of support facilities to accommodate hikers within and near the Preferred Alternative. Support facilities provide for hiker convenience, comfort, or sanitation. They include parking, trailheads, restrooms, camping or other overnight accommodations, potable or filterable water sources, and opportunities to obtain supplies such as food.

Camping may be available with permission of the county at Gibbs Lake and Magnolia Bluff County Parks. There is dispersed camping area located just over the Walworth County Line at the Clover Valley SWA. Supplies may be purchased in several communities within the proposed corridor including Milton, Janesville, and Evansville.

5.8.2 Environmental Consequences on Recreation Resources: No Action Alternative

Under the No Action Alternative, a trail may or may not be built by state or local entities. If not built, it is assumed that existing development trends would continue into the reasonably foreseeable future. This could mean no new significant additional recreation resources may be developed beyond what already exists. If the trail is built by state or local entities, there would be no obligation to adhere to federal NEPA mandates or recreation standards, and it would be up to state and local entities to plan for and construct additional recreation opportunities.

Under the No Action, increased opportunities for hiking, the enjoyment of important viewsheds, and education regarding unique geological features and processes may not be available above what currently exists today.

Cumulative Impacts: The No Action Alternative when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 would have no additional impacts to recreation resources beyond what has already been described. Though the trail could be developed without NPS involvement, there would be no requirement to comply with NEPA. This may limit the potential for trail safety and sustainable trail building, long term this may directly impact the stability and sustainability of the trail.

5.8.3 Environmental Consequences on Recreation Resources: Preferred Alternative

Creation of the Ice Age NST through Rock County will enhance public awareness of Wisconsin's glacial landscape through interpretation of the glacial features. The Preferred Alternative could, over time, protect land within the Preferred Alternative from development. Since the trailway width is greater than the trail itself, this could allow for the protecting of portions of the surrounding landscape and associated viewsheds. The Preferred Alternative would allow flexibility in selecting possible trail routes that provide the most outstanding views and excellent hiking experiences.

Depending on its location, the trail would offer numerous opportunities to preserve views, vistas, and other visually appealing topographical and vegetative features. Their incorporation into the trailway would expose visitors to scenic resources they do not normally encounter as they travel through the area, which would be a beneficial impact. The mixture of native oak savanna, prairie, and wetlands, against the backdrop of forested and agricultural lands, will provide a constantly changing environment. Hikers will wind around numerous glacial features. The distinct Johnstown Moraine and outwash plain is easily identifiable.

Based on patterns of use on similar trails it is likely that use will be highest near populated areas or existing recreation areas. In some areas, perceived conflicts between user groups could develop such as between hikers and hunters, or hikers and farmers. In other areas of the state, farmers have raised concerns about how and to what extent hikers could impact their management practices (pesticide application, manure spreading). To address these concerns, the trail would provide a buffer between the trail and neighboring landowners.

Overall, the Preferred Alternative would have highly beneficial, long-term regional impacts on recreation resources and opportunities. The trail would add to existing recreation opportunities in the county, while preserving important landscapes and viewsheds and increasing educational opportunities regarding unique geological features and processes. As a continuous trail it would provide an important linkage to existing Ice Age NST in Walworth County to the east as well as an important connection west into Green County where there is also existing Ice Age NST.

Cumulative Impacts: The Preferred Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 would not result in an increase in adverse impacts in the short or long-term. If the trail is developed it could directly benefit connectivity between other trail systems and generate access to other recreational opportunities. This would also ensure design safety of the trail and sustainability of the trail using best practices for design and building the trail.

5.9 HISTORIC and CULTURAL RESOURCES

5.9.1 Historic and Cultural Resources Affected Environment:

The history of human occupation in the Janesville area begins approximately 10,000 years ago with the Paleoindian tradition. European-Americans left their mark on the landscape of Rock County with the influx of immigrants in the mid-1800s. Most immigrants to Wisconsin at this time were Yankees from New England or other areas of the eastern United States and foreign-born immigrants from Ireland, Norway, and Germany, along with Poles, and Czechs, who settled in various areas of the state. Janesville was not dominated by any particular group of foreign-born immigrants. Instead, American-born settlers maintained a strong influence on the city's social, civic, and business life during the nineteenth century, with ethnic minorities adding to the diversity of the community (Cartwright, 1998).

Historic and Cultural Resources can include buildings, structures, sites, and districts. They can also include the artifacts, records, and remains related to and located within such properties, and properties of traditional religious and cultural importance to Tribal Nations.

Potential adverse effects include physical destruction or damage, alteration inconsistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Effects may also include change in the character of the property's use or setting; introduction of incompatible visual, atmospheric, or audible elements; neglect and deterioration; and the transfer, lease, or sale without adequate preservation restrictions.

The NPS and State Historic Preservation officer (SHPO) have a Programmatic Agreement (PA) that outlines how the NPS will carry out Section 106 regarding the Ice Age NST and North Country NST in the State of Wisconsin. In general, there are two situations where the action is not covered by the PA, triggering additional compliance requirements: the CPP and individual trail segment construction and maintenance. The agreement outlines the stipulations for meeting requirements. The agreement is available on the park's website at: https://www.nps.gov/iatr/learn/management/upload/SHPO-PA-Appendix-1-2-3_508-3.pdf

Through the CPP, a broad area where the trail may be located is reviewed for potential sites either to interpret or avoid. When preparations for the construction of an individual trail segment are being undertaken, the process is more rigorous. If necessary, additional surveys are undertaken of both archeological and historic resources to determine if the resources could be directly or indirectly impacted by proposed project. For those resources determined eligible for inclusion in the National Register of Historic Places, the impacts of the proposed project and mitigation measures will be assessed. Copies of all survey reports are provided to the SHPO and THPOs for their records.

5.9.1.1 Historic Resources

Within the Preferred Alternative, many of the churches, schools, former mills, and homesteads, as well as picturesque fence row boulders from early land clearing, are culturally significant. There are currently 139 resources listed on the National Register of Historic Places (NRHP) in Rock County including 25 historic districts. The Preferred Alternative includes 69 listing and 19 historic districts. Janesville, the largest city in the Preferred Alternative contains 13 historic

districts, Milton and Evansville have 3 each. Ten additional sites are noted as being formerly on the register, most of these have either been demolished or destroyed by fire (NRHP, 2016).

Historic districts in the City of Janesville include the Prospect Hill Historic District marked by the twin towers of St. Mary's Catholic Church, Courthouse Hill, the South Main Street Historic District, and the Old Fourth Ward Historic District. One highlight is the Tallman House, significant as Wisconsin's only private residence where Abraham Lincoln slept.

Milton's historic Districts include the Milton College Historic District, Parkview Historic District, and Merchant Row Historic District. The Milton House NHL, built as an inn and residence for the Goodrich family, was also a stop on the Underground Railroad, a route used by slaves escaping to the north. Today the site serves as a museum and venue for special events hosted by the Milton Historical Society.

The City of Evansville, another historic community of Rock County features the Evansville Historic District, Grove Street Historic District, and South First Street Historic District. On the north side of town, Leonard-Leota Park, constructed by the Civilian Conservation Corps, continues to serve the community as a popular recreation destination.

The Preferred Alternative also includes the unincorporated communities of Leyden and Lima. Leyden, located 4 miles west of the Rock River was once a thriving community with a general store, school, tavern, railroad depot and a creamery. Lima, a community east of Milton, once boasted a sawmill and railroad depot. The former settlement of Fellows, had a post office from 1887 to 1902, was located near Fellows Road on the south side of Highway 14 about half-way between Leyden and Evansville.

5.9.1.2 Environmental Consequences on Historic Resources: No Action Alternative

Under No Action Alternative, other entities may or may not take on the development of the trail. If others, such as the county, local units of government or interested stakeholders built the trail then they may not follow Section 106 of the NHPA. The purpose of this consultation would be to identify and avoid potential impacts to resources such as historic properties and archeological resources and determine potential candidates for the NRHP.

Without Section 106 coordination there is a higher risk of adverse impacts to resources in both the short- and long-terms. A newly constructed trail could not be designated as a NST, until compliance is fulfilled. If the built trail was found to impact historic resources, mitigations would have to be decided upon between state entities. Should other entities take on the project, it is unclear to what extent these adverse effects would be mitigated.

Cumulative Impacts: The No Action Alternative when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 could potentially lead to the loss of cultural resources, which would be adverse in the short and long-term. If the trail is developed without NPS involvement, it could directly impact cultural resources, these losses could be adverse and permanent. Without NPS involvement in development, there may be no requirement for trail builders to comply with the NHPA.

5.9.1.3 Environmental Consequences on Historic Resources: Preferred Alternative

The Preferred Alternative would have localized, long-term and beneficial impacts to cultural resources. The consultation and coordination process outlined in the Programmatic Agreement would ensure the preservation or avoidance of important cultural and potential archeological resources within the corridor. It also identifies historic sites to interpret that would enrich the Ice Age NST users' experience.

Cumulative Impacts: The Preferred Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 would not result in any added adverse impacts to cultural resources in the short or long-term. The Preferred Alternative could be directly beneficial to the protection of archaeological resources allowing for increased protection efforts and positive public stewardship in the short and long-term. As each trail segment is developed it would be subject to review, field investigations if needed, and consultation with Tribal Nation as described in the Nationwide Programmatic Agreement and the park's 2021 agreement with the Wisconsin SHPO. If resources are identified through this process, they are recorded and avoided, allowing for their permanent protection, and possible further investigations by qualified professionals.

5.9.2 Resources of Interest to Tribal Nations

There are four distinct cultural periods recognized in Rock County which spanned from the end of the Wisconsin glaciation to the present – Paleoindian Cultural Tradition, 10,000 – 8500 B.C.; Archaic Cultural Tradition, 8,500-1,000 B.C.; Woodland Cultural Tradition, 1000 B.C.-A.D. 1,100 and Mississippian Cultural Tradition, A.D. 900-1,600 (European Contact) (WIRP, 2023). Artifacts and intact cultural features, including hearths and refuse pits, have been recorded at various sites in the county in addition to several pre-contact burial mounds.

At various times, the Winnebago, Sac and Fox, and Potawatomi each occupied the Rock River Area. The area now known as Rock County was especially important to the Winnebago and the Potawatomi (Cartwright, 1998). Known major village sites include those located at Lake Koshkonong and Beloit and at the confluence of the Yahara and Rock Rivers, where several mounds remain visible.

A considerable number of native trails are connected the camps and villages in the area and to points beyond. One trail came from the south end of Lake Koshkonong following the east bank of the Rock River to a crossing at Indianford. A trail also connected the eastern shore of the lake to the site of present-day Milton. Another trail connected Janesville north and west to the Madison lakes (Brown, 1917).

A historical marker identifying Black Hawk's Grove, believed to be a campsite used by Chief Black Hawk during the Blackhawk War, is located adjacent to an existing segment of the Ice Age NST in Janesville's Blackhawk Golf Course.

5.9.2.1 Environmental Consequences on Resources of Interest to Tribal Nations: No Action Alternative

Under No Action, other entities may or may not take on the development of the trail. If others, such as the county, local units of government or interested stakeholders built the trail then they would not be required to follow NEPA, Section 106 of the NHPA, Executive Order 13175, or other Federal laws and policies. There would therefore be no requirement to contact, consult, and coordinate with NPS or affected Tribes. Without coordination there is a higher risk of impacts to resources, which could be considerable. As the responsible federal agency, the NPS would have to deny NST status to the newly constructed trail segments, until compliance occurs. Unfortunately, if compliance occurs after the trail's development, the ability to mitigate any impacts may not be possible and impacts to resources could be adverse.

Cumulative Impacts: The No Action Alternative when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 could have added short and long-term & even permanent adverse impacts through a loss of unique cultural resources due to community development. If the trail is developed without NPS involvement, there would be no requirement for Tribal consultation.

5.9.2.2 Environmental Consequences on Resources of Interest to Tribal Nations: Preferred Alternative

During the project's development, review and approval, early consultation with each of the federally recognized tribes in Wisconsin occurs. This is to ensure that trail development will not

impact resources of interest to them, including cultural resources. If necessary, additional resource surveys will be undertaken to locate and avoid potential resources. Copies of all survey reports are provided to the SHPO and THPOs for their records.

Cumulative Impacts: The Preferred Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 would not lead to added adverse impacts in the short or long-term. If the trail is developed it would be subject to review, field investigations if needed, and consultation with Tribal Nation as described in the Nationwide Programmatic Agreement and the park's 2021 agreement with the Wisconsin SHPO. If resources are identified through this process, they are recorded and avoided, allowing for their long-term protection, and possibly further investigation and evaluation by qualified professionals.

5.9.3 Ancestral Lands

Wisconsin's Tribal Nations retain their right to hunt, fish and gather within their ancestral territories as reserved treaty rights. Nothing in this plan or its implementation will modify, abrogate, or otherwise adversely affect tribal reserved or treaty-guaranteed rights.

5.10 SOCIOECONOMICS

5.10.1 Affected Environment Socioeconomics:

The University of Wisconsin-Whitewater Fiscal and Economic Research Center (UW-Whitewater) did a study on the users of the Ice Age NST Statewide (AAOIATU, 2020.) The UW-Whitewater study revealed that 2,300,000 visitors experienced the Ice Age Trail in 2018. Users contributed approximately \$355,000,000 annually to the state and local tourism economies. Primary businesses identified by study that benefit from Ice Age NST users include: convenient/grocery stores, misc/equipment, shopping/souvenirs, overnight accommodations (motel/private campgrounds), restaurants/bars, entertainment, and gas/travel. The study also showed that use has continued to grow over the last 5 years by 1.9-2.8 percent.

The Preferred Alternative includes portions of nine townships. Of the eight incorporated communities in the county, three are located within the Preferred Alternative. The cities of Milton, Janesville and Evansville are also included within the Preferred Alternative. The unincorporated communities of Lima Center and Lyden are also present. With an increased focus on attracting visitors and visitor-dollars into the local economy, the communities located near the proposed Ice Age NST Preferred Alternative may benefit economically from trail users by providing such support opportunities as grocery stores, restaurants, campgrounds, and bed and breakfasts.

Between the 2000 and 2010 census, the Rock County population increased from 160,331 to 161,448 (+0.7% change) and from 2010 to 2020 the population increased again to 163,687 (+1.3 % change from 2010). Nearly all the population growth occurred in the Janesville. The median age in Rock County is 39.8 years (up +2.6 since 2010) (US Census, 2010 and U.S. Census, 2021).

5.10.2 Communities and Businesses

The Parker Pen Company, a global manufacturer, was founded in Janesville in 1891 and remained an important part of the County's economy through 2009. General Motors Corporation opened one of its first automobile assembly plants in the City of Janesville in 1919. The closure of the General Motors plant in 2009 impacted many other dependent industries in the County. Fortunately, the emerging health services sector, continued agricultural production, and the county's favorable geography have provided opportunities for growth. Employment figures derived from the 2011 Census of Employment and Wages indicates the retail and wholesale trades, along with the manufacturing sector, employ a greater percentage of residents than both state and national averages for these industries (US-BLS, 2012). The largest non-agricultural employers are in the medical service, retail, and wholesale trade and manufacturing sectors (Rock County Alliance, 2021). The unemployment rate in July 2022 was 3.9%, higher than both the state (3.0%) and national (3.5%) averages (US-BLS, 2022).

New residential developments are occurring slowly in towns outside of the county's cities and villages. Overall, the population in Rock County is about 80% urban and 20% rural. In 1990, the census reported 537 construction projects in the county and 616 in 2000. There were only 171 projects in 2010, the year after the Parker Penn Company and General Motors closed. The rate of development has since rebounded with 617 permits issued in 2021. (U.S. Census, 2020, and U.S. Census, 2021)

5.10.3 Land Use and Land Ownership

The primary land uses within the Preferred Alternative unincorporated areas are agriculture and pasture/wetlands. As shown in Table 1 below, farmland covers 48 percent of the Preferred Alternative, pasture/wetlands cover an additional 10.6 percent. Forested lands represent an additional 7.7 percent. The three categories together represent more than 66 percent of the unincorporated lands within the Preferred Alternative.

The State of Wisconsin Farmland Preservation Program has served as a tool to help sustain farming as a viable economic option for farmers throughout Wisconsin. Trends in Rock County have shown that significantly less acreage of agricultural land is currently eligible for tax credit through the Agricultural Preservation Program than there was at the height of landowner participation. (Rock County Comprehensive Plan, 2009) The 2012 USDA Agricultural Census for Rock County indicates that from 2007 to 2012 the total number of farms decreased slightly, however, their average size slightly increased.

Several property owners in Rock County are in WDNR's Managed Forest Law (MFL) Program, which was developed to ease the property tax burden for Wisconsin forestland owners with at least 10 acres of woods or forestland who wish to manage their woodlands for a period of either 25 or 50 years. Because there is a penalty for early withdraw, this program limits the change of use and MFL property for the period of enrollment. There are fewer landowners in the MFL program now than in past years, however it may still continue to affect land use to some extent in Rock County. (Rock County Comprehensive Plan 2009)

While much of the Preferred Corridor where trail may be built can be considered rural, the county is beginning to see steady signs of development. Home sales in the county fell from an

annual total of 2,336 in 2007 to only 1,670 in 2008. Sales remained near this level until 2012 when they began rebounding. In 2017, there were 2,360 homes sold in the county (WBA, 2019). According to Wisconsin Department of Administration (WDOA) projections, Rock County is expected to need approximately 12,033 additional households between 2010 and 2035. The density at which future additional households are built will determine the amount of land needed to accommodate the projected growth (Rock County Comprehensive Plan, 2009).

Estimated Land Use in the Preferred Alternative	
Land Use Type	% of Total
Grasslands, Pasture, Scrub, Marsh, Unused Open Space	10.65%
Commercial	1.40%
Crop Land	47.96%
Forest Land	7.74%
Cities and Villages	22.98%
Public/Quasi-Public	0.07%
Quarry	0.11%
Recreational	0.41%
Residential	4.95%
Transportation	2.26%
Water	1.49%

Table 3 Existing Land Use-. Source: Rock County Planning and Community Development, October 2018

5.10.4 Tax Base

In 2017, the collective tax base of Rock County, not including the cities of Janesville, Milton, and Evansville, an area of 470,555.05 acres, was \$ 9,877,315,652 in land and \$7,674,962,672 in improvements. The collective tax base of Preferred Alternative, not including the cities of Janesville, Milton, and Evansville, an area of 79,246.91 acres, was \$4,375,646,460 in land and \$3,634,757,900 in improvements. County wide, the gross average assessed value of land is approximately \$4,680 per acre. For the Preferred Alternative (excluding incorporated communities), the gross average assessed value was about \$12,756 per acre. (Rock County GIS Department, 2018)

The assessed values per acre for both the county as a whole and the Preferred Alternative are greatly impacted by the existence of numerous small, dense residential subdivisions located in unincorporated areas, particularly along the terminal Johnstown Moraine and within the Town of Union, east of the City of Evansville. When considering only the assessed land value per acre for parcels 5 acres and above (primarily low-density residential, agricultural, forested and grassland parcels), the average assessed values for land is \$1,160 for the County (excluding incorporated areas) and \$2,444 within the Preferred Alternative (excluding incorporated areas). Assessed values are usually lower than the actual cost of property. A review of land for sale county wide in December 2021 showed a range of asking prices, from \$1,450-\$3,750 per acre for cropland to \$5,000 to \$10,000 per acre for those parcels listed as being suitable for development. The average of both the cost of crop land (\$2,600) and developable land (\$7,500) was used to

calculate costs associated with land acquisition for the trail. The Ice Age NST is a permitted use in all zoning classification (ss. 236.292 Wis. Stats.).

The State's PILT are payments to Local Units of Governments (LUGs) that help offset losses in property taxes due to nontaxable state lands within their boundaries. Eligibility for payment under the PILT program is reserved for LUGs that provide services such as those related to public safety, environment, housing, social services, and transportation. Calculations for State PILT payments are based upon Wisconsin State Statute 70.114. This law assures that purchase of lands by the state after June 30, 2011, are based on the equalized value of the land prior to the year in which the land was purchased. Under State Statute 70.114, the tax base remains stable and local units of government should not observe any change to their revenue.

Should lands be purchased for the trail by the NPS or other federal agency, the Payment In Lieu of Taxes Act Federal Law U.S.C. 6901-6907, stipulates payment be made to certain units of local government with eligible Federal lands within their jurisdictions. These payments would occur under prescribed payment formulas and within amounts annually appropriated by Congress. The laws that implement these payments recognize that the inability of local governments to collect property taxes on Federally owned land can create a financial impact. PILT payments help LUGs carry out such vital services as firefighting and police protection, construction of public schools and roads, and search-and-rescue operations. PILT payments are made annually for tax-exempt Federal lands. The DOI administers the program by calculating payments according to formulas established by law. The two basic formulas are based on population and the amount of existing federal land in a local jurisdiction.

If land is acquired by the IATA, a non-profit organization, a petition to exempt the land from property taxation could be filed. However, it is the current policy of the IATA to pay property taxes on all Ice Age NST lands it owns until invited by a local government to petition for tax exemption.

In summary, a coordinated effort to develop and complete the trail through Rock County will, as documented in the UW study, have a direct beneficial impact on the local economy. Although there is no way to predict what private lands will be available for future acquisition on a "willing seller-buyer basis," nor how much private land will eventually be protected for the Ice Age NST, with the state and federal PILT programs, the acquisition of a trailway will have little to no effect on the tax base.

5.10.5 Environmental Consequences on Socioeconomics: No Action

Communities and Businesses: Under the No Action Alternative, the NPS may or may not be involved in the development of the trail. The lack of a coordinated effort to plan the route of the trail and its' associated support facilities may mean losing opportunities to make important connections that would benefit the local economy. As with other resources, potential beneficial or adverse impacts as a result of constructing the trail may or may not happen. If the trail is not constructed and local entities do not take the initiative, it is likely that current development trends and pressures would continue, as well as current land uses. Socioeconomic impacts as a result of No Action Alternative would be commensurate with recreation trends in the future and would depend largely on the local units of government initiatives to increase recreation opportunities.

Land Use and Land Ownership: Securing lands for the trail may change current land uses but does not preclude other future uses. If the trail is not built, no new commercial establishments associated with its development would be established and there would be no measurable socioeconomic impacts in addition to current trends, including tax revenues.

In summary, without a coordinated and collaborative approach to implement the Ice Age NST through Rock County, it is likely that if the trail is built, it will be developed in an opportunistic way without forethought of planning for socioeconomic benefit to the local area. Therefore, it is difficult to ascertain what beneficial impacts may occur, although they would likely be less than a more strategic approach to developing the trail in partnership with local communities and governments.

Cumulative Impacts: The No Action Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 may result in an increase in some additional adverse impacts regarding socio-economics. If the trail were built without federal involvement then the certainty of trail development, following federal law and policy would be in question.

5.10.6 Environmental Consequences on Socioeconomics: Preferred Alternative

Communities and Businesses: Under the Preferred Alternative, as the Ice Age NST continues to be developed in Rock County, opportunities for entrepreneurs, business owners, and members of the community to benefit economically will grow. Use of the trail continues to grow annually as mentioned in the UW-Whitewater study. Through hikers and section hikers will bring more business and capital to the communities within Rock County.

Land Use and Land Ownership: In some areas, land use will change from agricultural to conservation/recreational, which could be converted to native plant communities as part of the trail construction process. Projects that irreversibly convert farmland to non-agricultural uses are considered subject to the Farmland Protection Policy Act. The Ice Age NST is not an irreversible conversion of farmland. Some land acquired for the trail may be leased back for agricultural purposes, preserving the existing land use.

Securing lands for the trail may change current land uses but does not preclude other future uses. The trail would restrict development and protect resources within the trailway; however, it may also attract some types of development adjacent to the trail such as residential and vacation homes, and perhaps recreation-oriented businesses.

Tax Base: It is difficult to determine the fiscal impacts to local units of government resulting from the development of the Ice Age NST. This is because there is no way to predict what private lands will be available for future acquisition or donation. Also, as land purchased for Ice Age NST purposes will generally not be developed, there will be fewer residences and cottages within the project area, thus reducing the demand for public services such as police and fire protection. Therefore, with support from the state and federal Payment in Lieu of Taxes (PILT) programs, the local tax base should not be significantly affected by this action.

Cumulative Impacts: The Preferred Alternative, when combined with past, present, and reasonably foreseeable future actions and trends described in Section 5.2.1 could result in an increase in beneficial socioeconomic impacts. Since the NPS is involved in determining the location of the corridor, this would help re-direct any socioeconomic impacts that may negatively impact communities.

CHAPTER SIX: PUBLIC INVOLVEMENT, CONSULTATION, and COORDINATION

6.1 PUBLIC INVOLVEMENT

Throughout the planning process there has been considerable emphasis on public involvement. As a part of this effort, in 2006 when scoping was initiated, the IATA, NPS, and WDNR notified the public, elected officials, the county's planning and forestry departments, federal agencies, and Tribal Nations. Additional notifications occurred when the public Scoping and Open House meetings occurred and during the preparation and public review of this document. The Core Team was established in 2006 and spent considerable time researching the glacial topography of Rock County, the county's history, and development, as well as the feasibility of constructing the Ice Age NST through the project area.

Scoping Process: Corridor Planning formally began with a PSP in 2006. At that time, a Core Team was established to carry out the CPP. Over the course of the CPP, the Core Team met regularly to conduct fieldwork, identify and refine study areas, develop conceptual alternative trail corridors and potential route options, coordinate public involvement, and assess landowner interest.

The PSP consisted of identifying criteria to place the corridor, inventorying existing resources or attributes, and developing alternative corridors that fit the criteria. These corridors were presented to the public in 2012. In advance of the 2012 public scoping meetings held in Janesville, Whitewater, and Evansville; presentations were made to the Rock County Towns Association, the City of Janesville, and the Rock County Board. Approximately 45 people attended the three 2012 open house meetings which were publicized via local newspapers and radio announcements. The Saturday meeting in Janesville was the best attended. A total of 15 comment forms were received.

Presentation of Alternatives: Public meetings for the Presentation of Alternatives were held in Milton, Janesville, and Evansville in 2013. Prior to the meetings information packets, including a cover letter and map, were provided to The Rock County Public Works Committee, City of Janesville Planning Commission, and Janesville Leisure Services Advisory Committee. Individual invitations were sent to all landowners within Alternatives 2 & 3, Tribal Nations and agency partners. Meeting notices were also posted in the local newspaper.

The public meetings were held in Milton on April 23, 2013, in Janesville on April 27, and in Evansville on April 29. The meetings were very well attended. Sign-in sheets indicate more than 150 in attendance. Written comments were received from 63 individuals and 1 business. Questions and comments from the public were recorded and additional field research was undertaken by the Core Team to determine what would be the Preferred Alternative.

Presentation of Preferred Alternative: In advance of the plan's public release the Core Team members offered to meet with all the communities that would be affected by the Proposed Action: Magnolia, Union, Porter, Fulton, Center, Janesville, Harmony, Milton, and Lima. The Towns of Magnolia, Milton, Harmony, and Janesville requested presentations in November and December of 2022. The Core Team also made a presentation to the Rock County Unit of the Wisconsin Towns Association. They gave an overview of the Preferred Alternative, took comments, suggested the towns approve general resolutions of support for the trail and answered questions. Members off the Core Team also met with and obtained resolutions of support from the City of Evansville and Rock County Board of Supervisors in 2022. Copies of both resolutions are included in Appendix F.

The plan was also distributed to Tribal Nations and agency partners for their review and comment on the draft plan to ensure their comments were incorporated prior to its release.

The EA was made available to the public for review and comment April 11, 2023 through May 10, 2023. The public was notified through a press release that was posted on the NPS website and local and regional media outlets. and it was posted on the IATA website. In addition, partners shared the press release on their social media outlets. The public comment period was open for 30 days.

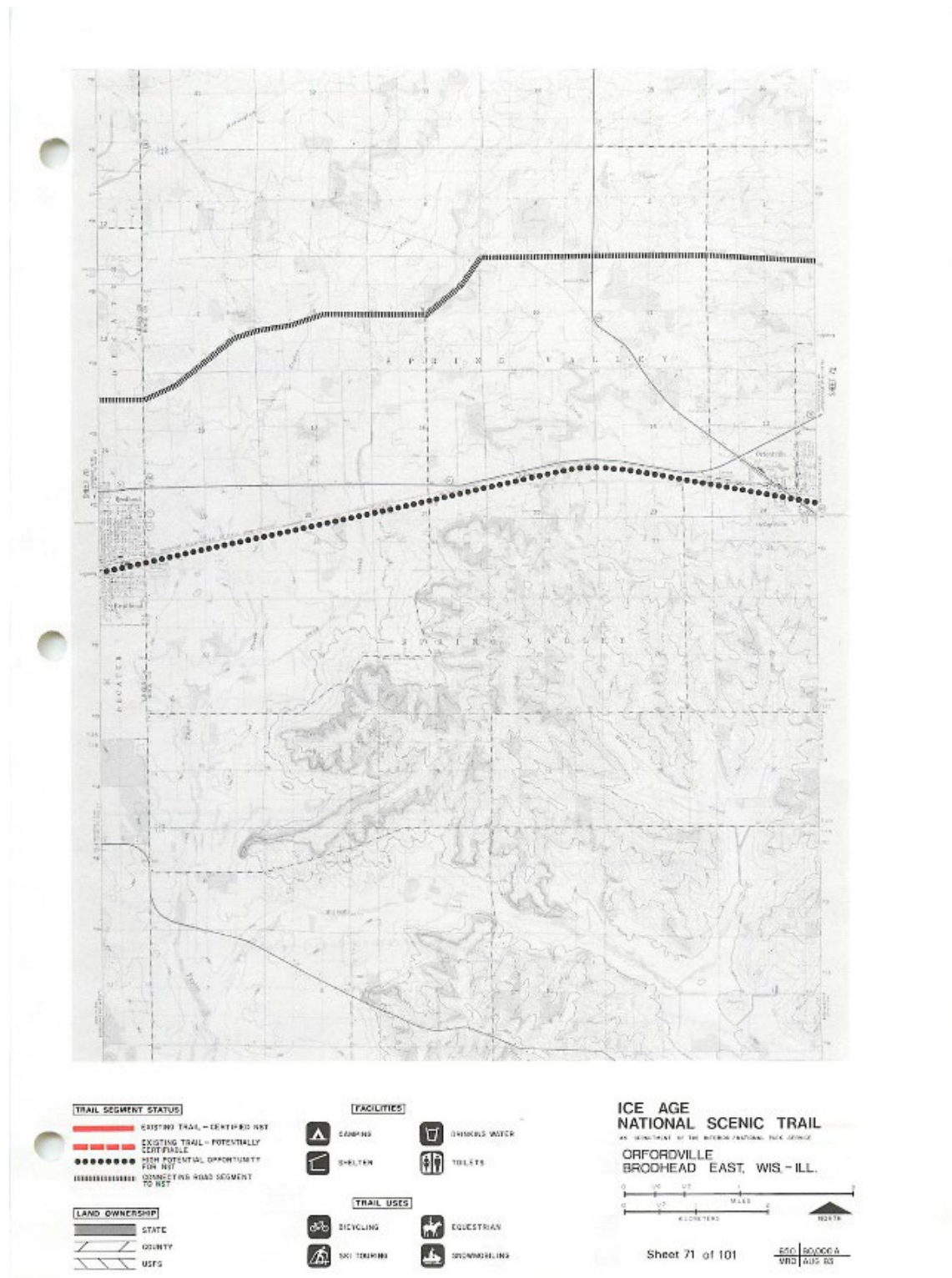
6.2 CONSULTATION FOR PREPARATION OF ENVIRONMENTAL ASSESSMENT

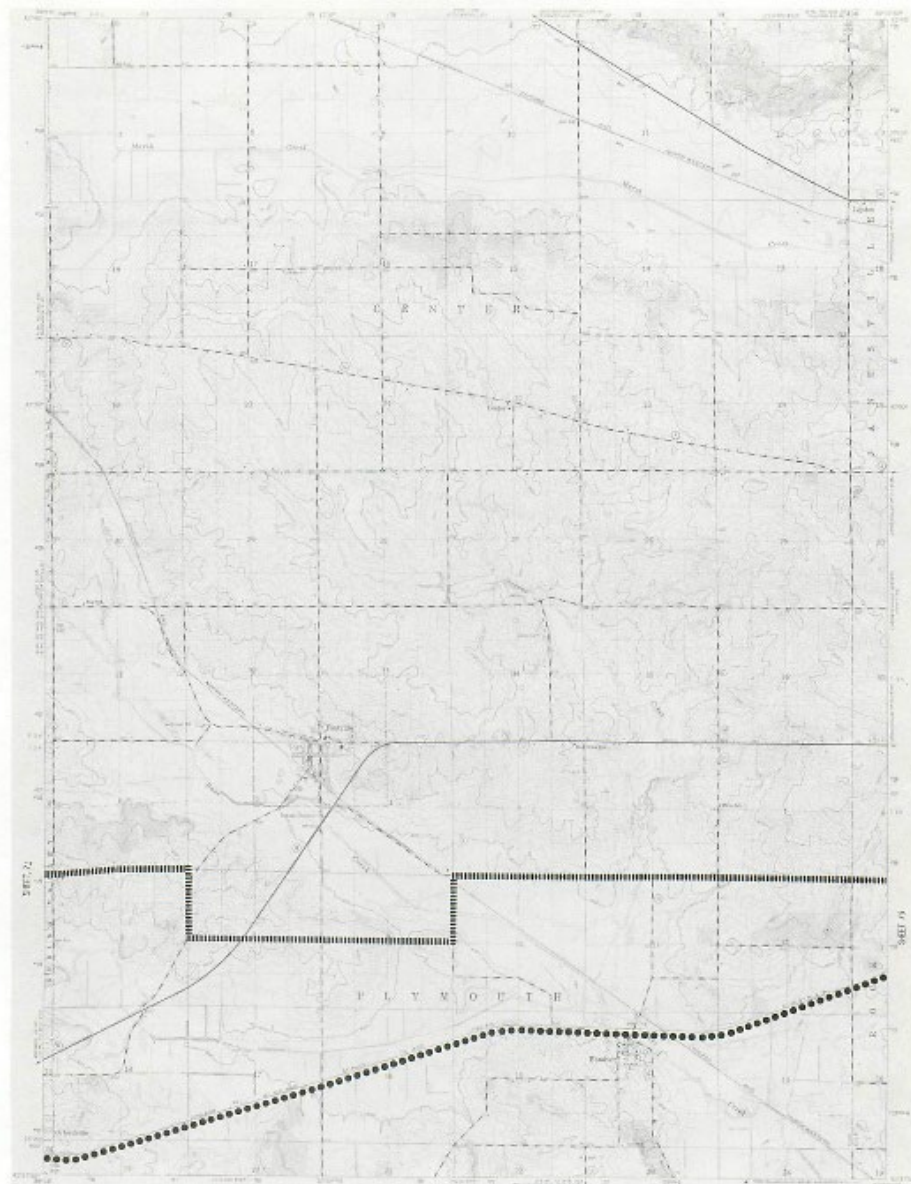
Tribal Nations and Agencies contacted:

Sac and Fox Nation of Oklahoma
Sac and Fox Nation of Missouri in Kansas and Nebraska
Bad River Band of Lake Superior Tribe of Chippewa
Oneida Tribe of Indians of Wisconsin
Red Cliff Band of Lake Superior Chippewa
St. Croix Chippewa Indians of Wisconsin
Forest County Potawatomi Community of Wisconsin
Sokaogon Chippewa Community, Mole Lake Band
Lac du Flambeau Band of Lake Superior Chippewa
Lac Courte Oreilles Band of Lake Superior Chippewa
Sac and Fox Tribe of Mississippi in Iowa
Stockbridge Munsee Community of Wisconsin
Ho-Chunk Nation
Menominee Indian Tribe of Wisconsin State Historical Society of Wisconsin
United States Fish and Wildlife Service
Natural Resources Conservation Service
NEPA Implementation Section US. Environmental Protection Agency
Federal Highways Administration
United States Geological Survey
US Army Corps of Engineers
USDA Forest Service
Wisconsin Department of Natural Resources
Ice Age Trail Alliance
DNR Bureau of Natural Resources, Natural Heritage Inventory
Rock County Parks, Soil Conservation, Land Records and GIS Departments
Cities of Milton, Janesville, and Evansville
Towns of: Magnolia, Union, Porter, Fulton, Center, Janesville, Harmony, Milton, and Lima

APPENDICES

APPENDIX A 1983 ROUTE OF ICE AGE NATIONAL SCENIC TRAIL (as identified in the Comprehensive Plan)





TRAIL SEGMENT STATUS

- EXISTING TRAIL - CERTIFIED NOT
- - - EXISTING TRAIL - POTENTIALLY CERTIFIABLE
- HIGH POTENTIAL OPPORTUNITY FOR NOT
- ===== CONNECTING ROAD SEGMENT TO NOT

LAND OWNERSHIP

- STATE
- COUNTY
- USFS

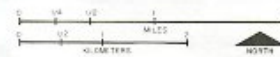
FACILITIES

- CAMPING
- SHELTER
- DRINKING WATER
- TOILETS

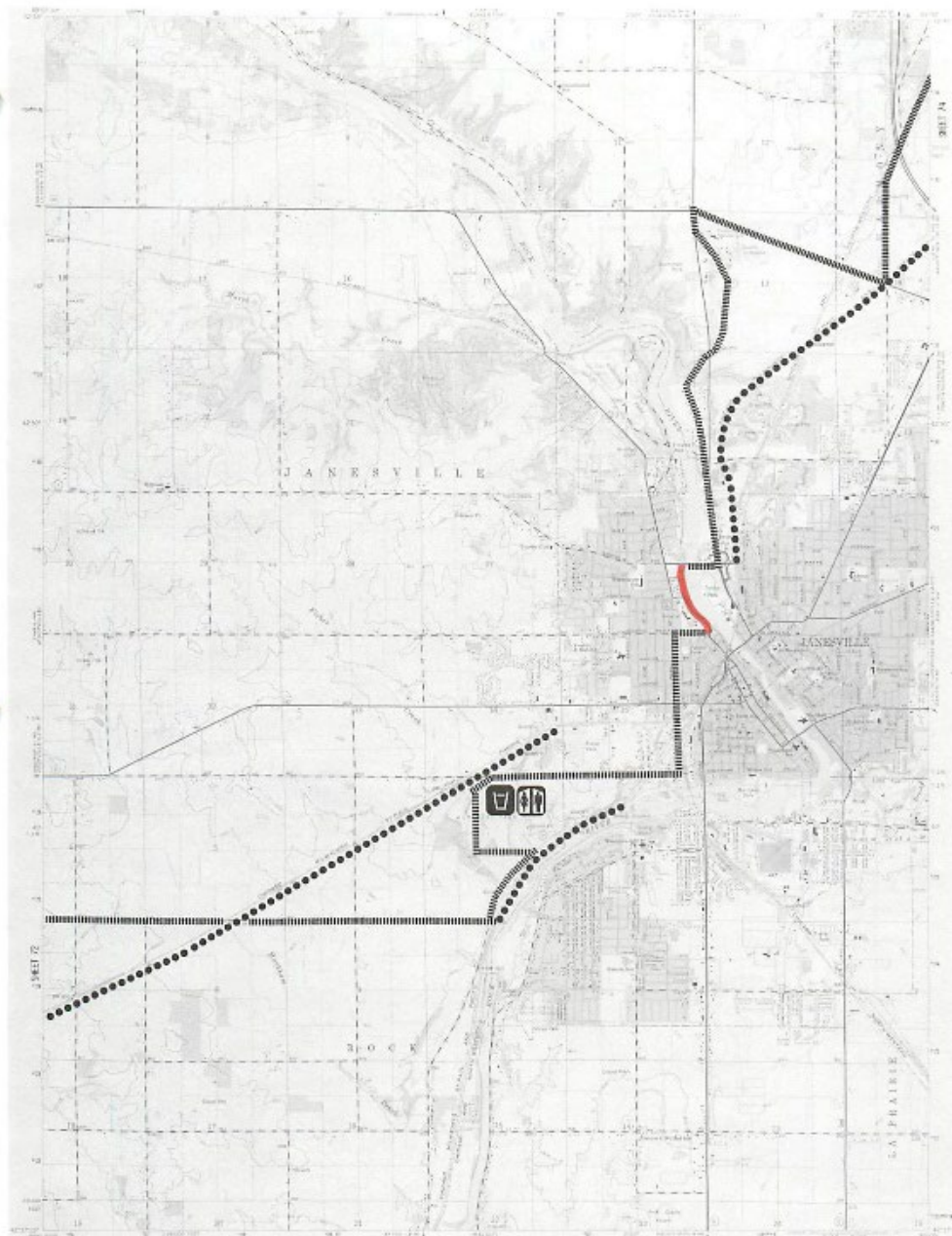
TRAIL USER

- BICYCLING
- SKI TOURING
- EQUESTRIAN
- WHEELCHAIR

ICE AGE NATIONAL SCENIC TRAIL
U.S. DEPARTMENT OF THE INTERIOR/BUREAU OF LAND MANAGEMENT
FOOTVILLE



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VBO 2.0 82



TRAIL SEGMENT STATUS

- EXISTING TRAIL - CERTIFIED NOT
- EXISTING TRAIL - POTENTIALLY CERTIFIABLE
- HIGH POTENTIAL OPPORTUNITY FOR NOT
- CONNECTING ROAD SEGMENT TO NET

LAND OWNERSHIP

- STATE
- COUNTY
- USFS

FACILITIES

- CAMPS
- SHELTER
- DRINKING WATER
- TOILETS

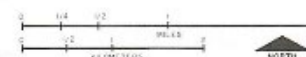
TRAIL USES

- BICYCLING
- EQUESTRIAN
- SKI TOURING
- SNOWMOBILING

ICE AGE NATIONAL SCENIC TRAIL

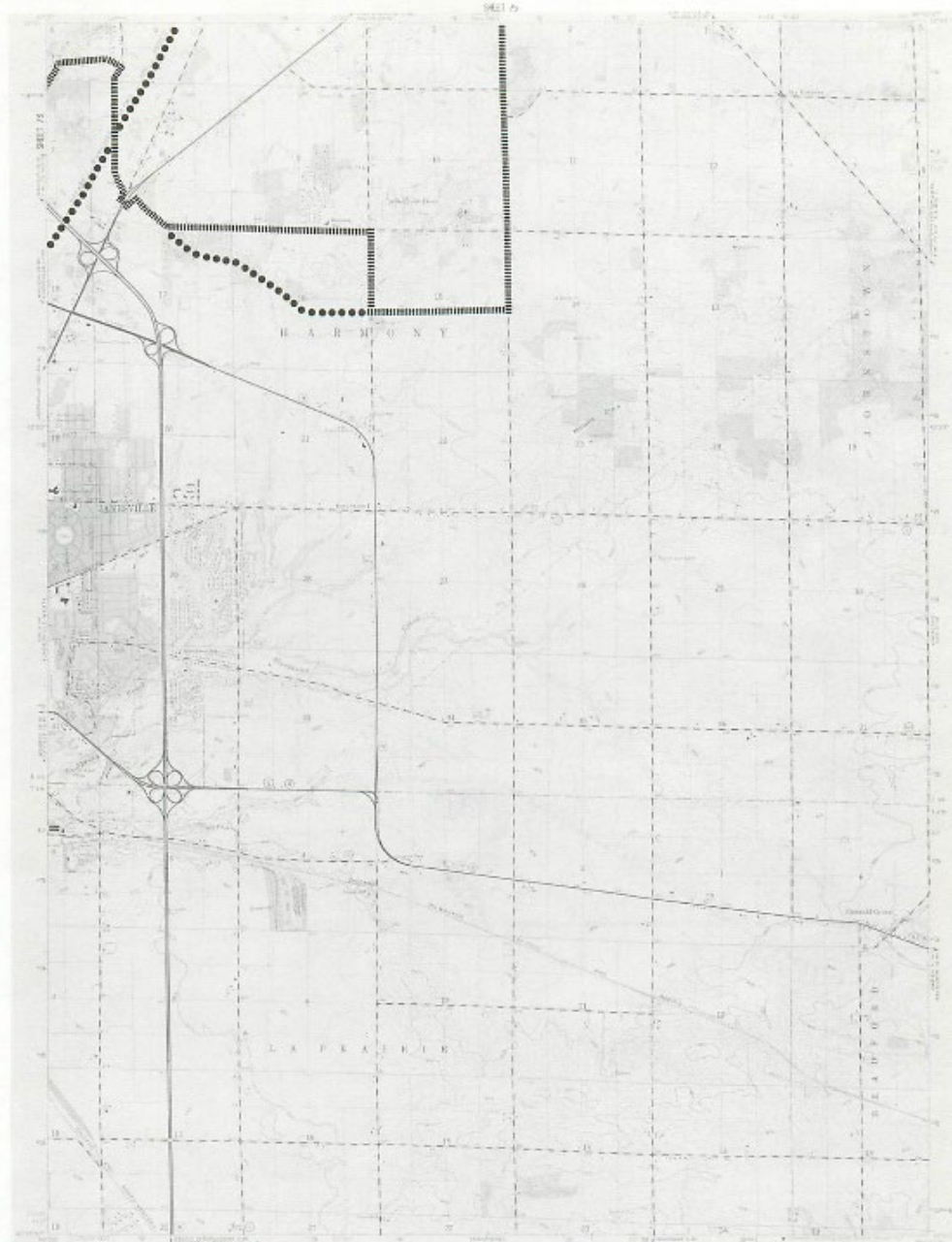
BY DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

JANESVILLE WEST



Sheet 73 of 101

650 80,000A
MHD AUG 83



TRAIL SEGMENT STATUS

- EXISTING TRAIL - CERTIFIED NST
- - - EXISTING TRAIL - POTENTIALLY CERTIFIABLE
- · · · · HIGH POTENTIAL OPPORTUNITY FOR NST
- ||||| CONNECTING ROAD SEGMENT TO NST

LAND OWNERSHIP

- STATE
- COUNTY
- USFS

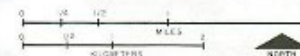
FACILITIES

- CAMPING
- SHELTER
- DRINKING WATER
- TOILETS

TRAIL USES

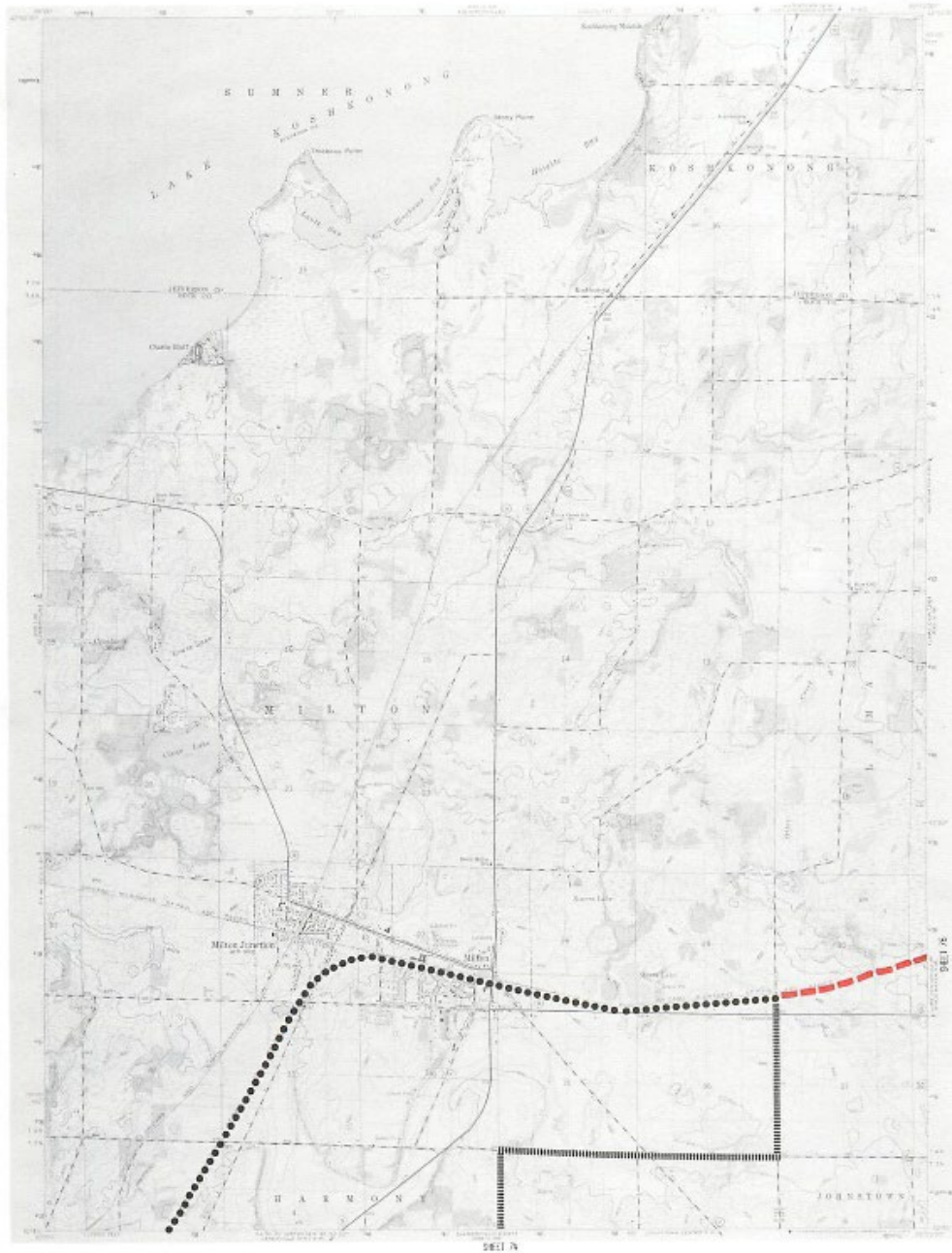
- BICYCLING
- SKI TOURING
- EQUESTRIAN
- SNOWMOBILING

ICE AGE NATIONAL SCENIC TRAIL
 U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE
JANESVILLE EAST



Sheet 74 of 101

CSO/BAC/DA
 MRO/AUG 83



TRAIL SEGMENT STATUS

- EXISTING TRAIL - CERTIFIED NST
- - - - EXISTING TRAIL - POTENTIALLY CERTIFIABLE
- HIGH POTENTIAL OPPORTUNITY FOR NST
- ||||| CONNECTING ROAD SEGMENT TO NST

LAND OWNERSHIP

- STATE
- COUNTY
- USFS

FACILITIES

- CAMPING
- SHELTER
- DRINKING WATER
- TOILETS

TRAIL USES

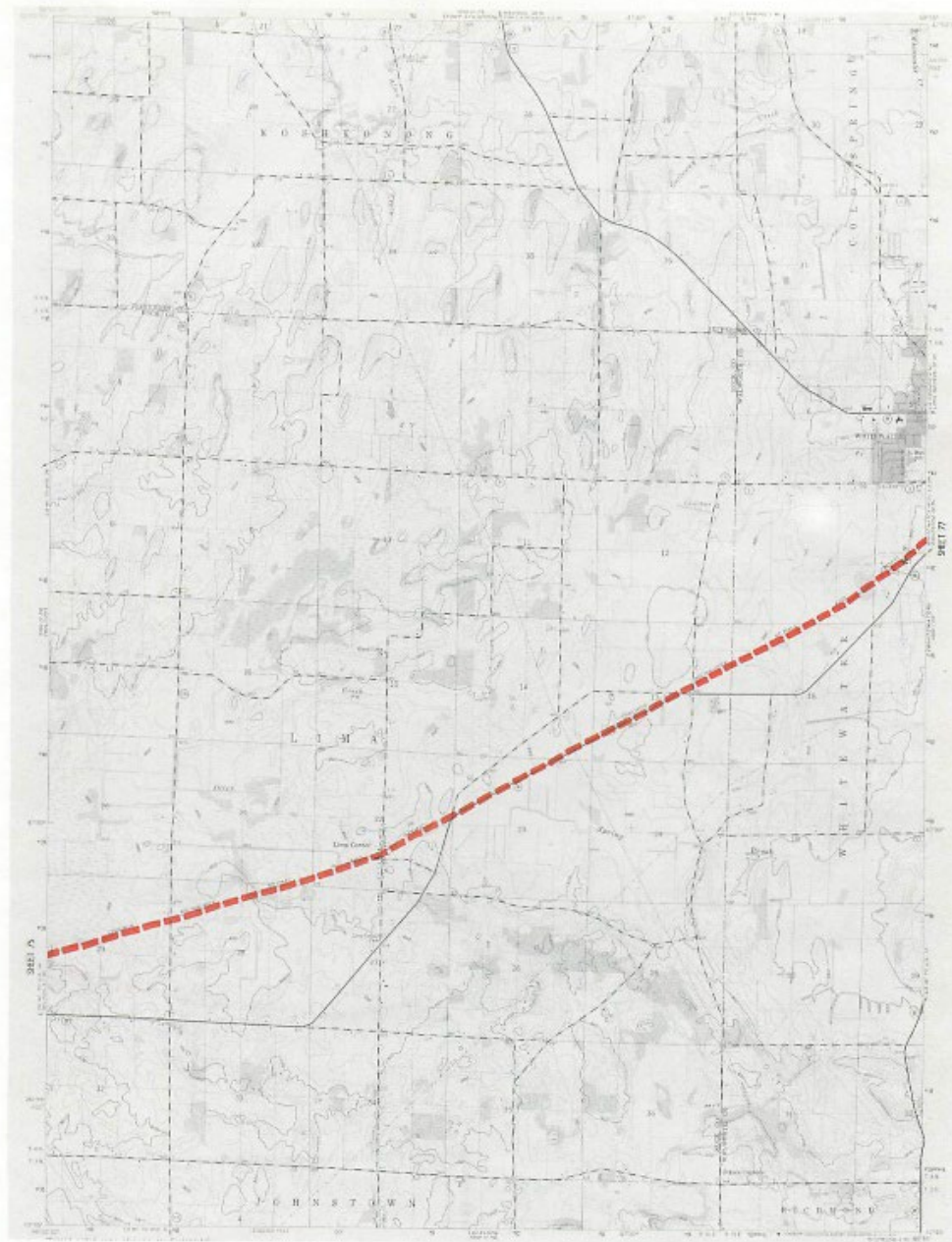
- BICYCLING
- SKI TOURING
- EQUESTRIAN
- SNOWMOBILING

ICE AGE NATIONAL SCENIC TRAIL
U.S. DEPARTMENT OF THE INTERIOR / NATIONAL ROAD SERVICE
MILTON



Sheet 75 of 101

SDG / RD000A
MRO / AUG 83



TRAIL SEGMENT STATUS

- EXISTING TRAIL - CERTIFIED NST
- - - - EXISTING TRAIL - POTENTIALLY CERTIFIABLE
- HIGH POTENTIAL OPPORTUNITY FOR NST
- - - - - CONNECTING ROAD SEGMENT TO NST

LAND OWNERSHIP

- STATE
- COUNTY
- USFS

FACILITIES

- CAMPING
- SHELTER
- DRINKING WATER
- TOILETS

TRAIL USES

- BICYCLING
- SKI TOURING
- EQUESTRIAN
- SNOWMOBILING

ICE AGE NATIONAL SCENIC TRAIL

U.S. DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

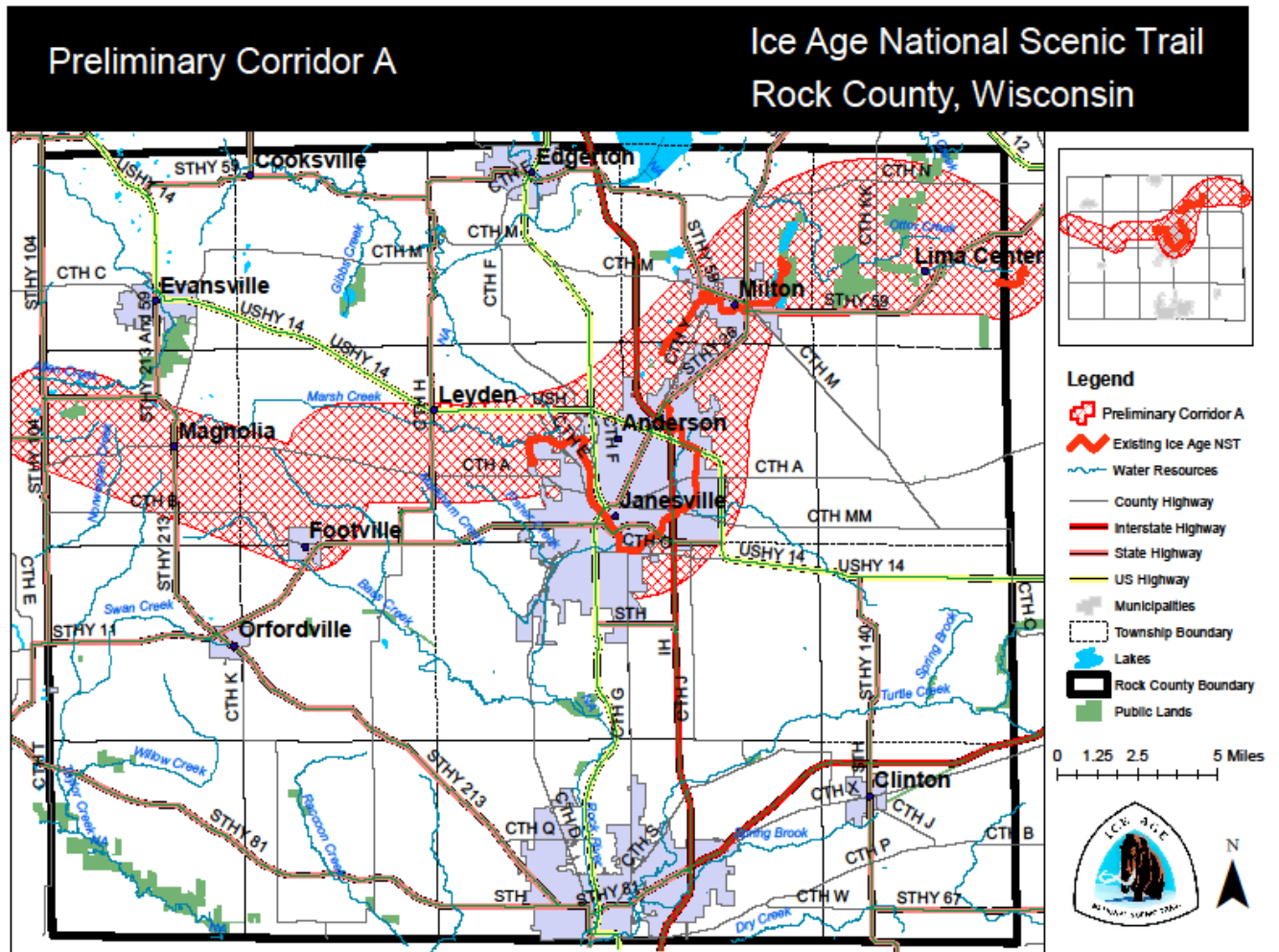
LIMA CENTER



Sheet 76 of 101

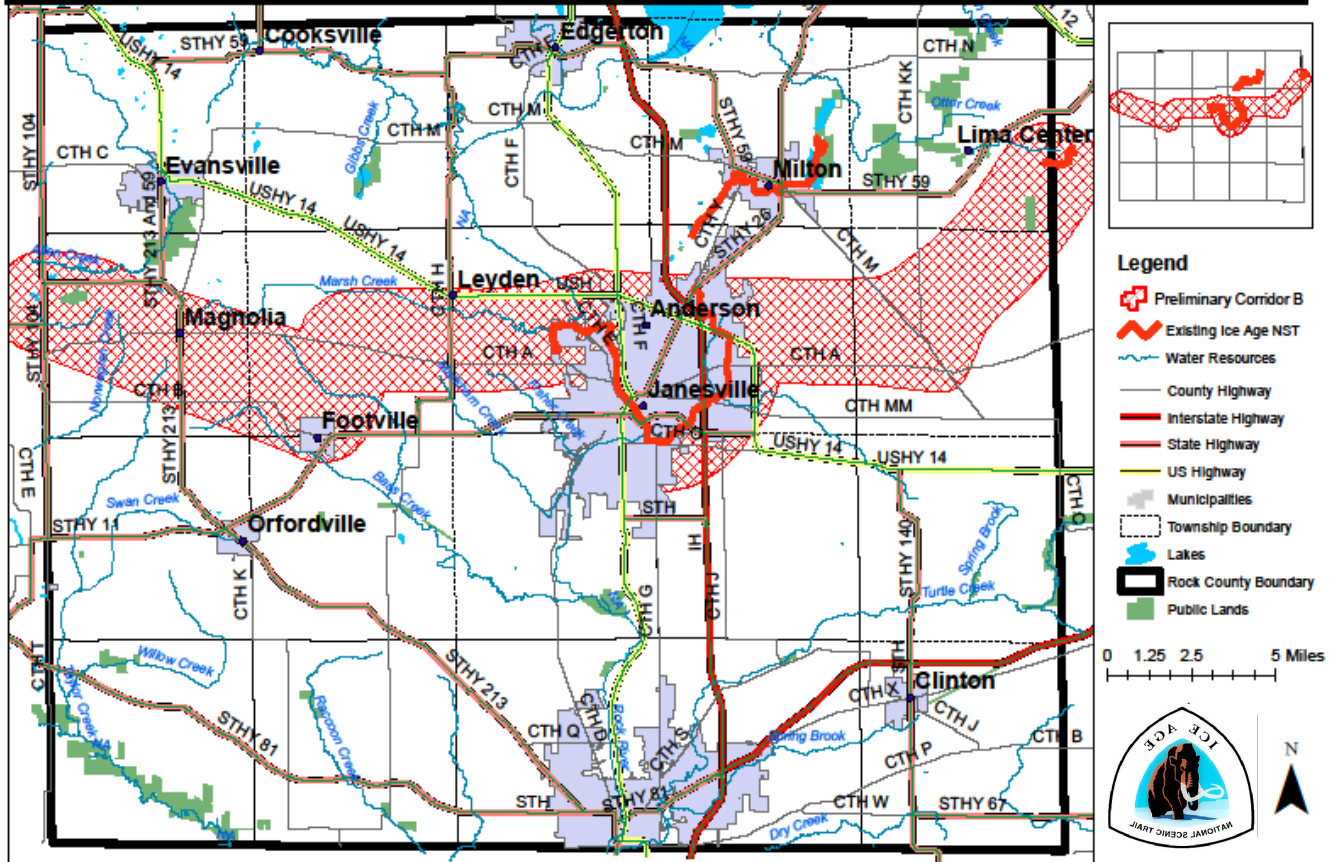
650 BRCCOA
NRD AUG 83

APPENDIX B PRELIMINARY CORRIDOR MAPS



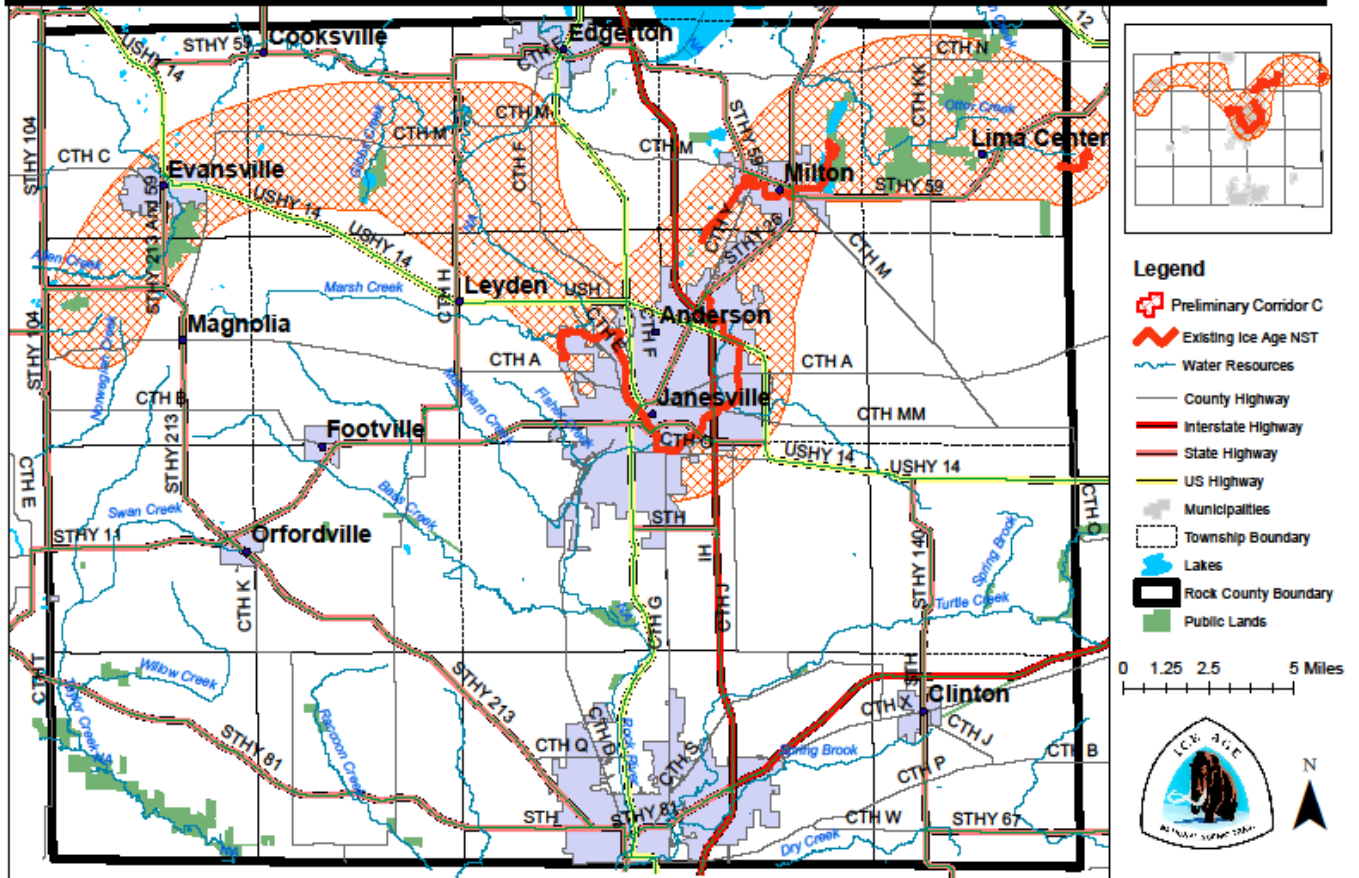
Preliminary Corridor B

Ice Age National Scenic Trail Rock County, Wisconsin



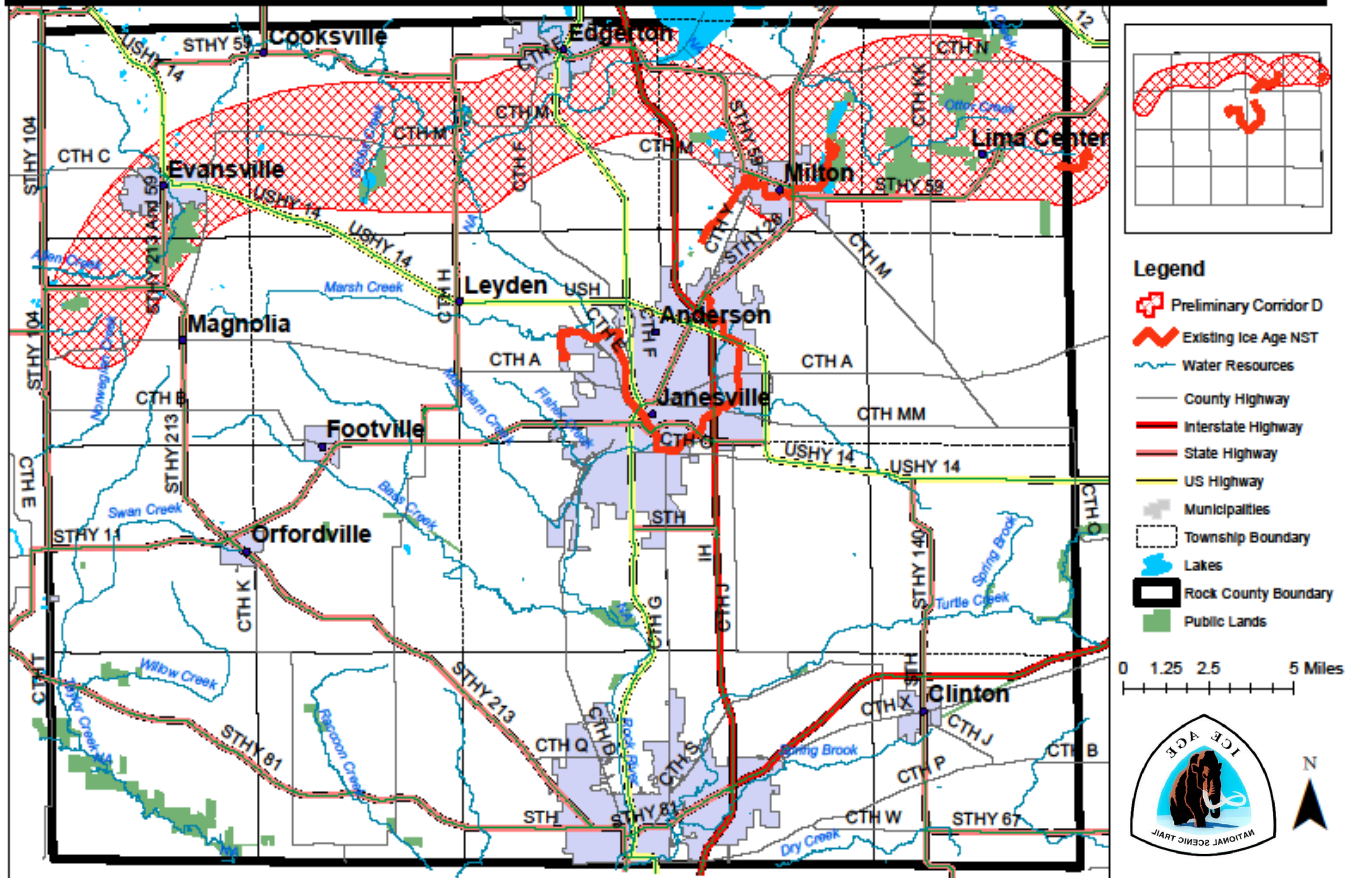
Preliminary Corridor C

Ice Age National Scenic Trail Rock County, Wisconsin



Preliminary Corridor D

Ice Age National Scenic Trail Rock County, Wisconsin



APPENDIX C LEGISLATION AND STATUES

This assessment serves to:

- A. (1) Comply with all provisions regarding environmental considerations and public involvement required by the National Environmental Policy Act (NEPA) by carrying out an open, public planning process to determine the corridor for the trail, and to identify and address public issues and concerns.

(2) Comply with the Wisconsin Environmental Policy Act (WEPA) in accordance with sections NR 150.20(2)(a) and NR 150.40(2)(a) of the Wisconsin Administrative Code.
- B. Comply with consultation requirements for Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act.
- C. Comply with Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands.
- D. Provide information on the physical and social environment through which the trail passes for local trail clubs and the county to use as they plan the physical location, construction, and subsequent maintenance of the trail.
- E. Foster public involvement in and support for development and management of the trail, including recognition of the trail by public and private land use planning groups.
- F. Comply with required state designations and approvals:
 - 1. The Natural Resources Board must approve land acquisition when an acquisition equals or exceeds \$150,000 (NR 1.41(1)(a), Wisconsin Administrative Code).
 - 2. Wisconsin State Statutes, Chapter 23.09 (2) d, gives the WDNR approval to acquire lands for the Ice Age Trail.
 - 3. Wisconsin State Statutes, Chapter 23.09 (2) c, gives the WDNR approval to provide grants for the acquisition of lands for the Ice Age Trail, through the Stewardship Program.
 - 4. Wisconsin State Statutes, Chapter 23.17, designates the Ice Age Trail, as provided for in 16 U.S.C. 1244(a)(10), plus the land adjacent to each side of that trail designated by the WDNR, as a State Scenic Trail, to be known as the "Ice Age Trail".
 - 5. Wisconsin State Statutes, Chapter 23.293, allows the transfer of land to the WDNR for the Ice Age Trail, through State Ice Age Trail area dedication.
 - 6. Wisconsin State Statutes, Chapter 23.915(4), requires that the Joint Finance Committee must review a land acquisition when a Stewardship grant equals or exceeds \$250,000.

APPENDIX D LIST OF WORKS CONSULTED

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APPENDIX E ACKNOWLEDGEMENTS

Rock County Ice Age NST Core Planning Team

Katie Frauen	National Park Service
Mary Tano	National Park Service
James Lange	National Park Service
Kevin Thusius	Ice Age Trail Alliance
Chad DeChateau	Ice Age Trail Alliance
Ed Madere	Ice Age Trail Alliance Board Member
Dean Paynter	Ice Age Trail Alliance Rock County Chapter
Dennis James	Ice Age Trail Alliance Rock County Chapter
Norm Tadt	Rock County
Tom Presny	Janesville Parks Department (Retired)
Collette Spranger	City of Evansville
Jason Sergeant	City of Evansville
Drew Hanson	Wisconsin Department of Natural Resource
Jason Cotter	Wisconsin Department of Natural Resources
David Salmon	City of Janesville

APPENDIX F RESOLUTIONS OF SUPPORT

City of Evansville

Resolution 2015-07, in Recognition and Support of The Ice Age National Scenic Trail as a State of Wisconsin Ecotourism Treasure

WHEREAS, in 1980 the U.S. Congress designated the Ice Age Trail as a National Scenic Trail and the Wisconsin Legislature designated the Ice Age Trail as a State Scenic Trail in 1987; and

WHEREAS, today the National Park Service administers the trail in cooperation with the Wisconsin Department of Natural Resources and the non-profit Ice Age Trail Alliance; and

WHEREAS, the Ice Age Trail offers outdoor enthusiasts and students more than 600 miles of premier hiking and educational experiences and will travel 1,200 miles across Wisconsin when completed; and

WHEREAS, unconnected sections of the Trail have been completed in Rock County and the National Park Service is currently planning completion of the Trail through Rock County; and

WHEREAS, the Trail route generally follows the end moraines of the most recent glaciation; and

WHEREAS, the City of Evansville, located at the terminus of the Johnstown Moraine and home of the beautiful Leonard-Leota Park Historic District, listed on the National Register of Historic Places, is being considered for inclusion in the Trail corridor; and

WHEREAS, a 2012 study by the University of Wisconsin-Whitewater found that the Ice Age Trail attracts 1.2 million visitors annually and contributes \$113 million to Wisconsin's economy yearly; and

WHEREAS, the City of Evansville has undertaken a Wisconsin Department of Tourism community tourism assessment and understands the economic value of our outstanding local natural resources; and

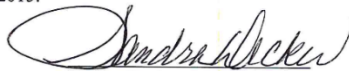
WHEREAS, Trail development can involve land acquisitions and purchase of permanent right-of-ways utilizing federal grants and monies from the Wisconsin Stewardship Program; and

WHEREAS, since 1991 the Ice Age Trail Alliance has used Stewardship Program funding to purchase more than 3,300 acres for the Trail; and

WHEREAS, the proposed 2015-2017 State of Wisconsin budget includes a moratorium on acquisition of land by the Warren Knowles-Gaylord Nelson Stewardship Program until 2028, and will cause disruption in future Trail development and reduce potential positive economic impacts to Wisconsin.

NOW, THEREFORE, BE IT RESOLVED that I, Sandra Decker, Mayor of the City of Evansville, along with the Evansville Common Council, heartily support the Ice Age National Scenic Trail and do hereby encourage the Wisconsin Legislature to continue Stewardship Program funding of land acquisition for the Ice Age National Scenic Trail to maximize the economic and natural resource benefits to Wisconsin.

Adopted this 17th day of March, 2015.


Sandra Decker, Mayor

ATTEST:


Judy Walton, City Clerk

RESOLUTION

ROCK COUNTY BOARD OF SUPERVISORS

Public Works Committee
INITIATED BY



8/26/2022
DATE DRAFTED

In Support of the Ice Age Trail in Rock County

WHEREAS, in 1980, the United States Congress designated the Ice Age Trail (the "Trail") to be a National Scenic Trail under the National Trails System Act; and

WHEREAS, the National Trails System Act encourages "volunteer citizen involvement in the planning, development, maintenance and management, where appropriate, of trails;" and

WHEREAS, the development and maintenance of that portion of the Trail running through Rock County is a co-operative project between landowners, local units of government, Rock County, the Wisconsin Department of Natural Resources, the National Park Service and volunteers with the Rock County Chapter of the Ice Age Trail Alliance, Rock Trail Coalition, Janesville School District; and

WHEREAS, the trail is an all-season path for everyone to enjoy by foot, snowshoe, ski and in some locations, biking and horseback; and

WHEREAS, the Trail is a recreational and educational resource that improves the quality of life for Rock County citizens, families and children as well as visitors to Rock County and increases tourism and interest in Rock County; and

WHEREAS, the Trail is planned to connect public lands in Clover Valley Wildlife Area, Lima Marsh Wildlife Area, Storrs Lake Wildlife Area, Janesville Schools Outdoor Lab, Gibbs Lake County Park, Magnolia Bluff County Park, City Parks in Milton, Janesville and Evansville; and

NOW, THEREFORE, BE IT RESOLVED that the County Board of Rock County supports the continued development of the Trail through Rock County; and

BE IT FURTHER RESOLVED that this signed resolution be included in the Rock County Parks' Parks Outdoor Recreation and Open Space Plan (POROS) and that this signed resolution be sent to the National Park Service, Wisconsin Department of Natural Resources and the Ice Age Trail Alliance.

FISCAL NOTE:

No fiscal impact in and by itself.

Sherry Oja
Finance Director

LEGAL NOTE:

The County Board is authorized to take this action pursuant to §§ 59.01 & 59.51, Wis. Stats.

Richard Greenlee
Corporation Counsel

ADMINISTRATIVE NOTE:

Recommended.

APPENDIX G Natural Heritage Inventory-Preferred Alternative

Element Occurrence Summary: NPS Request (9/26/2022)

For an explanation of the fields and codes used in this report, please refer to <http://dnr.wi.gov/topic/NHI/calypso/EORReport.html>

Common Name	Scientific Name	Type	S Status	F Status	Group	# EOs
Yellow Bumble Bee	Bombus fervidus	T	SC/N		Bee	2
Rusty Patched Bumble Bee	Bombus affinis	T	SC/FL	LE	Bee	1
Rusty Patched Bumble Bee Federal High Potential Zone	Rusty Patched Bumble Bee Federal High Potential Zone	H	NA	HPZ	Bee	1
Acadian Flycatcher	Empidonax virescens	T	THR		Bird	2
Bell's Vireo	Vireo bellii	T	THR		Bird	1
Hooded Warbler	Setophaga citrina	T	THR		Bird	1
Cerulean Warbler	Setophaga cerulea	T	THR	SOC	Bird	1
Bald Eagle	Haliaeetus leucocephalus	W			Bird~	5
Dry-mesic Prairie	Dry-mesic prairie	T	NA		Community	3
Southern Dry-mesic Forest	Southern dry-mesic forest	T	NA		Community	4
Moist Cliff	Moist cliff	T	NA		Community	2
Dry Cliff	Dry cliff	T	NA		Community	1
Oak Opening	Oak opening	T	NA		Community	1
Southern Dry Forest	Southern dry forest	T	NA		Community	2
Mesic Prairie	Mesic prairie	T	NA		Community	1
Emergent Marsh	Emergent marsh	W	NA		Community~	3
Floodplain Forest	Floodplain forest	W	NA		Community~	1
Shrub-carr	Shrub-carr	W	NA		Community~	1
Southern Sedge Meadow	Southern sedge meadow	W	NA		Community~	1
Northern Wet Forest	Northern wet forest	W	NA		Community~	1
Springs and Spring Runs, Hard	Springs and spring runs, hard	A	NA		Community~	1
Lake--Hard Bog	Lake--hard bog	A	NA		Community~	1
Least Darter	Etheostoma microperca	A	SC/N		Fish~	5
Redfin Shiner	Lythrurus umbratilis	A	THR		Fish~	1
American Eel	Anguilla rostrata	A	SC/N		Fish~	1
Pickerel Frog	Lithobates palustris	A	SC/H		Frog~	1
Purple Wartyback	Cyclonaias tuberculata	A	END		Mussel~	1
Prairie Fame-flower	Phemeranthus rugospermus	T	SC		Plant	1
Azure Bluets	Houstonia caerulea	T	SC		Plant	2
Prairie Bush Clover	Lespedeza leptostachya	T	END	LT	Plant	1
Kitten Tails	Besseyia bullii	T	THR		Plant	6
Rough Rattlesnake-root	Prenanthes aspera	T	END		Plant	2
Pink Milkwort	Polygala incarnata	T	END		Plant	1
Prairie Parsley	Polytaenia nuttallii	T	THR		Plant	2
Prairie False-dandelion	Nothocalais cuspidata	T	SC		Plant	1
Hill's Thistle	Cirsium hillii	T	THR	SOC	Plant	1
Pale Purple Coneflower	Echinacea pallida	T	THR		Plant	1
Glade Mallow	Napaea dioica	W	SC		Plant~	1
Livid Sedge	Carex livida	W	SC		Plant~	1
Sycamore	Platanus occidentalis	W	SC		Plant~	1

Common Name	Scientific Name	Type	S Status	F Status	Group	# EOs
Marsh Horsetail	Equisetum palustre	W	SC		Plant~	1
Slender Bulrush	Schoenoplectus heterochaetus	W	SC		Plant~	1
Blanding's Turtle	Emydoidea blandingii	A	SC/P	SOC	Turtle~	9
Silphium Terminal Gall Wasp	Antistrophus silphii	T	SC/N		Wasp	1

Element Occurrences: 79

County Forests, State and Federal Lands within 1-mile Project Buffer

Name	Type	Owner
Evansville Wildlife Area	State Wildlife Management Area	Wisconsin DNR
Ice Age Trail	State Trail	Wisconsin DNR
Lima Bog State Natural Area	State Natural Area	Wisconsin DNR
Lima Marsh - Storrs Lake Wildlife Area	State Wildlife Management Area	Wisconsin DNR
Magnolia Bluff State Natural Area	State Natural Area	Rock County