

ICE AGE NATIONAL SCENIC TRAIL
Corridor Plan and Environmental Assessment
For Eastern Chippewa County, Wisconsin



Prepared by:

National Park Service
Ice Age National Scenic Trail
Madison, Wisconsin

Wisconsin Department of Natural Resources

Ice Age Trail Alliance

Print date: June 18, 2021

**U.S. DEPARTMENT OF INTERIOR
NATIONAL PARK SERVICE
ICE AGE NATIONAL SCENIC TRAIL
Corridor Plan and
Environmental Assessment for
Eastern Chippewa County, Wisconsin
EXECUTIVE SUMMARY**

On October 3, 1980, an amendment to the National Trails System (16 U.S.C. 1241 et seq.) authorized establishment of the Ice Age Trail as a National Scenic Trail (NST) in Wisconsin. When complete, the trail will extend over 1,200 miles, 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.

This Environmental Assessment (EA) and Corridor Plan summarizes the planning process to date and analyzes alternatives for locating and developing the Ice Age National Scenic Trail (NST) through eastern Chippewa County in Wisconsin.

To date, Congress has authorized the establishment of eleven NSTs, “extended trails so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass.” These trails are patterned after the renowned Appalachian and Pacific Crest NSTs. NSTs are intended to provide superlative trail experiences through partnership efforts of public agencies, volunteers, nonprofit and private trail groups. To this end, the National Trails System Act further proposes, “to encourage and assist volunteer citizen involvement in the planning, development, maintenance, and management, where appropriate, of trails.”

Congress only authorized a general route for the Ice Age NST. The National Park Service (NPS), Wisconsin Department of Natural Resources (WDNR) and nonprofit, Ice Age Trail Alliance, are coordinating and facilitating the planning process to determine a more specific route for the trail in each county or multi-county area. A planning team was formed to evaluate corridor and possible trail route options and conduct a public involvement process in eastern Chippewa County.

The proposal is to establish a planned and mapped “Corridor of Opportunity” within which lands for the trail may be acquired, developed, managed, and protected for the eastern Chippewa 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. The Corridor of Opportunity is approximately 2-5 miles wide. Since all participation in the Ice Age NST is voluntary, this width allows flexibility when locating the trail.

Today, more than 23 miles of the Ice Age NST has been established through the Chippewa Moraine Recreation Area between State Highway 40 and County Trunk CC. When complete, the Chippewa County portion of the Ice Age NST will be between 45 and 50 miles.

The actual length of the remaining trail between the City of Cornell and the Taylor County line is dependent on the route, and willing cooperation of landowners. Each segment of trail will be developed as funds and approvals allow. The goal, however, is a continuous completed trail.

Five alternatives were considered and discussed throughout the public involvement process, including a No Action, two action alternatives (formerly Alternatives 2 & 3) were presented to the public for review and comment. The preferred alternative (formerly Alternative 4) represents a combination of both alternatives 2 and 3 and is the Proposed Action. It combines the glacial features of Alternative 3 with the public lands and facilities already present in Alternative 2. The Environmental Assessment portion of this document analyzes the No Action, and the Proposed Action.

The Chippewa County portion of the Ice Age NST contains a diversity of geologic features and generally follows the undulating terrain of the Perkinstown Moraine left by the Chippewa Lobe from the last glacial advance some 18-20,000 years ago. The Perkinstown Moraine is approximately 2-5 miles wide and extends from the city of Cornell to Otter Lake to the Taylor County line. Ice-walled lake plains, ice-dammed lake plains, tunnel channels, eskers, drumlins, and small meltwater stream channels are present here. The Proposed Action has the highest concentration of glacial features and would provide access to the two county-owned properties in the project area—Otter Lake County Park and Yellow River Woods. Collectively, these areas may provide support facilities such as trailheads and parking; Otter Lake County Park also has camping, restroom facilities and water. Pike Lake, located near the corridor's midpoint, features a private resort and campground. Among the resource features found within the corridor are high quality woodlands, extant wetlands, two major river systems, and a host of geologic features. Well placed scenic overlooks could provide interesting views of the glacial landscape. A number of possible trail route options within the corridor were also identified and evaluated, and can be found in Appendix A.

The 1983 *Comprehensive Plan for Management and Use of the Ice Age NST (Comp Plan)* states that the trail is primarily intended to be a hiking trail. This management approach helps ensure that it provides a high-quality walking and hiking experience. It also reflects a high level of consideration for private landowners who allow the trail to cross their property or who live near the trail. In general, landowners are more willing to accept a hiking trail than a trail with activities that have more impact on the land or are more intrusive in terms of sight and sound. Other compatible recreational activities such as bird watching and snowshoeing are encouraged. In addition, the trail may accommodate cross-country skiing on ungroomed segments that are designed and constructed for this use. Development of a low-impact trail using careful design and construction techniques will result in no significant impacts to natural, cultural, social, and economic resources.

Developing and managing the Ice Age NST through eastern Chippewa County may produce temporary and short-term minor adverse impacts during construction, including a perceived increase in nuisance level; and minor impacts to wildlife and vegetation. At public meetings, concern was also expressed about interference with hunting. Experience has shown that these concerns do not persist after the trail is constructed.

Beneficial impacts for trail users and neighboring landowners would include recreation and fitness opportunities. Other beneficial impacts may include aesthetic beauty, increased open space, better natural resource protection, and higher property resale values. Local communities may also experience bolstered economies and increased local pride.

The Ice Age NST's existing Comp Plan continues to provide relevant guidance, which may be supplemented through development of additional planning documents, such as this one. This EA is a component of the park's planning portfolio and fulfills park planning for resource and visitor use management and development guidance. This plan is consistent with the general guidance of the *Comp Plan* and helps the trail to better meet the statutory requirements of 54 USC § 100502, specifically the requirement to address measures for preservation of resources, types and general intensities of development, and the identification of visitor carrying capacities.

Written comments on the *Ice Age National Scenic Trail Corridor Plan and Environmental Assessment for Eastern Chippewa County, Wisconsin*, will be accepted by the NPS for purposes of compliance with federal requirements, and by the WDNR for purposes of compliance with State requirements until July 18, 2021. You may comment online at the *Chippewa County Corridor Plan* (<http://parkplanning.nps.gov>)

Or you may address your comments to:

Superintendent
Ice Age National Scenic Trail
National Park Service
8075 Old Sauk Pass Road
Cross Plains, Wisconsin 53528
608-798-8682

Acknowledgements

Chippewa County Ice Age NST Core Planning Team

Richard Smith	Ice Age Trail Alliance, Chippewa County Chapter
Jerry Salzma	Ice Age Trail Alliance, Chippewa County Chapter
JoAnn Parks	Ice Age Trail Alliance, Chippewa County Chapter
Tony Schuster	Ice Age Trail Alliance, Chippewa County Chapter
Nancy Schuster	Ice Age Trail Alliance, Chippewa County Chapter
Tim Malzhan	Ice Age Trail Alliance
Nancy Frank	Ice Age Trail Alliance
Richard Magyar	Chippewa County
Mike Dahlby	Chippewa County
Ryan Brown	Chippewa County
Jean Rygiel	Wisconsin Department of Natural Resources
Cameron Bump	Wisconsin Department of Natural Resources
Randy Knapp	UW Professor and Agricultural Extension Agent
Pam Schuler	National Park Service
Mary Tano	National Park Service
James Lange	National Park Service

ICE AGE NATIONAL SCENIC TRAIL

Corridor Plan and Environmental Assessment

For Eastern Chippewa County, Wisconsin

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1 BACKGROUND OF THE ICE AGE NATIONAL SCENIC TRAIL

Approximately 15,000 years ago, during the Ice Age, most of North America lay under the grip of colossal ice sheets thousands of feet thick. The effects of the advancing and retreating glaciers can be seen in the headlands of Cape Cod, the Finger Lakes of New York, and the hills of Michigan. But nowhere is the glacier's mark upon the land more impressive and distinctive than in Wisconsin. The most recent series of glacial advances and retreat was the Wisconsin Glaciation lasting from about 100,000 to 10,000 years ago.

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, and lakes (see Chapter 8, C. Definition of Terms). These many features invite us to explore and enjoy the landscape of Wisconsin.

The purpose of the Ice Age National Scenic Trail 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 (See Appendix C—Purpose and Significance of Ice Age NST). In addition, the trail connects six of the nine units of the Ice Age National Scientific Reserve and many other federal, state, county, and local parks. The National Park Service (NPS) administers the trail in close cooperation with the Wisconsin Department of Natural Resources (WDNR), Ice Age Trail Alliance (IATA), counties, local governments, and other private organizations that are working to help build and maintain the Ice Age NST.

The Ice Age NST is one of eleven National Scenic Trails long distance and non-motorized trails that follow major geographic features or pass through scenic areas. It is similar in concept to the Appalachian NST, but unique because of the unique glacial landscape it passes through. 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.. Statewide, more than 670 miles of the trail are currently on the ground.

The three primary statewide partners in the Ice Age NST—the NPS, WDNR, and IATA—are establishing the trail guided by the following Vision Statement:

The Ice Age NST is a continuous footpath through diverse landscapes that:

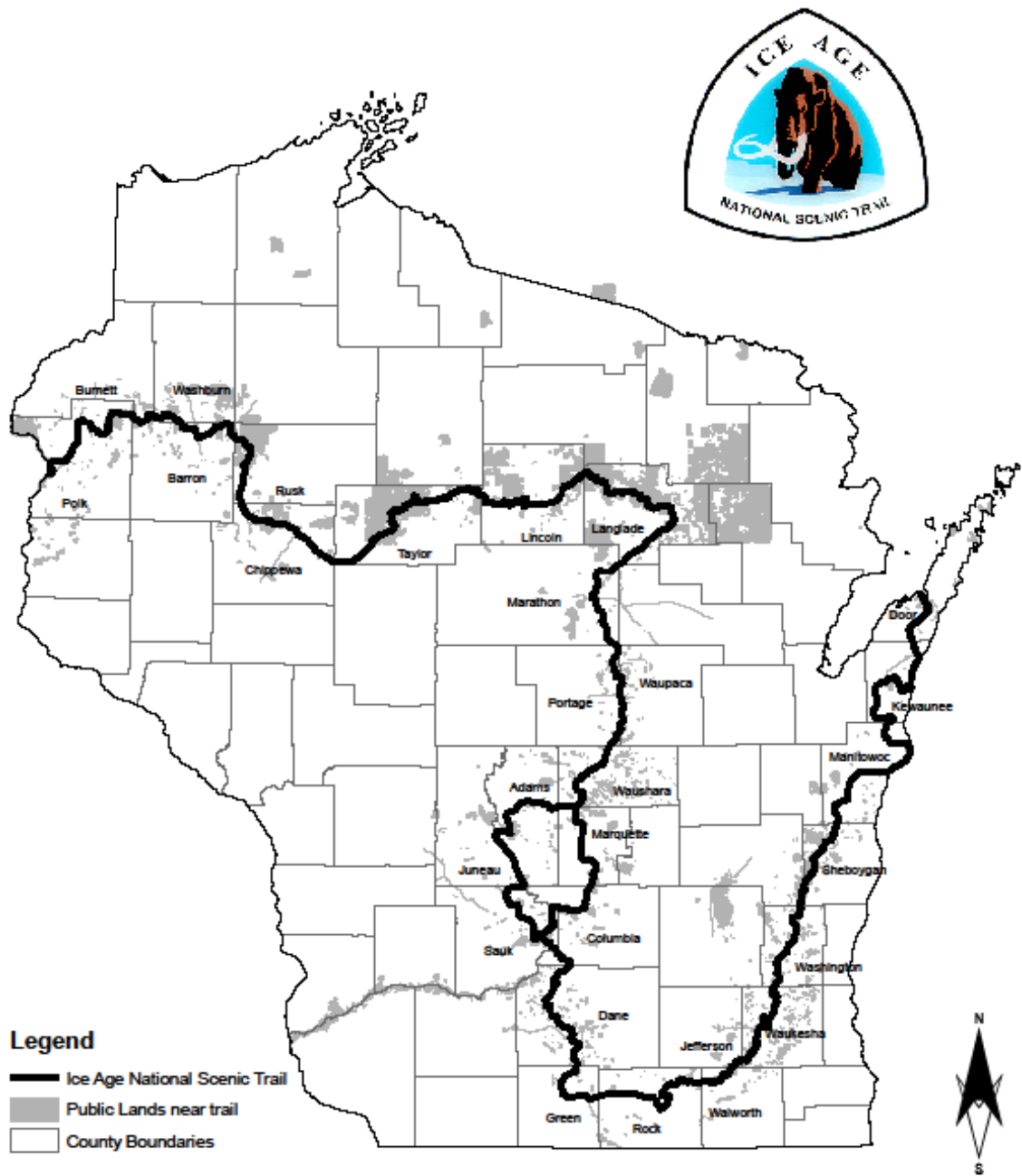
- Provides superlative outdoor recreation experiences
- Preserves and commemorates world renowned geological features formed during the Wisconsin Glaciation
- Provides a natural corridor that protects habitat and enables the movement of wildlife
- Serves as a lifelong educational resource
- Provides quiet places for people to form and nurture a spiritual connection with the landscape

- Promotes the health and vigor of users of all ages and abilities
- Links the history and diverse human cultures of the land that we call Wisconsin.

The NPS is responsible for overall administration of the Ice Age NST. The Comp plan provides overall guidance for development and management of the trail, which is intended to be a partnership venture, accomplished through many cooperating federal, state, and local agencies and private trail organizations. The primary cooperators are the WDNR and the IATA. A Memorandum of Understanding (MOU) between these parties outlines their respective roles and responsibilities for the acquisition, development, operation, maintenance, promotion and protection of the trail. A copy of this MOU can be found in Appendix D.

The WDNR is the state agency responsible for implementing state and federal laws that protect and enhance Wisconsin natural resources—its air, land, water, wildlife, fish and plants. More than 300 miles of trail are located on WDNR properties. The WDNR assists in the planning and development of the Ice Age NST, provides grants to the IATA and others for acquisition and maintenance of the trail, and acquires and accepts gifts of land for the trail.

The IATA, formerly known as the Ice Age Park and Trail Foundation, was founded in 1958 by Wisconsin citizens who envisioned a thousand-mile trail that followed the terminal moraine and other Ice Age formations across the state. Today, 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 also 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.



Map 1 (Map1-1) Map of State of Wisconsin with Ice Age NST

2 PLANNING, ISSUES & CONCERNS

2.1 THE CORRIDOR PLANNING PROCESS

When Congress authorized the Ice Age NST in 1980, it directed that, “overall administration of the trail shall be the responsibility of the Secretary of the Interior....”. The Secretary delegated this administrative responsibility to the NPS.

The purpose of preparing this Corridor Plan and Environmental Assessment is to carry out the Secretary’s responsibility in section 7(a)(2) of the National Trails System Act [16 U.S.C. 1246(a)(2)] to:

“select the rights-of-way for [the Ice Age] national scenic [Trail] ...” The act goes on to specify: “That in selecting the rights-of-way full consideration shall be given to minimizing the adverse effects upon the adjacent landowner or user and their operation. Development and management of each segment of the National Trails System shall be designed to harmonize with and complement any established multiple-use plans for the specific area in order to ensure continued maximum benefits from the land.... In selecting rights-of-way for trail purposes, the Secretary shall obtain the advice and assistance of the States, local governments, private organizations, and landowners and land users concerned.”

Selection of the route for the trail is needed to facilitate the first and most critical aspect of establishing the trail, securing lands on which the trail may be constructed. This work requires contacting individual landowners either to propose acquisition of some of their land, all of their land, or to ask permission for the trail to cross their land. To determine which landowners should be contacted for this purpose, a refinement of the general route designated by Congress is needed. It is the purpose of this plan to determine a more specific route by establishing a Corridor of Opportunity (corridor). This allows for land to be acquired for the trail within the Corridor. This process involves affected agencies and landowners as well as trail users and the general public.

Therefore, the objectives of the planning process are to: define a boundary within which federal and state funds may be used to acquire lands for the trail, design possible route locations for the trail within those boundaries, and fulfill federal and state environmental requirements. The EA will have public review and comply with the National Environmental Policy Act of XXXX (NEPA), Endangered Species Act or XXXX (ESA), the Historic Preservation Act of XXXX, and WEPA.. Of the 30 counties the Ice Age NST passes through, Chippewa County is the thirteenth county to go through this process.

Planning for eastern Chippewa County began in 2004 with a meeting of representatives from the NPS, WDNR, IATA staff and volunteers, and Chippewa County to discuss Ice Age NST planning for Chippewa County. This group, better known as the Core Team, was formed on the local level to carry out the planning process. Their task was to develop conceptual ideas for alternative corridors, possible route options for the Ice Age NST, and shepherd these ideas through the public review process. The *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. To determine a location for the trail, three important elements are identified; the Corridor of Opportunity, Trailway, and Trail. (Also see Definitions of Terms: *Corridor of Opportunity*, *Trailway* and *Trail* in Chapter 2: 2.4)

The Corridor of Opportunity is the largest of these elements. It 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 the corridor is wide is to allow flexibility in working with landowners since participation in the project is voluntary.

The Corridor of Opportunity is also the area within which WDNR may acquire lands for the Trailway, provide Stewardship grants to others to acquire lands for the trail, and accept lands for permanent dedication. It also defines the area within which federal and private involvement in land protection and acquisition for the Ice Age NST may occur. Lastly, the corridor provides focus and direction to the trail's land protection program and partnerships.

The Trailway is the width or area of land that is managed for the purpose of the Ice Age NST. It includes the Trail and surrounding lands that are owned, leased, or managed as part of the Ice Age NST. These management purposes may include, but are not limited to, creating a buffer for the trail to separate it from adjoining land ownerships and uses and protecting scenic or significant geological, cultural, or biological features, such as important plant communities.

The Trail is the actual usable tread and surrounding space that is maintained for the purpose of passage along the trail route. The trail width may vary from 18 inches to 72 inches depending on the Recreation Opportunity Spectrum (ROS) classification. Examples of ROS classification include urban, rural, roaded natural, or semi-primitive. (See Appendix B—Trail Development and Management Standards.) Almost all the proposed Ice Age NST in eastern Chippewa County is located in a rural or roaded natural setting and will average 24-30 inches in width. A small portion of proposed trail either follows the Old Abe State Trail or meanders through the city of Cornell, which is classified as urban. Most of the existing trail that winds through the Chippewa Moraine National Scientific Reserve, west of the project area, is classified as semi primitive, where nature dominates and the sights and sounds of humans are more limited. Ultimately, the location of the Trailway and Trail are dependent on landowners who are willing to be part of the development of Ice Age NST.

When a corridor for the Ice Age NST is first defined, the geologic features, aesthetic values such as the foreground scenery, distant views, and natural environment are taken into consideration. Ideally, the corridor contains elements that create a visually diverse hiking experience for the Ice Age NST.. 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. During the planning process, geologic features, high points, and places of scenic beauty such as kettle ponds

and high-quality plant communities are identified and mapped. Conceptual trail routes are then designed to connect these various features. These collective view-scapes are the heart of the Ice Age NST. They tell the story, first-hand, of how the glacier shaped the landscape of Wisconsin and created its diverse biological ecosystems and water resources. Also, they act as landmarks for hikers who consciously or subconsciously use these features as a map or way-finding system to identify where they are along the route of the trail.

Landforms, scenic views, and natural areas have been designed into the proposed corridor plan, because of their aesthetic and educational value. The gently undulating topography of the Perkinstown Moraine, the many ice-walled lake plains, kettle holes both wet and dry, as well as the Otter Lake tunnel channel and esker are the significant glacial features found within the project area. Walking along the Ice Age Trail through the gently rolling hills, open spaces and scattered woodlands of eastern Chippewa County will provide a continually changing and delightful experience for the hiker. The juxtaposition of land uses (crops, woodlands, farm buildings) upon the corridor's topographic features offers variety as well as a pedestrian scale to the landscape. Depending on the eventual trail location, scenic overlooks of the Chippewa River and its steep valley, unspoiled stretches of the Yellow River, several ice-walled lake plains and Otter Lake with glimpses of the tunnel channel and its associated esker may be available.

2.2 ISSUES AND CONCERNS RAISED DURING PLANNING

During the internal and external scoping process for this planning process, a number of issues were identified. Members of the general public, local units of government, state agencies, federal agencies, and other interested public gave their input on the plan at planning meetings, agency meetings, town and county board meetings, open house meetings and through letters and comment sheets. These issues are summarized below.

2.2.1 Why this location for the Ice Age NST?

During the Pleistocene epoch, the glacier advanced and receded across Chippewa County many times creating the landscape that we see today. In its wake it left numerous geologic features such as the terminal and recessional moraines, kettle ponds, glacial drainage-ways, and outwash plains. The purpose of the Ice Age NST is to preserve some of the finest features left by the last glacial advance, as well as other scenic, natural, and cultural resources, while providing opportunities for an outstanding hiking experience and educational activities. For further details on the purpose and goals for the trail, the planning process, and eastern Chippewa County's geology see: Chapter 1: 1.1—Background of the Ice Age National Scenic Trail; Chapter 2:2.1—The Corridor Planning Process; Chapter 5: 5.3—Geology; and, Appendix C—NPS Purpose and Significance Statement of the Ice Age National Scenic Trail.

2.2.2 What are the allowable uses on the Ice Age NST?

The Ice Age NST is intended to be primarily a hiking trail. In Chippewa County, future segments will have a native surface and be between 24 and 36 inches wide. Other compatible uses may include winter activities such as snowshoeing and cross-country skiing. However, a trail segment 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. On private lands, occasional travel on or across the trail with motorized vehicles by the landowner or manager for the purpose of managing and using their land is permitted. If necessary, various structures such as stiles, gates, or fences can be strategically placed along the trail to discourage unauthorized uses from occurring. Hunting is permitted on many of the publicly owned lands where segments of the trail exist, dependent upon the property type and use. Information about whether or not a publicly owned property is open to hunting may be obtained by contacting the property manager. Hikers are advised to wear blaze orange when hiking in areas that allow hunting. Privately-owned lands are open to hunting only by permission of the landowner, and segments located on private property are often closed during the November gun-deer season. For more information see Appendix B — Trail Development and Management Standards.

2.2.3 Impacts on natural resources by trail construction and use

People expressed concern about the impact on natural resources that could result from the construction and use of new trail. The Ice Age NST has *A Handbook for Trail Design, Construction, and Maintenance* that guides its development. If the standards are followed, the physical impacts would occur primarily when the trail is constructed and would be minor and temporary. In sensitive environments such as wetlands, the trail would either be routed around them or would go through a permitting process to construct bridges or boardwalks through them.

These issues are discussed in Chapter 5—Affected Environment & Environmental Consequences: 5.3 Geology, 5.4 Soils, 5.5. Vegetation, Threatened and Endangered Species, Invasive Species, 5.6. Water Resources, 5.7 Wildlife, Fisheries, and Threatened and Endangered Species.

2.2.4 Preservation of the glacial landscape

Some individuals were concerned about preserving the resources that are important to the trail's geologic story in the eastern half of Chippewa County, and the scenic experience of the hiker. Through the planning process, the Core Team identified the Preferred alternative that captured, what we believe to be, the best examples of geologic features left by the glacier in the study area. Working with willing landowners, NPS would attempt to protect some portion of these resources for the trail. For further details see Chapter 2.3 Preliminary Estimated Costs of Land Acquisition and Trail Development.

2.2.5 Impacts on cultural resources by trail use and construction of new trail

Impacts on cultural resources that may occur due to new trail construction were considered by some people to be an issue. As stated in 36 CFR Part 800—PROTECTION OF HISTORIC PROPERTIES, Subpart A—Purposes and Participants, 800.1 Purposes: “Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings....” The National Park Service has a Memorandum of

Understanding with the Wisconsin State Historic Preservation Office that defines methods to identify and avoid impacts to cultural resources when designing and building the Ice Age NST. For further details see Chapters 5.9 and 5.10—Environmental Consequences to Cultural Resources, and Appendix E—Memorandum of Understanding between the State Historical Society of Wisconsin and the National Park Service.

2.2.6 Impacts on private land and private ownership

Some people expressed concerns regarding the completion of the trail through the county and its impact to private land. By congressional authorization, the Ice Age NST is a continuous footpath that spans the State of Wisconsin for approximately 1,200 miles and in doing so 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 purchase of lands, community economic development, or change of land use from agriculture to conservation. Preliminary Estimated Costs of Land Acquisition, and Preliminary Estimated Costs of Trail Development are discussed in Chapter 2.3. and 2.3.1. Communities and Businesses, Land Use and Land Ownership, and Tax Base are covered under Chapter 5.11—Socioeconomics.

2.3 PRELIMINARY ESTIMATED COSTS OF LAND ACQUISITION

Depending on the route selected, the Ice Age NST through eastern Chippewa County is expected to be 20-30 miles in length when completed. It is difficult to determine the exact cost of acquiring and developing 20-30 miles of trail since the trail's exact location is not known. 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 homesites as well as hunting lands. These rolling wooded tracts with their high scenic character offer the types of features that command a premium price over traditional agricultural lands. Recent property sales of rural non-agricultural land in the proposed Ice Age NST corridor have been upwards of \$2,200 to \$2,600 per acre for 40-acre parcels. This translates to about \$22,800 to \$25,200 per mile for each 100 feet of average corridor width acquired. For example, assuming that 25 miles of trail would need to be developed on lands presently under private ownership, at an average corridor width of 100 feet, the total land acquisition cost would be in the range \$660,000 to \$780,000. The table below lists approximate costs based on different trail lengths and average width scenarios. Realistically, the trailway width will vary along its entire length because its' breadth is determined by a number of factors including land use, geography and what the landowner desires.

Table 1: Cost of Trailway For Ice Age NST (Assuming \$2,200 to \$2,600 per acre)

Average Width of Trailway Purchased	20 miles	25 miles	30 miles
100 feet (12 acre/mile)	\$528,000-\$624,000	\$660,000-\$780,000	\$792,000-\$936,000
200 feet (24 acre/mile)	\$1,056,000-\$1,248,000	\$1,320,000-\$1,560,000	\$1,584,000-\$1,872,000
330 feet (40 acre/mile)	\$1,760,000-\$2,080,000	\$2,200,000-\$2,600,000	\$2,640,000-\$3,120,000
660 feet (80 acre/mile)	\$3,520,000-\$4,160,000	\$4,400,000-\$5,200,000	\$5,280,000-\$6,240,000

Land values provided by WDNR real estate staff July 2019.

Table 1-Cost of Trailway for Ice Age NST

2.4 Preliminary Estimated Costs of Trail Development

The majority of the trail built in eastern Chippewa County will either be a simple brushed trail through grasses and trees, or a constructed trail composed of mineral soil. Aside from the cost of tools, the labor will be provided by volunteers from the Ice Age Trail Alliance. There will be steep and/or wet areas that the trail will cross requiring sidehill construction or surfacing such as puncheon, turnpike, or boardwalk. These areas are expected to be minimal and, since the exact location of the trail is unknown at this time, it is difficult to provide exact costs for these situations.

Depending on the trail's location, a number of boardwalks and bridges may be required on the eastern Chippewa County segment of the Ice Age NST. While boardwalks of up to 1,000 feet are not unheard of, their initial construction and continuing maintenance costs may be excessive. The trail is also expected to encounter several intermittent streams and/or drainage swales, none will require a significant bridge. A reasonable estimate for bridge construction costs under these alternatives for eastern Chippewa County is \$20,000. This estimate assumes that up to three small bridges will be constructed at \$5,000 each, with some additional construction costs (\$5,000), that may be required to span smaller swales and intermittent streams.

Parking is presently available at a few locations within the project area and, depending on trail location, can minimize the number of new parking lots that need to be constructed. Existing public parking can be found in the city of Cornell, Brunet Island State Park, and at Otter Lake County Park. There is on-road parking available near the Yellow River Woods at Highway S. Based on available road crossings and an approximate spacing of four to six miles between trailhead parking areas, an additional 2 parking areas might be needed, depending upon the alternative chosen. One of these parking lots could be designed for approximately 3-4 vehicles, the other would either be another small parking lot or a 10-car parking area, depending on the

need. As mentioned above, within the proposed corridor, parking would be primarily provided on public lands as those sites have large lots to accommodate many activities.

A total estimated cost of \$18,000 for parking would include 1 small lot (\$6,000) and 1 large lot (\$12,000). Simple information kiosks will be placed at each parking area. Based on an estimated cost of \$800 per unit, the total cost for the new kiosks (one for each parking area, existing and planned, for a total of 5) is estimated at \$4,000. Interpretive exhibits may be placed on a few public lands that have important stories regarding glaciation or the natural resources of the site, i.e. Otter Lake tunnel channel and esker, or the Chippewa River. The cost of these exhibits is estimated to be between \$4,000 and \$7,000 depending on the number of panels created.

3 PURPOSE & NEED

When Congress amended the National Trails System Act in 1980 to authorize establishment of the Ice Age Trail as a NST, it designated only a general route for the trail.

“Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the National Trails System Act (82 Stat. 919; 16 U.S.C. 1241), as amended, is further amended as follows:

(a)Section 5 (a) is amended by adding the following new paragraph at the end thereof:

(10) The Ice Age National Scenic Trail, a trail of approximately one thousand miles, extending from Door County, Wisconsin, to Interstate Park in Saint Croix County [should have read “Polk County”], Wisconsin, generally following the route described in “On the Trail of the Ice Age –A Hiker’s and Biker’s Guide to Wisconsin’s Ice Age National Scientific Reserve and Trail”, by Henry S. Reuss, Member of Congress, dated 1980.”

This general route identified for the trail across the state was then incorporated into the 1983 *Comprehensive Plan for Management and Use of the Ice Age National Scenic Trail (Comprehensive Plan)*. The maps in the plan frequently identify roads as “Connecting Road Segment to NST” where there was no actual “trail” in existence and no specific idea where an off-road trail could be established in the future. This alignment was displayed on the maps even though it was known that these road routes could not serve as the route of the Ice Age NST over the long-term. The *Comprehensive Plan* states that the Ice Age NST “should be a continuous overland (off-road) trail. The roads identified on the maps were “place holders” for a future alignment that would need to be determined through a detailed analysis. This planning work was identified as a priority action on page 50 of the *Comprehensive Plan*:

“1. Detailed planning for the location and construction of new trail segments needed to make the Ice Age NST a continuous off-road trail as identified in this plan should begin as soon as possible as a cooperative effort between the Ice Age Trail Council, Wisconsin Department of Natural Resources, and the National Park Service.”

The purpose and need of the Chippewa County Ice Age NST Corridor Plan and associated Environmental Assessment is to identify and evaluate potential corridors where an overland

route for the Ice Age NST could be established in Chippewa County, from where it currently terminates at the Chippewa River just west of the city of Cornell, to the Taylor County line, a distance of approximately 20-30 miles. This would meet the legislative intent of Congress for a continuous trail and achieve a high priority goal of the trail's primary partners—NPS, WDNR, and IATA. A desirable location for the trail would meet the following objectives.

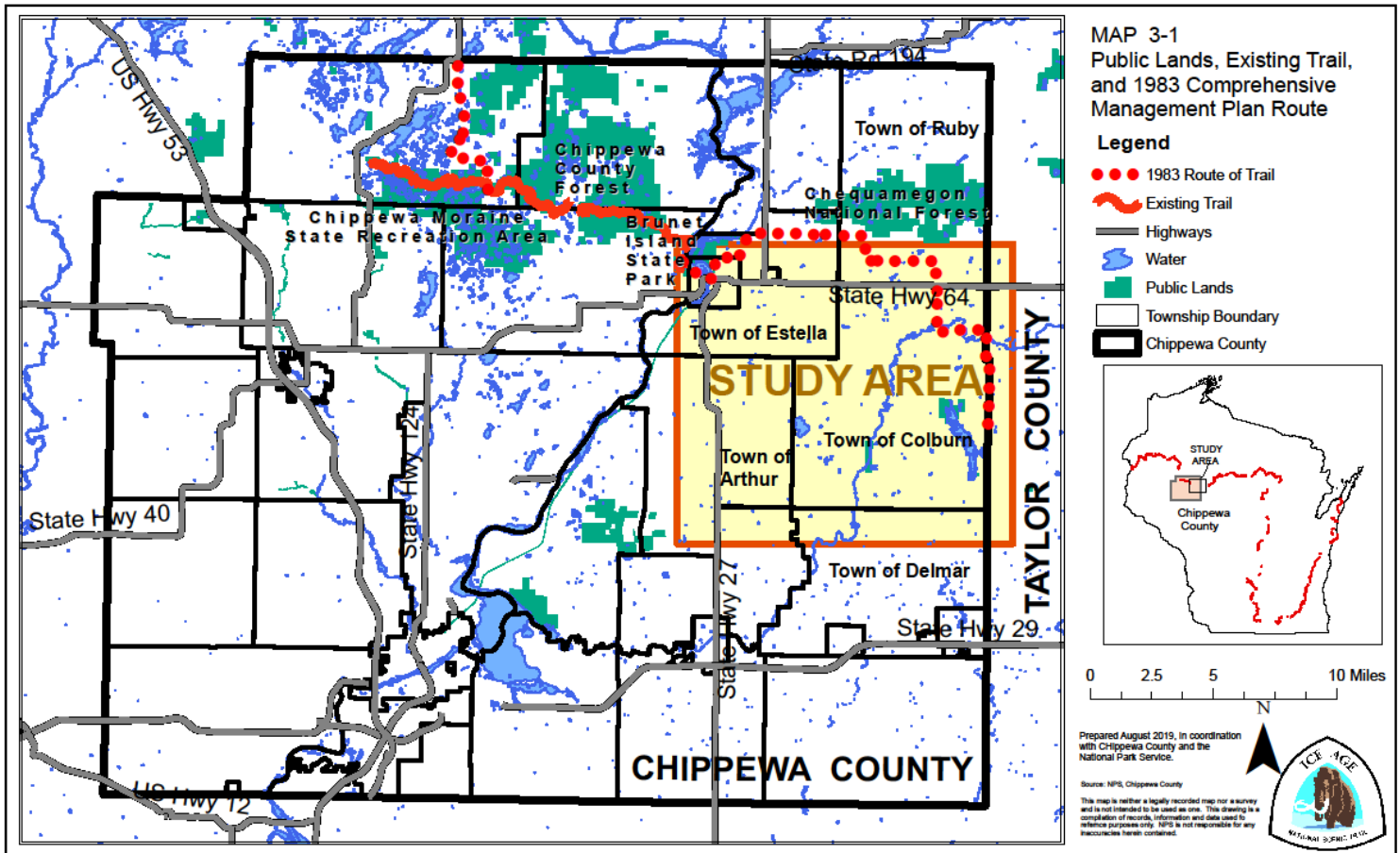
- Traverse a variety of glacial features that are located in a visually pleasing corridor.
- Provide for a diverse user experience by incorporating a variety of plant communities, terrain, open and enclosed spaces (ex. Forests, savannas, prairies).
- Provide vistas to broader landscapes for scenic and interpretive purposes.
- Link and protect significant geologic, biologic, and archeological sites.
- Link other significant natural resource areas.
- Connect or provide linkages to communities for user support purposes.
- If possible, use publicly-owned land for trail development and support facilities.

These corridor alternatives must also occur within a defined area that is located in the eastern portion of Chippewa County. This area's northwestern boundary is located in the Town of Cleveland just west of County Trunk CC and the city of Cornell. The southeastern boundary is located at the Taylor County line in an area that spans from Otter Creek south toward the city of Stanley in the Towns of Colburn and Delmar.

During the 1970s a few volunteers constructed much of the existing off-road Ice Age NST in Chippewa County on publicly owned property between Plummer Lake Road east through the Chippewa Moraine Recreation Area and county forest land, to County Trunk CC, just west of the city of Cornell. The trail here traverses the very scenic Chippewa Moraine whose landscape can be characterized by forest covered knob-and-swale topography with scattered kettle ponds and ice walled lake plains. Most of the trail was developed prior to the creation of a local "chapter" in the sense that we know it today and was identified in the *Comprehensive Plan* (1983). In 1987, the Chippewa Valley Sierra Club began organizing maintenance activities and hike-a-thons. The Chippewa County Chapter of the IATA officially formed in 1988.

Today, Chippewa County has a dedicated, self-sustaining, and enthusiastic group of volunteers who want to complete the trail countywide. A plan is needed that will provide guidance on where future segments could be established. Such a plan will help volunteers and other partners focus their efforts.

Locally, there is also support for the Ice Age NST. The Chippewa County Forestry and Recreation Department has been enthusiastic about the development of the Ice Age NST. Its incorporation into their *County Forest Comprehensive Land Use Plan* dates back to 1988 and in subsequent updates of the plan including 2006-2020. The trail and the protection of its corridor is also included in the *Chippewa County Outdoor Recreation Plan* for 2010-2015. While the County may actively assist with the development of the trail and intends to actively promote the trail in its literature, its present stance is that current funding levels prevent it from being involved with day-to-day trail maintenance responsibilities.



Map 2 (Map 3-1) Public Lands, Existing Trail, and 1983 Comprehensive Management Plan Route

4 ALTERNATIVES

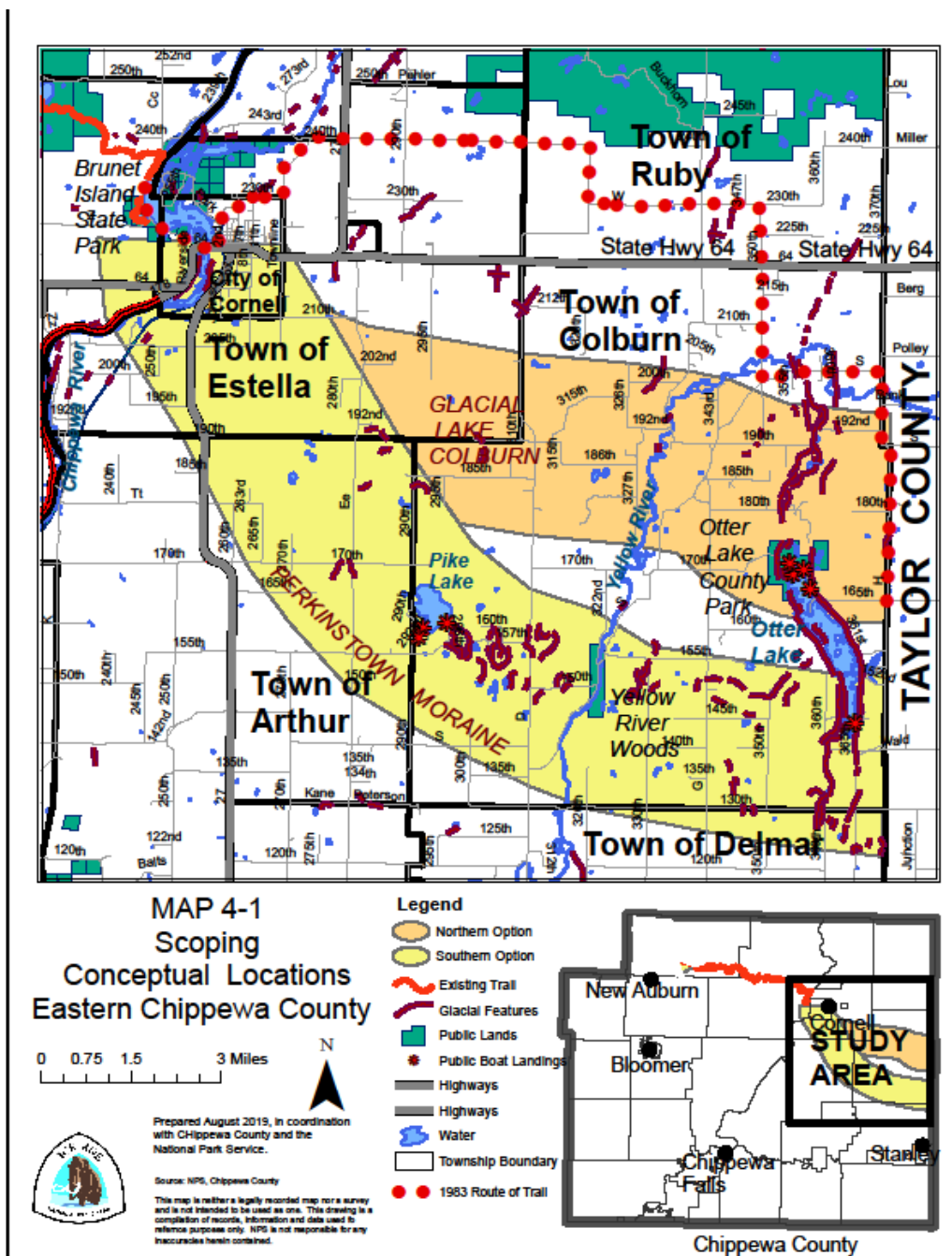
4.1 ALTERNATIVES CONSIDERED

The location of the proposed Ice Age NST corridor is based on a number of factors, including general adherence to glacial features left by the Wisconsin advance, 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 federal, state and private partners having specifically delineated, authorized areas in which to work.

A total of three potential conceptual locations for the Ice Age NST (Map 4-1) were initially presented to the public, with northernmost option (1983 *Comp Plan* route) being dropped very early in the planning process. All of these alternatives originated at the Chippewa River west of the city of Cornell and terminate at the Taylor County Line. The location of the three alternatives was determined by the need to cross the Yellow River. Two of the alternatives were refined and carried forward to become the Northern and Southern Alternatives.

As a result of public input, a fourth action alternative, the Preferred Alternative, was formulated that essentially combines some of the best features of the Northern and Southern Alternatives.

Descriptions of alternative strategies for establishing the Ice Age NST are presented in the following section.



Map 3- (Map 4-1) Conceptual Locations for the Ice Age NST

4.2 ALTERNATIVES CONSIDERED BUT DISMISSED

4.2.1 THE NORTHERN ALTERNATIVE (Map 4-2)

A northern alternative (Alternative 2) was developed to connect the existing Ice Age Trail to the northern end of Otter Lake County Park to present the significant geologic features found there, utilize the facilities (camping, bathrooms, parking), and provide a direct linear route to the Taylor County line. This alternative begins just west of County Trunk CC, and the Chippewa River. It crosses the Chippewa River encompassing the city of Cornell before winding south through the towns of Estella and Arthur. Turning due east, it passes over the center of the town of Colburn before reaching the Taylor County line near the north end of Otter Lake. The proposed corridor includes the bridge at County Trunk G and 192nd Avenue to cross the Yellow River north of Otter Lake. Facilities including a Post Office, public laundry, restrooms and restaurants are available in the city of Cornell. Public camping opportunities can be found in both Brunet Island State Park and Otter Lake County Park. Parking is available on public land. There is an additional opportunity to obtain supplies or food on the east side of Otter Lake near 165th Street.

The primary glacial features found within this alternative are a tunnel channel and esker associated with Otter Lake. In the town of Colburn, the proposed corridor also passes over a large portion of Glacial Lake Colburn. The topography is moderately undulating to flat. Land cover in the western half of the proposed corridor is forest interspersed with croplands. As the corridor moves east the forest gives way to wetlands (Glacial Lake Colburn), and then gradually transitions to primarily agricultural use before reaching the county park. The wetlands encountered in the central portion of the corridor are significant and associated with Pike Creek and its tributaries. If the trail were to cross this area, it would require the construction of an extensive boardwalk system and other structures.

This option did not have as strong of a geological component as the southern alternative, although it did have good support facilities for hikers. It was dropped as a stand-alone alternative, but components were carried forward to create the Proposed Action (Preferred Alternative).

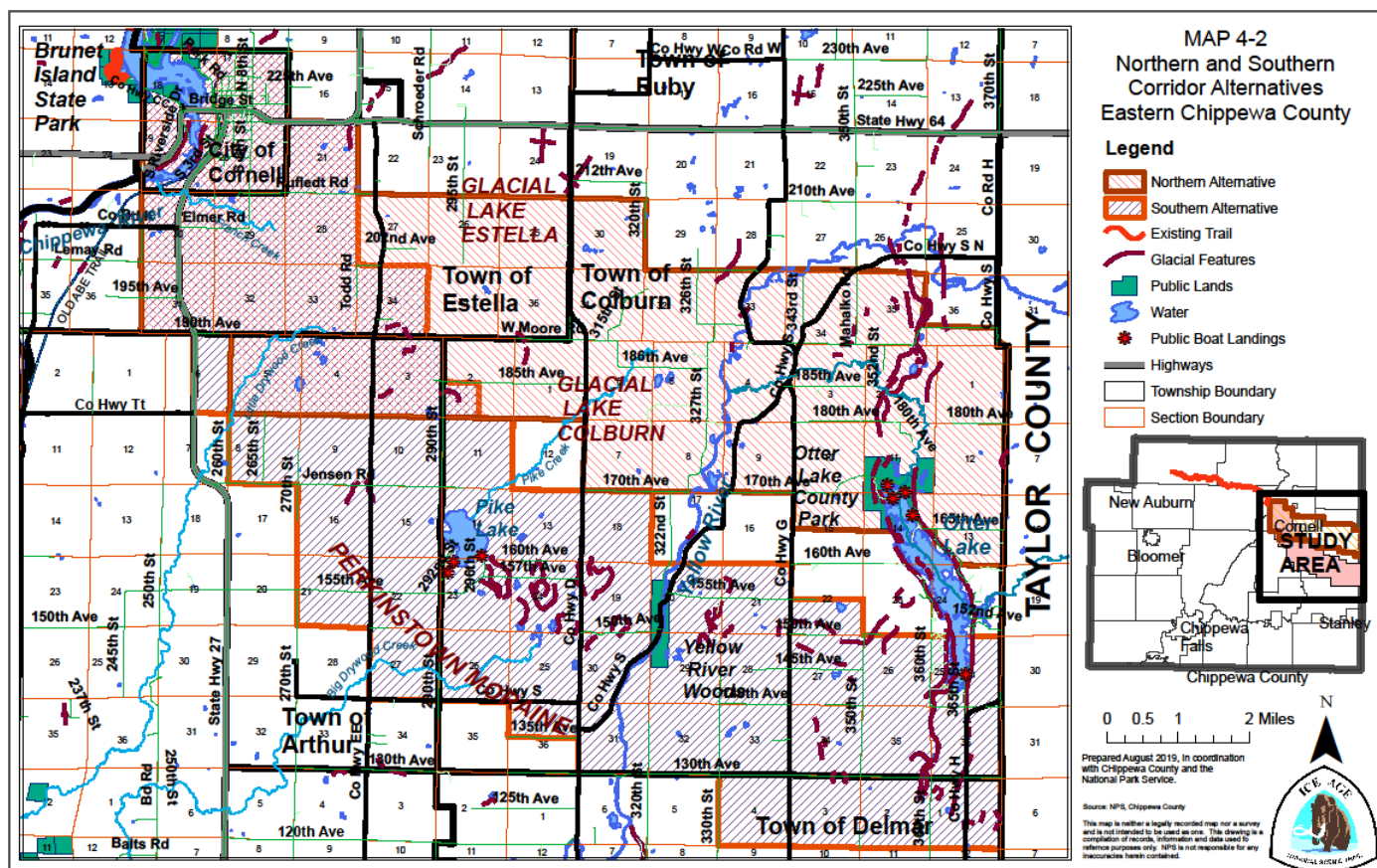
4.2.2 THE SOUTHERN ALTERNATIVE (Map 4-2)

A southern alternative (Alternative 3) was also considered and forms an arc from the city of Cornell south and east through the towns of Estella and Arthur, winding through the southern part of the town of Colburn ending at the Taylor County line near the southern end of Otter Lake. The proposed corridor generally follows the Perkinstown Moraine, deposited approximately 20,000 years ago, and crosses the Yellow River at County Trunk S within the county's Yellow River Woods unit. This option includes extensive and outstanding glacial features found along the top and immediately behind the moraine, highlighting a series of ice-walled and ice-dammed lake plains, and the remains of an esker (See Map 5-1).

While the topographic relief of the Perkinstown Moraine is not as great as the Chippewa Moraine to the northwest (outside the study area where there is existing trail), it still affords

many opportunities for the trail to incorporate scenic views and interpretive elements. The land cover is a mixture of forest and field, with large forested tracts being interspersed with meadows atop the many ice-walled lake plains. In addition to the southern third of Otter Lake, this option incorporates Pike Lake, where a private campground and other facilities are available. As in the northern alternative, a range of services are available within the city of Cornell and in other publicly owned spaces. Aside from the city of Cornell, Brunet Island State Park, and Otter Lake, the one other piece of public land within this alternative corridor is the county's 101-acre Yellow River Woods unit.

This option did not include as many support facilities as the northern alternative. Most notably absent is Otter Lake County Park, which has a nice campground and supply store on the north end of Otter Lake. This alternative does have outstanding examples of swarms of ice walled lake plains and other glacial features, and depending on where the trail is located, exceptional views of the landscape. Like the northern alternative it was dropped as a stand-alone alternative because of limited facilities for hikers, but components were carried forward to create the Proposed Action.



Map 4- (Map 4-2) Northern and Southern Corridor Alternatives, Eastern Chippewa County

4.3 ALTERNATIVES RETAINED FOR ANALYSIS

4.3.1 THE NO ACTION ALTERNATIVE

The National Environmental Policy Act (NEPA) requires that a “no-action” alternative be described as a benchmark for evaluating action alternatives.

Under the No Action alternative, the Secretary of the Interior’s responsibility under the National Trails System Act to select a specific route for the trail would not be carried out and no Corridor of Opportunity to more specifically identify the route of the Ice Age NST would be established. The WDNR and/or other local and state entities could 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 National Trails System Act, 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 the Wisconsin Environmental Policy Act (WEPA) and its associated policies regarding natural and cultural resource protections. Planning, public involvement, and implementation activities would be carried out by local, state, and trail advocates.

Trails built on private land by permission only without protection easements could continue to be vulnerable to loss by land transactions, land use changes, and increasing development pressures, and could result in a much slower and haphazard establishment of the trail if local and/or state entities did not issue their own protection easements or outright purchase.

Under the No Action alternative, it is assumed that existing development trends would continue into the reasonably foreseeable future.

4.3.2 THE PROPOSED ACTION AND THE PREFERRED ALTERNATIVE

(Map 4-3 & Map 4-4)

Under the Proposed Action, a Corridor of Opportunity that is approximately 2 to 5 miles in width, extending south and east from existing trail in Section 13 of the town of Cleveland, just west of County Trunk CC, through the towns of Estella, Arthur, Colburn and Delmar to the Taylor County line, east of Otter Lake County Park, has been identified and would receive state and federal approval. Within this corridor, a railway that is approximately 200-1,000 feet or more in width would be acquired for Ice Age NST purposes. A wider railway may be necessary to incorporate significant features of a particular area. The corridor is intentionally designed to be wide enough to allow flexibility in working with cooperating landowners to site the trail since all participation in the project is voluntary. The established corridor will define areas for purchase using private, state, or federal funds and will serve as advisory information for town and county land use planning.

The Proposed Action is preferred because it best fulfills the purpose and need, and the intent of Congress and the Wisconsin State Legislature. It is based on an evaluation of the geological and biological features found in Chippewa County, as well as the field work of representatives of the Core Team. It was then refined using information obtained through open house meetings and other comments received from the public. The Proposed Action incorporates the majority of features, resources and support facilities found in both the Northern and Southern alternatives—geologic features, public lands, and support facilities—meeting the project’s objectives. The eastern side of the corridor was also widened a bit from northern and southern alternatives, to allow additional opportunities to locate the trail and connect with existing Ice Age Trail in Taylor County.

The west side of the proposed corridor begins at the eastern terminus of the Chippewa River Segment immediately west of the city of Cornell in the town of Cleveland. Moving east, it crosses the river/dam, and generally follows the Perkinstown Moraine east, southeast, through the towns of Estella, Arthur, Colburn, and Delmar. The glacial landscape here is one of low to moderate relief with features such as kettle ponds, outwash plains, stagnant ice topography, clusters of ice-walled lake plains, ice-dammed lake plains, and a very distinctive esker and tunnel channel. Natural resource features found here include high quality woodlands, wetlands, and two major river systems— the Chippewa and Yellow Rivers. Well-placed scenic overlooks could potentially provide views and opportunities to interpret the glacial landscape.

Public lands and services are located within the corridor. Brunet Island State Park is at the proposed corridor’s western end, Otter Lake County Park is at its eastern end, and a small portion of the Chippewa County Forest that surrounds one mile of the Yellow River is located within its center. Pike Lake is also found near the corridor’s midpoint, and features a resort, and private campground. Communities in or near the proposed corridor include the city of Cornell, and the city of Stanley, located approximately 6-10 miles south of the project boundary. Collectively, these areas provide support facilities such as trailheads, parking, food, water and lodging.

The following is a general description of the Proposed Action alignment, beginning with the city of Cornell and continuing south and east to the Taylor County Line. The corridor boundaries tend to follow roads, and section lines. Possible trail route options are described and analyzed in Appendix A of this document.

City of Cornell and the Towns of Estella and Arthur

Beginning at the eastern terminus of the Chippewa Moraine Segment on County Trunk CC, the proposed corridor extends east across the Chippewa Flowage encompassing a portion of Brunet Island State Park, and the city of Cornell before turning southeast through the towns of Estella and Arthur. The corridor varies in width from 2-4 miles and generally follows the Perkinstown Moraine towards the towns of Delmar and Estella and the Chippewa/Taylor County line. The corridor’s western boundary moves south from County Trunk CC, turns east at 190th Avenue before turning south again at State Highway 27. State Highway 64 serves as the corridor’s northern boundary in the town of Estella. County Trunk EE runs north /south through the town

of Estella, and County Trunk S winds generally east/west through the entire corridor. All other roads are quiet town roads and remote driveways. This corridor segment contains the city of Cornell, where trail users can access services such as a post office, parking, and laundry facility, as well as obtain supplies. There are also a number of affordable restaurants, and a gas station/convenience store located within city limits.

While the Proposed Action begins at the Chippewa River, other waterways are encountered as the corridor moves east of the river and the city of Cornell. They are French Creek and Little Drywood Creek. Neither of these, nor their various intermittent tributaries, are considered significant.

Within Proposed Action, the trail would head east from its current endpoint, crossing over the river on the State Highway 64 bridge into the city of Cornell. Here it would pass near the historic 175-foot tall Cornell pulpwood stacker, a remnant of the area's logging heyday, and the only remaining pulpwood stacker in the world. At Mill Yard Park, the trail could either, turn south along the river, and follow the Old Abe State Recreation Trail for a short distance, or wind through the city. If the Ice Age Trail follows the Old Abe Trail, it would climb to a point above the river valley that provides an expansive view of this major glacial drainage way. Ice Age Trail planners will work with the city of Cornell to determine the best location for the trail as the city moves forward with the redevelopment of its waterfront along the Chippewa River.

Winding southeast, the proposed 3+ mile wide corridor crosses State Highway 27 and encompasses a large expanse of managed forest primarily made up of sugar maple, basswood and red maple, with some hemlock, and white and red pine before crossing County Trunk EE. A possible trail route within this portion of the alignment could meander east along French Creek. Here the land is gently rolling with upland areas that include ice-walled lake plains and wetlands. Another possible route option is to wind the trail south into the town of Arthur through managed forest lands to Little Drywood Creek and a group of small kettle lakes. As the proposed corridor continues southeast, it enters the Town of Colburn.

Towns of Colburn and Delmar

Proposed Action is approximately 3-6 miles wide through the towns of Colburn and Delmar. County Highways D, G, and H, all bisect the corridor from north to south. County Trunk S, which parallels the Yellow River southwest to northeast through the town of Colburn, is located near the midpoint of the corridor. There are no uninterrupted east-west roads.

The town of Colburn has a wealth of geologic features including remnants of glacial Lake Colburn, the county's only tunnel channel and an esker associated with it. Heading east, the first glacial feature encountered is Pike Lake, a kettle located in Section 14. Continuing east, a large swarm of ice-walled lake plains are found nearby in Sections 14, 19, 23, 24 & 30. While much of the landscape in this area is forested, these ice-walled lake plains, with their relatively flat tops and lack of large stones, are maintained in forage or row crops, making them easy to identify and interpret. The width of the corridor here would allow ample opportunities to wind the trail through these features and potentially allow hikers a close-up view of them.

Should the trail pass to the north of Pike Lake, it would encounter the wetlands associated with Pike Creek, which flows north from the lake. These wet areas are the remnants of glacial Lake Colburn that were formed as the ice retreated. The southern option around Pike Lake would provide an opportunity for the user to take advantage of a private resort and campground located there.

As Proposed Action continues eastward it encompasses Section 20 and 29 which contains the Yellow River, paralleled by County Trunk S. Here the trail would connect to the Chippewa County Forest Yellow River Woods unit. This 101-acre unit includes a one-mile free flowing section of the river, steep slopes, deeply incised ravines, ephemeral ponds, hardwood swamps, and northern sedge meadow. From this location, if the trail extended to the south end of Otter Lake, it would encounter a series of well-defined ice-dammed lake plains and meltwater channels, which could be explored and interpreted. Reaching the southern end of Otter Lake, a potential trail route could cross a parcel that includes an unusual esker that formed inside the tunnel channel now occupied by Otter Lake. Parking is currently available on the southeast end of the lake.

Should the trail wind to the north side of Otter Lake to the county park, it could provide a view down the tunnel channel from that location. Islands visible from the lake's western shore are remnants of the esker mentioned above. Otter Lake County Park also provides a developed campground, potable water, parking, and restrooms.

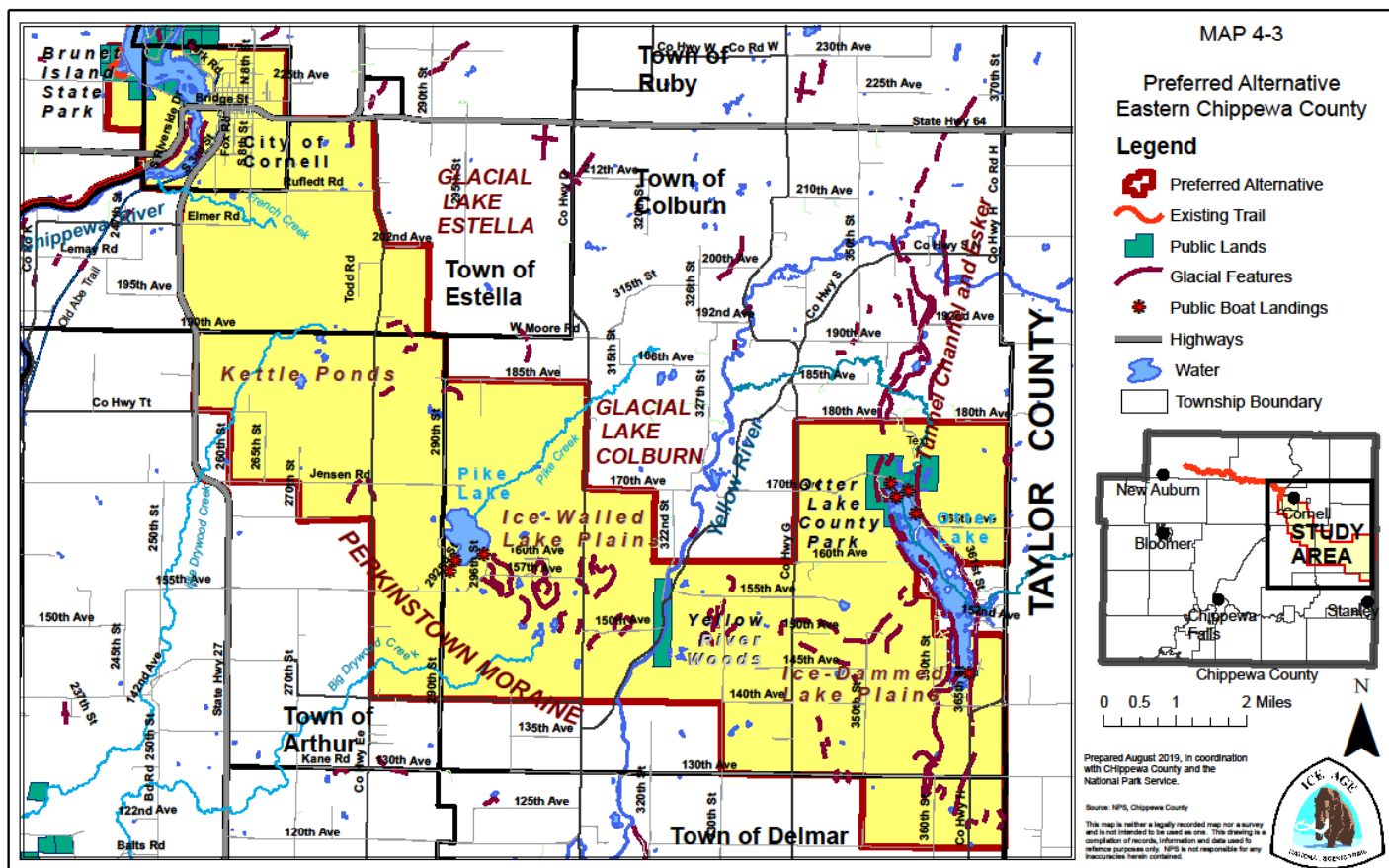
Whether a potential trail winds to the north or south of Otter Lake, it would encounter the Taylor County Line approximately 1/2 mile east of the lake. The Proposed Action ranges from 5 to 6 miles in width in this location, the widest in the alignment. The eastern edge of the proposed corridor is located long the Chippewa/Taylor County line and is bound by 180th Avenue on its north side, and 120th Avenue on the south side. The wide corridor here provides plenty of opportunities to route the trail and connect with the Ice Age Trail in Taylor County as it is developed.

4.4 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

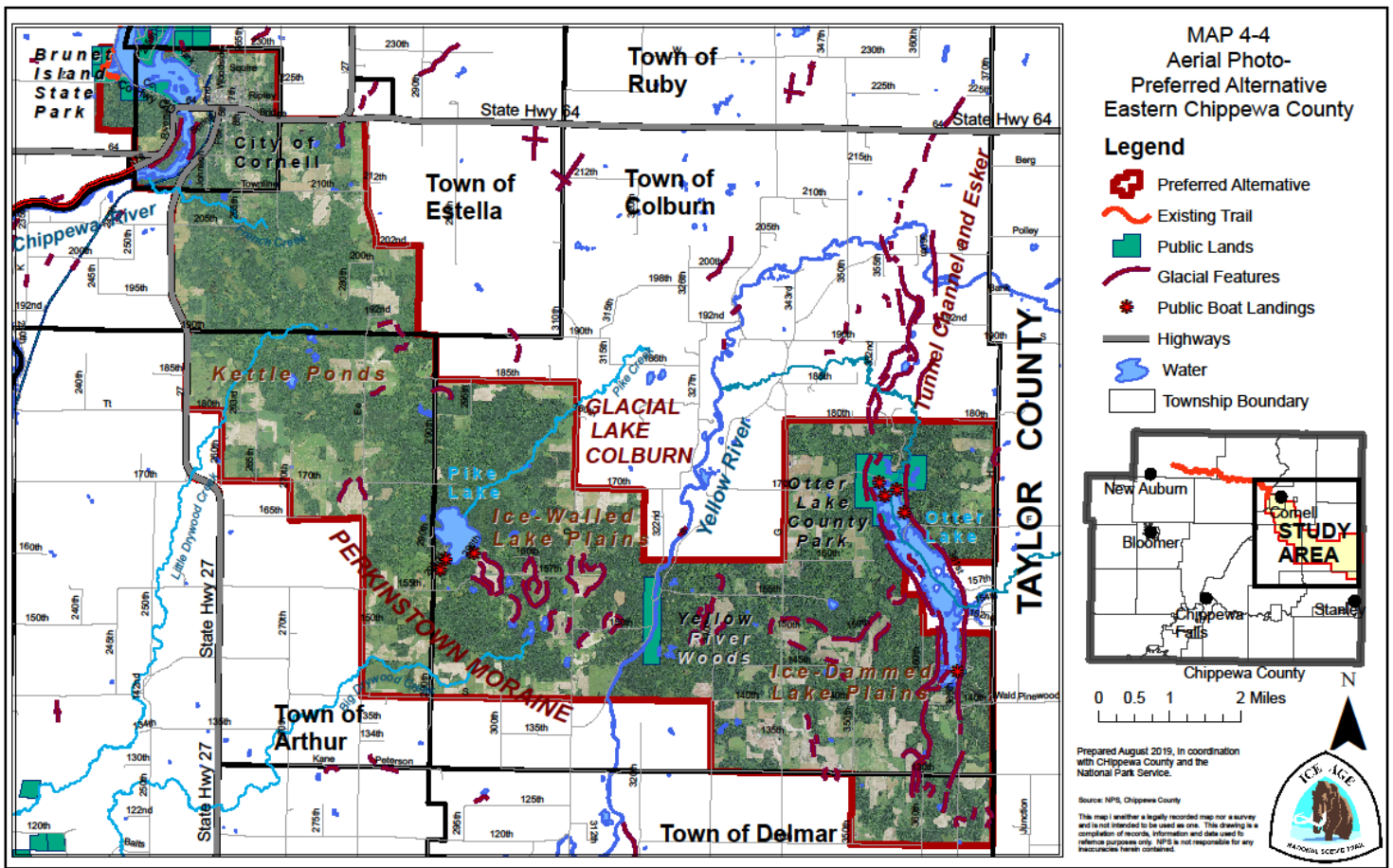
The Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508) and the DO-12 require the NPS to identify the alternative that best promotes the goals of Section 101 of the National Environmental Protection Act. The environmentally preferred alternative is defined by the CEQ as: "...the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ 1981).

Based on the above, The Proposed Action is the environmentally preferable alternative. The Proposed Action would best protect some of the geological, biological, and archeological resources within the corridor from development and would create a protected, undeveloped trailway of diverse habitats (both uplands and wetlands) that would best promote an increase in biodiversity.

The Proposed Action would also best increase public recreational opportunities and connect existing recreational resources. Securing a trailway in public ownership would help maintain existing wildlife, and in some cases may protect their habitat. It would also provide opportunities for local landowners and visitors to have access to the glacial features along the trail as well as enhance public awareness of Wisconsin's glacial landscape through interpretation of the glacial features.



Map 5- (Map 4-3) The proposed Action Alignment, Eastern Chippewa County



Map 6- (Map 4-4) The Proposed Action Alignment, Eastern Chippewa County, aerial

5 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

5.1 IMPACT TOPICS CONSIDERED

To comply with the NEPA and WEPA, an analysis of a proposed action 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.

Table 2: Impact Topics Retained and Dismissed

Table 2: Impact Topics Retained and Dismissed			
Resource	Retain	Dismiss	Rationale for Dismissal
Geology (Paleontology) Soils and Vegetation (Forestry, Rangeland, Farmland, Prime & Unique Farmland, Grazing Permits, Noxious Weeds, Invasives, Exotics, T&E, SSS, Fuels & Fire Management) Water Resources (Surface and Ground Water Quality & Quantity, Hydrology, Floodplains, Wetlands, Riparian, etc.) Wild & Scenic Rivers	X X X	 X	 There are no designated Wild and Scenic Rivers in the study area.
Air Quality		X	Air quality would not be affected as a result 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 as a result of implementing either alternative.
Wildlife (General Wildlife, Fisheries and Other Aquatic Species, T&E, SSS, Invasive Species, etc.) Recreation Resources (Visitor Use and Management, Visitor Experience, Visual Resources & Values)	X X	 	

Table 2: Impact Topics Retained and Dismissed

Resource	Retain	Dismiss	Rationale for Dismissal
Cultural Resources (Archeology, Ethnography, Historic Structures, Cultural Landscapes, Museum Collections, etc.)	X		
Native American Cultural Resources	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.
Recreation Resources (Visitor Use and Management, Visitor Experience, Visual Resources & Values)	X		
Human Health & Safety (Public Health, Traffic, Hazardous Materials Exposure, etc.)		X	Overall, implementing The Proposed Action would likely have beneficial impacts to human health as it would increase recreation opportunities; however it would be difficult to quantify those benefits.

5.2 IMPACT ANALYSIS SUMMARY AND ASSUMPTIONS

Ice Age NST is a partnership project that is created and managed by federal, state, and local units of government as well as private interests. The primary administrators of the Ice Age NST are the National Park Service, Wisconsin Department of Natural Resources and Ice Age Trail Alliance. This *Corridor Plan and Environmental Assessment* covers the requirements of the National Environmental Policy Act and Wisconsin Environmental Policy Act allowing the National Park Service and Wisconsin Department of Natural Resources to participate in the development of the Ice Age NST. The federal, state, and non-profit partner, referred to as the ‘Triad’ have a Memorandum of Understanding (MOU) that outlines each organization’s roles. The MOU is located in Appendix D.

The Ice Age NST is by law a non-motorized trail. It is managed by a number of public and private partners as a trail suitable for foot travel only. The Ice Age NST has *A Handbook for Trail Design, Construction and Maintenance* that guides its development. Construction standards call for a 24-inch tread, with an additional 1-foot vegetation clearance zone on either side. Ground disturbance would be limited to those areas where side slope benching is required to create a level tread. Total surface impacts are estimated to be less than ½ acre per mile of trail construction. Generally, trail construction and maintenance would take place using hand tools and volunteer labor.

5.3 GEOLOGY

5.3.1 Affected Environment – Geology

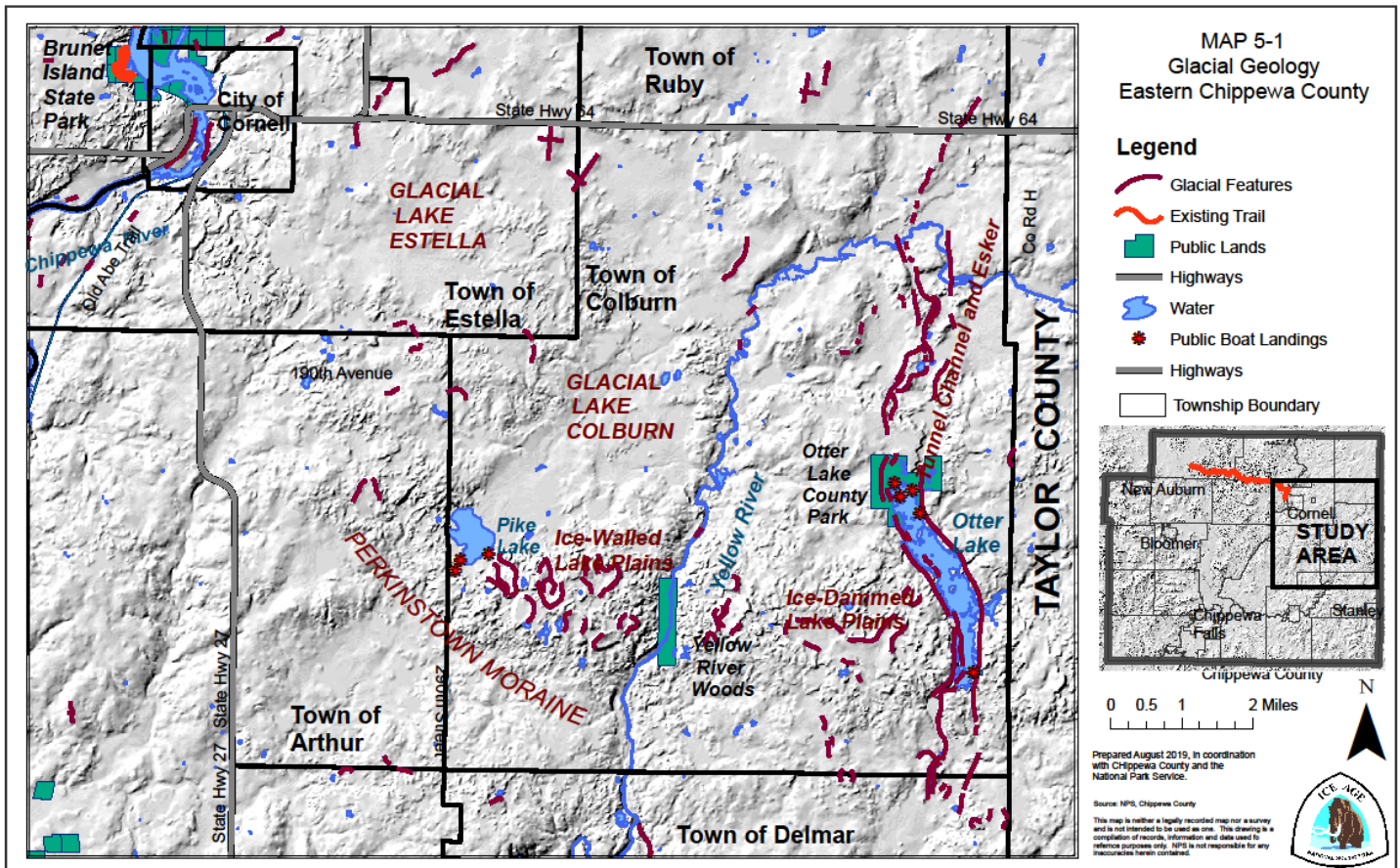
Chippewa County was glaciated many times during the Pleistocene Epoch, beginning with the Reeve Phase approximately 2 million years ago the Earth's climate began to periodically cool and warm. During the colder periods averaging 100,000 years each, ice sheets as much as three miles high at their centers 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 780,000 years. During the Foster, Baldwin and Dallas Phases around 130,000 years ago, the reddish-brown sandy loam till of the River Falls formation was deposited by the Superior and Chippewa Lobes of the ice sheet. Erosion has destroyed the original glacial topography associated with these early glacial phases (Syverson, 2007).

During the last part of the Wisconsin Glaciation, several phases of the Chippewa Lobe advanced and retreated over Chippewa County. The Early Chippewa and Stanley Phases, some 20,000 to 25,000 years ago, left few traces besides the subtle Stanley Moraine to the south of the proposed corridor. Between 18,000 and 20,000 years ago, the ice margin advanced and retreated forming the Perkinstown Moraine. During the Late Chippewa Phase, 15,000 to 18,000 years ago, the ice flowed into the county again and formed the high-relief Chippewa moraine (CCFCLUP 2006). The Chippewa Moraine Unit of the Reserve is located within the high-relief topography deposited during the Late Chippewa Phase of the Wisconsin Glaciation. The Ice Age NST project area in eastern Chippewa County focuses on the Perkinstown Moraine, deposited between the Stanley and Late Chippewa phases.

The Perkinstown moraine (Map-5-1) is a 2-5-mile-wide, low to moderate-relief hummocky end moraine extending from Cornell to Otter Lake and beyond into western Taylor County. This landform marks the maximum position of the ice approximately 18,000 to 20,000 years ago. The most common landforms in the moraine, hummocks and kettles, were formed when sediment on the ice surface was deposited as the underlying stagnant glacial ice melted to produce irregularly shaped hills (hummocks) and depressions (kettles). Ice-walled lake plains, ice-dammed lake plains, tunnel channels, eskers, drumlins and small meltwater stream channels are also present (Syverson, 2007).

Ice-walled lake plains are mesa-like hills that were once lakes on a melting glacier. These features formed in areas of stagnant, debris-covered glacial ice where steep-sided holes occasionally formed lakes. Streams flowing on the glacier deposited loads of sediment into the depressions. When the surrounding glacier melted, the sediment remained, and the former lake bottoms became flat hilltops. The region's surface topography varies from rolling plains to rugged hills and escarpments. The project area contains a number of ice-walled lake plains. The highest concentration of this glacial feature is found in a band between Pike Lake and Otter Lake in the Town of Colburn.

Another feature present in the project area are ice-dammed lake plains. As the ice of the Chippewa Lobe melted back from the moraines, ice dammed the low-lying areas to the east and north of the former ice-margin, creating ice-dammed lakes. Three such lakes were located in the eastern project area—Glacial Lakes Estella, Colburn, and Delmar. As the climate warmed, the ice dams melted and the water in the lakes drained away leaving behind flat, swampy lowlands underlain by peat, silt, clay, and fine-grained sand. These areas are called ice-dammed lake plains because of the way they were formed.



Map 7-(Map 5-1) Glacial Geology, Eastern Chippewa County

Tunnel channels are valleys formed subglacially by meltwater erosion. The only clearly defined example in the county is located within the project area and is occupied by Otter Lake. This tunnel channel cuts through the Perkinstown Moraine and is approximately 8 miles long, 0.25 to 0.6 miles wide and 80 to 100 feet deep. The largest esker in Chippewa County can be found in association with this tunnel channel. It extends from approximately 2.5 miles north of the Otter Lake tunnel channel south to Brownsville. This esker branches numerous times and forms the islands and peninsulas found on the western side of Otter Lake. The location of this esker within a tunnel channel represents a change in the glacial mechanisms which formed the two features—from subglacial erosion (tunnel channel formation) to deposition (esker formation) (Syverson, 2007).

5.3.2 Environmental Consequences on Geology

Geology: No Action

Under 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 enforce WEPA policies.

Under the No Action alternative, loss of significant geological features that are not currently protected may occur due to the continuation of current development trends, including new home construction, gravel extraction, and associated infrastructure such as new access roads. Statewide, significant portions of the terminal moraine are being developed because the soils, drainage, and views afforded on that specific type of landform make it a highly desirable building site. Home development on the moraine can create pressure for the extraction of gravel from the moraine and adjacent outwash plains.

Gravel extraction has already occurred on the Otter Lake Esker north of Otter Lake along the face of the moraine and in other isolated areas. For the Ice Age Trail, this is not considered desirable because it impacts the integrity of the glacial feature, the geologic story it has to convey, as well as the visual character of the landscape.

Without an identified corridor and a systematic approach to protecting a trailway that contains and represents the geologic story of the last glacial advance in Chippewa County, the No Action alternative could have long-term, adverse and regional impacts to these geological features, which are the fundamental resources and theme of the Ice Age NST. The lack of protection could make these significant resources inaccessible to the public, and may lead to their diminishment and/or destruction for future generations.

Geology: Proposed Action

One of the primary objectives of the Ice Age NST is to preserve and protect the most significant geological features left by the Wisconsin Glaciation. The Proposed Action would consist of a designated corridor within which an Ice Age NST trailway would be created. This would allow permanent protection of some of these geological resources from disruptive land uses while providing the public access to them. Acquisition within this corridor of areas larger than the trailway may at times be necessary to protect significant features. Broader public awareness might lead to greater support for their preservation.

A designated corridor would create greater recreational opportunities and contribute toward a continuous Ice Age NST that allows the public to directly experience and learn about the

diversity of geological resources found here and across the state. It would leave a legacy for future generations.

5.4 SOILS

5.4.1 Affected Environment – Soils

A soil association is a landscape that has a distinctive pattern of soils, relief, and drainage. It is typically named for the major soils even though it may contain other “minor” soil types. The soils of the project area all belong to the Spencer-Magnor-Almena Association. These are silty soils of the moraine, ranging from nearly level to sloping and moderately well-drained to somewhat poorly-drained. Soil types are taken into consideration when siting and constructing trail tread.

The Spencer soils are common within the project area. They are deep, moderately well drained soils formed mostly in loess or other silty deposits overlying loamy till on drumlins and ground moraines. Permeability is moderate in the silty mantle and slow or moderately slow in the till, with slopes ranging from 0 to 12 percent. The native vegetation associated with this soil is northern hardwood forests with scattered conifers. These soils are commonly cultivated for crops, and have only “slight” restrictions for trails and paths.

Magnor soils are very deep and somewhat poorly drained. They formed in loess or silty lacustrine deposits and in the underlying dense sandy loam till mostly on ground moraines, end moraines, disintegration moraines, drumlins, and glacial lake plains. Permeability is moderate in the silty mantle, moderately slow or slow in the till subsoil, and very slow in the substratum with slopes ranging from 0 to 6 percent. The native vegetation found on these soils is deciduous forest. These soils can have “severe” limitations on development, as they can be very wet.

Almena soils are found on flats, toe slopes, and foot slopes on ground moraines and consist of 40 to 60 inches of loess or other silty alluvium. Its texture is that of loam, fine sandy loam, loam, gravelly sandy loam, gravelly fine sandy loam, or gravelly loam. The native vegetation is mixed deciduous and coniferous forest. These soils can have “moderate to severe” limitations on development due to wetness.

5.4.2 Environmental Consequences on Soils

Soils: Alternative 1-No Action

Under Alternative 1, 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, which could have adverse impacts to soils, including erosion, and compaction.

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. Impacts to soils would depend on where and how other entities choose to build the trail.

Soils: Proposed Action

Under the Proposed Action, utilizing NPS, WDNR, and IATA multi-disciplinary natural resource and trail building experts, the trail alignment 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. For example, soils that are very rocky or frequently wet would be avoided as they create difficult hiking conditions.

During construction, best management practices would be used to limit the area and scope of disturbance. Erosion control techniques such as sidehill construction, waterbars and drainage dips would be employed. If the trail must cross a wet area, planking or bridges would be used to minimize adverse impacts.

In addition, monitoring of the trail by volunteer trail maintainers will identify any cumulative erosion problems so that appropriate erosion control actions can be taken. The NPS, in conjunction with the WDNR and the IATA, has developed the *Ice Age National Scenic Trail, A Handbook on Trail Design, Construction, and Maintenance* that provide standards for trail development. This handbook is used by all volunteer trail builders, as well as other guidance and materials provided by NPS and partners regarding health and safety, vegetation management, etc. Also, the Ice Age Trail Alliance has a “Mobile Skills Crew” that trains volunteers to build sustainable trail with minimal environmental impacts. For more information about the handbook, see Appendix B–Trail Development and Management.

Overall, the Proposed Action would have negligible, short-term adverse impacts during construction, which would be localized. Adverse impacts would be minimized through best management practices. In the long-term, however, the trail could have a beneficial impact on soil conservation in the region as it could limit development in sensitive areas.

5.5 VEGETATION

5.5.1 Affected Environment – Vegetation

Forest Communities/Ecosystems Chippewa County is considered part of the Western Upland and Northern Highland physiographic provinces of Wisconsin. The overall species composition of the proposed corridor’s plant communities has been greatly altered from pre-settlement conditions over time and will continue to be affected by environmental, economic, and social factors. Public Land Survey records show that in the 1850s and 1860’s, the Perkinstown End Moraine which is the focus of all the alternatives, contained northern hardwood species dominated by eastern hemlock with sugar maple and yellow birch along with many other species including eastern white pine, jack pine, and cedar (Schulte, 2002). The area was logged in the 19th century mainly for eastern white pine of high value. The harvest of jack

pine for pulpwood began around 1910. Following this, demand for hardwoods increased, and this area was again harvested, most often by clear cutting. Today's forest is dominated by red maple and sugar maple with relatively little hemlock, eastern white pine or cedar. (Stoltman, 2007). The study area includes two of the ecological landscapes found in Wisconsin; the Northern Central Forest and Forest Transition Ecological Landscapes. Ecological landscapes are ecoregions that have similar ecology and management opportunities. Each ecological landscape encompasses a variety of natural communities that range in size from less than an acre to thousands of acres.

The project area in the Northern Central Forest Ecological Landscape, which is characterized by end and ground moraines with northern hardwoods, small creeks, kettle lakes and associated large wetlands. Forest vegetation is primarily made up of a mix of sugar maple, basswood and red maple, and some hemlock, white pine and red pine. Tamarack, white cedar, black ash and black spruce are present in the conifer swamps (WDNR 2015). The major land use is timber for pulp production, however there is marginal agriculture with some dairy farms using pastures (LCRBR, 2001).

A small incursion of Farm and Forest Transition Ecological Landscape is found near Cornell, characterized by a mix of forest, agriculture and swamp in the transition zone between northern forests and central hardwoods. Forest vegetation is mainly northern hardwood forest dominated by sugar maple and hemlock with some yellow birch, red pine and white pine. There are small areas of conifer swamps near the headwaters of streams. Major land uses are agriculture and forestry. Agriculture is focused on dairy farming, row crops, and pasture (LCRBR, 2001).

The Chippewa County Forest Yellow River Woods unit, located near the center of the project area, includes a 1-mile flowing section of the Yellow River. There are also depressions with ephemeral and permanent ponds, a hardwood swamp, and sedge meadow on the property (CCFCLUP, 2006). The unit is included in the Wisconsin Land Legacy Report (WLLR, 2005) which identifies places important in meeting Wisconsin's conservation and recreation needs over the next fifty years and where protection efforts should be focused. This property is noted for having high quality native plant communities which sustains two Special Concern species: broad beech fern and sapling butternuts. The property also supports hemlocks, an uncommon species in the county forest.

According to the local WDNR forester, oak wilt and gypsy moth are the two main forest health issues. Oak wilt is caused by a fungus, a slow-moving disease spread primarily through root contact that can spread through a stand, killing all infected trees. The gypsy moth is a non-native moth with few natural predators that can eat almost any type of tree or shrub, but prefer oak, and aspen.

Threatened and Endangered Species and Species of Concern--Vegetation: The NPS began informal consultation with the U.S. Fish and Wildlife Service (USFWS) regarding threatened and endangered species in the project area in June 2005.

At the state level, there are several plant communities and individual species found in and near the project area that are of special concern. Communities of concern include the northern mesic and dry-mesic forest types, and emergent marsh. Chippewa County's Yellow River Woods unit was determined to contain both northern mesic and northern dry-mesic forest, and two plant species of concern—the broad beech fern and butternuts (CCFCLUP, 2006). Also noted within the project area are the northern yellow lady's slipper orchid, hidden-fruited bladderwort, Assiniboine sedge and bog bluegrass.

Invasive Vegetation Species: As defined in 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 to human health.” The State of Wisconsin also has an invasive species rule—NR 40—which makes it “illegal to possess, transport, transfer, or introduce certain invasive species in Wisconsin without a permit.”

According to the agriculture specialist at the Chippewa County University of Wisconsin Extension, in the eastern portion of the county where the project area is located, the primary invasive species of concern includes: buckthorn, Canadian thistle, garlic mustard, poison hemlock, spotted knapweed and wild parsnip.

5.5.2 Environmental Consequences on Vegetation

Vegetation: No Action

Under 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.

Forest Communities/Ecosystem: Similar to geology, potential beneficial impacts as a result of deliberate conservation of certain forested areas may or may not happen.

Under the No Action, if the trail is developed opportunistically by others who may obtain handshake permission from private landowners to build the trail across their property, the ecosystem may temporarily benefit if the trailway is wide enough; however, this is not usually the case. Changing land ownership and development would always be a threat, causing an adverse fragmentation of the trailway and ecosystem.

Threatened and Endangered Species and Species of Concern--Vegetation: Under the No Action, if the trail is built by others without coordination with USFWS and WDNR Bureau of Natural Heritage Conservation (BNHC), the result could be unintentional adverse impacts to threatened and endangered species and habitats.

Invasive Species: Under the No Action, development of the trail would be more opportunistic. The state would have the responsibility of adhering to best management practices and would rely on the WDNR and County land managers, to help identify a route that would have the least impact on advancing invasive species.

Current land uses and development may also contribute to invasive vegetation allowing its spread through the use of heavy equipment; it would be up to local entities to implement measures of control or eradication.

In summary, if there is no approved Corridor of Opportunity for the Ice Age NST, then access to federal and state funding to create the trail would be limited. Progress toward developing a continuous, protected green trailway would slow down or may not occur. If there are no or short, discontinuous trail segments, then benefits of having a protected continuous trailway for the Ice Age NST and the associated focus on vegetation restoration and invasive species management may not occur. Depending on development trends/pressures in some areas, this could lead to potentially adverse regional and long-term impacts to soils, forest communities, and species of special concern, with the intensity commensurate with the level of development.

Vegetation: Proposed Action

Forest Communities/Ecosystem: Under Alternative-4, development of a green trailway would have less adverse environmental effects than many of the existing land use trends. Current agricultural land practices make the soils prone to erosion and use of petro-chemicals may have a negative effect on land and wildlife health. 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.

Further land acquisition and development of the Ice Age NST into adjacent counties and beyond will extend the protected trailway. This would enhance biodiversity, avoid future fragmentation of the trail, and serve as a wildlife corridor.

Threatened and Endangered Species and Species of Concern -- Vegetation: The National Park Service, United States Fish and Wildlife Service (USFWS), and Wisconsin Department of Natural Resources (WDNR) have a review process in place to avoid impacting threatened and endangered species with the construction of the Ice Age NST state-wide including Chippewa County. This process occurs in two phases. The first is a broad review of the alternative trail corridors for endangered and threatened species when the planning process is carried out. A more detailed review would occur when trail developers design a specific alignment for the trail in preparation for construction. Both reviews are coordinated with the USFWS and WDNR Bureau of Natural Heritage Conservation (BNHC).

With this process in place, the Proposed Action would not adversely impact any state-or federally listed species of concern and depending on specific circumstances may protect sensitive resources. Consultation and coordination would include formalizing stipulations during

construction activities that may include the avoidance of certain areas during specific times of the year.

Invasive Vegetation Species: Invasive species are currently spreading into ecosystems. Under all of the alternatives it is possible that a non-native species could be introduced within the trailway. Under the Proposed Action, planned and coordinated development and maintenance of the Ice Age NST would occur, which would include monitoring and mitigation of 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, WDNR staff. Control of invasive non-native vegetation into native ecosystems would provide a long-term beneficial effect.

A federal and state approved Ice Age NST corridor would allow federal and state agencies to provide funding to acquire lands to protect a trailway for the Ice Age NST. A protected trailway would have beneficial long-term 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 Wisconsin Department of Natural Resources, Bureau of Endangered Resources in May 1997. The publication is available on line through the department's Web Site: <http://dnr.wi.gov/topic/Invasives/control.html>. Best Management Practices for invasives may also be found on the following links:

- <https://dnr.wi.gov/topic/Invasives/bmp.html>
- <https://councilonforestry.wi.gov/Pages/InvasiveSpecies/Recreation.aspx>
- <https://dnr.wi.gov/topic/Invasives/documents/pedestrian1.pdf>
- <https://www.mipn.org/>

A wayside 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.

5.6 SURFACE & GROUND WATER RESOURCES

5.6.1 Affected Environment - Surface & Ground Water Resources

The undulating glacial terrain, which is most predominant in the northern portions of the county, is generally wooded and contains most of the county's 450 named lakes. This area also serves as the headwaters for numerous trout streams. Major water resources in the project area include the Chippewa and Yellow Rivers. The Chippewa River has a deep, steep canyon, relating to its history of glacial outburst floods as it drained Glacial Lake Duluth, the glacial-era predecessor of Lake Superior. Other notable water resources include Pike Lake and Pike

Creek, Otter Lake and Otter Creek. The area also includes a handful of small, often intermittent, tributary streams including French, Little Drywood and Big Drywood Creeks.

The Chippewa is a classic example of a multi-purpose river. Historically, the river was important as a floatway for lumbering and papermaking. Today people fish, boat, camp, hike, bike, snowmobile and swim on or along the river. It provides healthy habitat for aquatic plants and animals and assimilates wastewater from municipal and industrial discharges and generates electricity from hydropower dams (LCRBR, 2001). The Chippewa River, along with the Yellow River, flows into Lake Wissota.

The project area includes two significant lakes, Otter Lake and Pike Lake, both located in the Town of Colburn. Otter Lake has a surface area of 661 acres with a maximum depth of 46 feet. The lake encompasses several small wooded islands which are the remnants of an associated esker. The lake supports northern pike, largemouth bass, crappie, walleye and bluegill. Otter Creek flows into the lake, which is also fed by several springs; however, since the principal source of water is precipitation or runoff, it is considered to be a seepage lake (WDNR, 2005). Seepage lakes commonly reflect groundwater levels and rainfall patterns, so water levels may fluctuate seasonally. According to the WDNR, the only water body in the proposed corridor that has been listed on the state's 2012 Impaired Waters list as required by Section 303(d) of the federal Clean Water Act is Otter Lake, due to concerns with phosphorus.

Pike Lake, at 192 acres, is located near the intersection of County Road EE and 155th Avenue. The lake has a maximum depth of 38 feet. It supports northern pike and largemouth and smallmouth bass, bluegill, and crappie. Although Pike Creek flows into the lake it is also considered to be a seepage lake, with a shoreline described as "indefinite" due to fluctuating water levels. (WDNR, 2005).

French Creek begins just east of County Hwy EE and generally flows west until it reaches the Chippewa River approximately 1.5 miles south of Cornell. Little Drywood Creek flows south from just east of County HWY EE north of 190th Avenue to reach the Yellow River west of Cadott.

Wetlands are common in eastern Chippewa County. Some are large enough to be permanent while others are small shallow marshes that dry up seasonally. Many of the small stream corridors include forested wetland complexes of varying widths and lengths. These diverse wetland complexes support a rich diversity of wildlife, fish and plant species. Many are associated with groundwater discharges and springs. The wetlands temporarily store floodwaters to help reduce flooding, absorb sediments and nutrients in their plant communities and provide extensive recreational areas.

5.6.2 Environmental Consequences on Surface & Ground Water Resources

Surface & Ground Water Resources: No Action

Under 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, which could have adverse long-term impacts to water resources, if best management practices are not enforced.

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 and other state water protection policies.

Surface & Ground Water Resources: Proposed Action

The Proposed Action would incorporate kettle lakes, streams, marshes, and wetlands. Constructing the trail around these water features affords the opportunity to preserve them as well as interpret their significance within the landscape.

This proposed action would employ sustainable water crossing structures where water and wetlands cannot be avoided or where water features are included as part of glacial interpretation. Bridges would be constructed to span creeks and streams, and boardwalks over wetlands. The construction and placement of structures and fill materials in wetlands is subject to state and federal regulation.

Wisconsin State Law under NR 1.95 and NR 103 of the Wisconsin Administrative Code regulate the construction of trails 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 U.S. Army Corp of Engineers and the Environmental Protection Agency also regulate construction in wetlands. Permits must be obtained under Executive Order 11990, Protection of Wetlands, to avoid, where possible, impacts to wetlands.

During construction, there could be some negligible short-term adverse impacts to water resources as a result 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.

Ongoing monitoring of water crossing structures by IATA volunteers and a variety of staff would identify and alleviate issues that may come up over time. Historically, they have not been a problem.

5.7 WILDLIFE

5.7.1 Affected Environment – Wildlife

General Wildlife: According to the WDNR Natural History Inventory, Chippewa County is home to a wide range of animal species. The mixture of woodlands, croplands, and wetlands provides excellent habitat, cover and food source for many species, both game and non-game. Each species or group of species thrive under different conditions ranging from recently

disturbed ground to old growth forest. Deer, bear, fox, coyote, fish, waterfowl, ruffed grouse, woodcock, turkey, wolves, rabbits, beaver and other rodents are common (CCFCLUP, 2006).

Fisheries: The lakes of the study area, Pike Lake and Otter Lake, contain a variety of warm water fish species such as northern pike, both large and small mouth bass, crappie, and bluegill. Every other year Otter Lake is re-stocked with walleye.

A wide variety of fish are found in the Chippewa River and its flowage north of Cornell. Muskellunge are stocked every two years; channel catfish, flathead catfish and northern pike are present. Panfish populations are limited to the slower, less riverine stretches. Other species include walleye, small mouth bass, and yellow perch. The Yellow River, a tributary of the Chippewa River, lacks the dams and slack waters that are present in other portions of the Chippewa River. Panfish populations are limited with walleye and smallmouth bass being the most sought after.

Wildlife--Threatened and Endangered Species and Species of Concern:

Section 7 of the Endangered Species Act of 1973 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 if they determine their project “may affect” 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 Endangered Species Act of 1973.

The NPS began informal consultation with the U.S. Fish and Wildlife Service (USFWS) regarding threatened and endangered species in Chippewa County in June 2005. The current list (August 2020) for the project area indicates the possible occurrence of the following threatened and endangered species: Northern Long-eared Bat (threatened), Karner Blue Butterfly (endangered) and Spectaclecase (endangered). There are also 14 birds of concern that are protected under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act—Bald Eagle, American Bittern, American Plover, Black Tern, Black-billed Cuckoo, Bobolink, Cape May Warbler, Golden Winged Warbler, Least Bittern, Lesser Yellowlegs, Olive-sided Flycatcher, Red-headed Woodpecker, Semipalmated Sandpiper, and Wood Thrush.

At the state level, there are several special status species found in and near the project area that occur in and around wetlands and streams including the bog fritillary butterfly, sand snaketail dragonfly, four-toed salamander, Blanding’s turtle, northern ringneck snake, lake sturgeon, round pigtoe and purple wartyback mussels.

5.7.2 Environmental Consequences on Wildlife

Wildlife: No Action

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, which could have adverse long-term impacts to wildlife.

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 and its associated wildlife management policies.

Under the No Action, the NPS would not be involved in the development of the trail, and attaining a continuous, permanently protected corridor may or may not occur. As with other resources, potential beneficial impacts as a result of deliberate conservation of certain habitat areas would be up to local and state entities. If others acquire land and build the trail, then impacts to threatened and endangered wildlife species would be dependent on compliance with state laws and policies.

Wildlife: Proposed Action

A continuous trail through Chippewa County would help to preserve open space and sensitive habitats, which would have beneficial long-term impacts on wildlife. During construction, some negligible, short-term, adverse impacts to wildlife 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. Ice Age NST advocates and managers have observed that its users are concerned and aware of the habitats and environments surrounding the trail and take great precautions to preserve it.

While there have been no direct studies on protected Ice Age NST in other counties, other studies have shown that wildlife corridors provide much needed linkages between suitable native habitat versus non-native habitats. The Ice Age NST as a wildlife corridor would allow species to navigate around 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 beneficial local and regional impacts.

Fisheries: Similar to impacts under water resources, The Proposed Action would have some negligible, short-term adverse impacts to fisheries during construction activities as a result of 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.

Threatened and Endangered Species and Species of Concern: Impacts would be the same as for general wildlife described above. Since all participation by landowners is voluntary, it is difficult to evaluate impacts to sensitive species until lands are acquired for the trail. When a potential location for the Ice Age NST is found, coordination and consultation with WDNR and USFWS is on-going throughout final trail design and construction.

5.8 RECREATION RESOURCES

5.8.1 Affected Environment – Recreation Resources

Included in this topic are recreation resources such as the physical amenities existing and proposed as part of the trail, as well as the resources and values such as the user experience, including important viewsheds.

County-wide there are 43,000 acres of public land with abundant opportunities for hiking, biking, fishing, hunting, golfing, cross-country skiing, snowmobiling, and other recreational activities. The Chippewa County Forest, with over 33,000 acres under management, is the largest public land holding agency. The County Park system includes parks, picnic areas, boat landings, waysides, and both motorized and non-motorized recreational trails. The Wisconsin DNR manages approximately 7,500 acres including three State Parks, several scattered state wildlife areas, state natural areas, state fishery areas and access along many trout streams.

There are currently four certified segments of the Ice Age NST in Chippewa County. The Chippewa River Segment begins near the city of Cornell and leads west to the Firth Lake Segment which features eleven bridges and crosses a 500-foot boardwalk over an old beaver dam. The 5-mile Harwood Lakes Segment is dotted with many trailside benches and bridges built by the Wisconsin Conservation Corps offering views of the Mud Brook Valley and Harwood Lakes. The Chippewa Moraine segment highlights numerous ice-walled lake plains and kettle ponds before merging with trails from the Chippewa Moraine Ice Age National Scientific Reserve (Reserve). The Visitor Center at the Reserve, located atop an ice-walled lake plain, is open year-round and features exhibits, maps, potable water, and helpful staff. Beyond the Visitor Center and Reserve boundary, future Ice Age Trail segments will eventually wind north and west towards Rusk County.

Public lands comprise a small portion of the project area. They include: Brunet Island State Park, the Old Abe Recreational Trail, Otter Lake County Park, and a small county forest holding along the Yellow River. Private recreational facilities can be found at Pike Lake near the center of the project area.

Brunet Island State Park and the Old Abe State Trail are in close proximity to the northwest corner of the project area. The 1,030-acre Brunet Island State Park is located where the Fisher and Chippewa Rivers meet just north of Cornell. The main park development lies on an island in the Chippewa River and is open seasonally through the summer months. Facilities include 69 campsites, picnic areas, electricity, shelters, flush toilets, playgrounds, athletic field, swimming beach and hiking trails. In winter, the park maintains four miles of cross-country ski trails. The

city of Cornell serves as the northern trailhead for the Old Abe Trail, a 20-mile long, multi-use trail designed for hiking, biking and snowmobiling. It winds along the Chippewa River from Brunet Island State Park to Lake Wissota State Park.

Otter Lake County Park occupies the north shore of Otter Lake near the eastern edge of the project area. The park has 22 rustic campsites, a swimming beach, picnic area, boat launch, restrooms, and firewood for sale. A state snowmobile trail runs along the lake's east side. The park also contains a .5-mile hiking trail and .5-mile nature trail. Small privately-owned businesses are located near the lake; a general store/bait shop is situated on the lakes' east side, and another restaurant/bar is located on its' south side. Parking opportunities can be found within the county park and on the south end of the lake.

The Pike Lake Resort and Ballroom is located on the west side of Pike Lake. The resort has cabins, boat rentals, and a public boat launch. A private campground is located on 292nd Street just south of the lake.

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

Support facilities such as parking, trailheads, and overnight accommodations can be found at the public use/park sites described above. There is also parking at the Ice Age NST trailhead on County Trunk CC, and street side parking in the city of Cornell. Supplies, overnight accommodations, medical facilities, grocery stores, sporting good stores, and a diversity of restaurants, are found in the cities of Cornell and Stanley. For hiker and landowner convenience and consideration, additional parking and trailheads will be provided once trail segments are established.

Statewide, as part of the 2011-2016 Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP), researchers completed a survey of state and local recreation plan recommendations. From this survey, the Ice Age NST was found to be a desirable feature across the state. A "lack of access to public lands" was identified as a primary environmental barrier for increased physical activity and outdoor recreation. In the report, recreation compatibilities were assessed for a number of common recreation uses across the state. Through this work it was found that hikers view hunting as an activity antagonistic to their own. From the hunters' perspective, however, hiking has a neutral, supplementary interaction with hunting. These findings suggest that hiking and hunting—as well as other potential trail uses—can be compatible given proper planning and management of user interactions.

5.8.2 Environmental Consequences on Recreation Resources

Recreation Resources: No Action

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, which could mean no new significant additional recreation resources may be developed beyond what already exists.

If 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.

Recreation Resources: Proposed Action

Completion of the Ice Age NST through eastern Chippewa County would enhance public awareness of Wisconsin's glacial landscape through interpretation of the glacial features, and would also connect the county with an outstanding, statewide, recreational trail system. The trail could provide links from the city of Cornell and to Otter Lake County Park, and county property along the Yellow River. It would be used primarily for hiking as well as for bird watching, interpretive walks, and snowshoeing. The trail could link current publicly owned recreation resources such as Brunet Island, Otter Lake County Park and Yellow River.

Proposed Action could, over time, protect land within the trail corridor from development as the trailway would typically include an area greater than the width of the trail itself, protecting portions of the surrounding landscape and associated viewsheds. A planned corridor for the trail would ensure that possible trail route options are evaluated to 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. Depending on the eventual trail location, scenic overlooks may include views of the Chippewa River and its steep valley, and unspoiled stretches of the Yellow River. The mixture of forest and agricultural lands provide a constantly changing environment. The fields and pastures make it possible to clearly recognize the dense cluster of ice-walled lake plains located between Pike and Otter Lakes. Another outstanding visual resource includes beautiful Otter Lake, its islands, and the tunnel channel it now occupies.

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 landowners.

Overall, The Proposed Action 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 segments located west of the study area in the Chippewa Moraine Unit of the Ice Age National Scientific Reserve as well as an important connection to the east in Taylor County where currently there are 42 miles of certified Ice Age NST.

5.9 CULTURAL RESOURCES

5.9.1 Affected Environment – Cultural Resources

Chippewa County was established in 1848 as one of the original 28 counties of Wisconsin. The area has a rich history of early settlement by the Canadians, French, some English, Irish and Scottish. Germans, Polish, Norwegians, and Czechoslovakian came somewhat later. Dairying became an important agricultural activity by the turn of the last century.

The city of Cornell, located at the confluence of the scenic Chippewa and Fisher Rivers, was originally called Brunet Falls after Jean Brunet, one of the most noteworthy pioneers of the Chippewa Valley. He built the first dams on the Chippewa River at Chippewa Falls and Brunet Falls. The city was later re-named after Ezra Cornell, the founder of Cornell University in New York. Both the university and the Cornell family owned large tracts of land in Wisconsin.

Within the project area, only the Pulpwood Stacker in Cornell is listed on the National Register of Historic Places. Built in 1911-12, this impressive 247-ft. long 175-ft. high counter-weighted piece of machinery is the forerunner of today's monster lifting cranes. The structure was designed by the Joor Engineering Company of England and manufactured by the Minneapolis Tool and Machinery Company. The stacker moved large quantities of pulpwood logs into massive woodpiles. An important technological innovation, the Pulpwood Stacker is the only known example of this type of paper mill machinery remaining in the United States. Today it still towers over the community's Mill Yard Park as a reminder of the booming mill town days. Mill Yard Park is also the site of the Cornell Visitors' Center and Native American Museum.

Additional older structures and homes that may qualify for the National Register of Historic Places are found in the area, though they are located outside the proposed corridor.

5.9.2 Environmental Consequences on Cultural Resources

Cultural Resources: No Action

Under the No Action alternative, the NPS would not participate in the development of the trail which 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. Impacts to cultural resources would depend on local and state preservation and protection initiatives.

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 its associated cultural resources policies, including coordination with its State Historic Preservation Office.

Under the No Action, if other entities built the trail then they would need to follow Section 106 of the National Historic Preservation Act and contact, consult and coordinate with the National Park Service and affected Tribes. 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 National Register of Historic Places.

Under the No Action alternative, if there is no approved corridor and trail construction occurs opportunistically without Section 106 coordination, then there is a higher potential for adverse impacts to cultural resources. The No Action alternative could have long-term, localized and adverse impacts to cultural resources. Potential beneficial impacts as a result of constructing the trail may or may not happen. A newly constructed trail would not be designated as National Scenic Trail, until compliance is fulfilled. If built trail was found to impact resources, it would need to be moved.

Should other entities take on the project, these adverse effects would hopefully be mitigated, but it is unclear to what extent.

Cultural Resources: Proposed Action

The NPS and State Historic Preservation Officer (SHPO) have a Programmatic Agreement that outlines how the NPS will carry out Section 106 regarding the Ice Age and North Country National Scenic Trails in the State of Wisconsin. In general, there are two situations where Section 106 is triggered: the Corridor Planning Process and individual trail segment construction and maintenance. The agreement outlines the stipulations for meeting requirements (see Appendix E—Programmatic Agreement between the US Department of Interior, Ice Age and North Country NSTs and the Wisconsin State Historic Preservation Officer).

Through the Corridor Planning Process, 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, impacts of the proposed project and mitigation measures will be assessed. Copies of all survey reports are provided to the SHPO and Tribal Historic Preservation Officers (THPO) for their records.

The Proposed Action 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 this corridor. It also identifies historic sites for interpretation that would enrich the Ice Age NST user's experience.

5.10 NATIVE AMERICAN CULTURAL RESOURCES & CONCERNS

5.10.1 Affected Environment – Native American Cultural Resources & Concerns

People have lived in what is now Wisconsin for 10,000 years. Native Americans of the Late Woodland culture (700 BCE – 1300 CE) built between 15,000 and 20,000 effigy mounds, mostly in the southern part of the state, of which approximately 4,000 remain today. A village-based, agrarian culture called the Oneota began its ascendancy around the year 1200. The tribal nations located in Wisconsin today include descendants of the Oneota and tribes that migrated from the east.

At the time of European contact, the Chippewa River Valley was contested land between the Lake Superior Chippewa (also known as the Ojibwe or Anishinaabe) and the Sioux (Dakota). A treaty in 1825 established boundaries between the Dakota, Ojibwe, and Winnebago (Ho-Chunk). The Dakota moved west beyond the Mississippi River following a treaty in 1837 and the area was fully settled by the Ojibwe (Randall, 1875).

There are no tribal lands within the planning area, however, Chippewa County lies entirely within the Ceded Territory – an area of more than 20,000 square miles of tribal land ceded by the Lake Superior Chippewa to the United States in 1837 and 1842. Most of the remaining Ojibwe tribal lands are located some distance away from the project area, including the reservations of the Bad River, St. Croix, Lac Courte Oreilles, Mole Lake, and Lac du Flambeau Bands. There are also Ho-Chunk tribal lands and properties in the region.

As part of the planning process, each of Wisconsin's federally recognized tribes was contacted. No specific issues were raised. In the past, the ability to exercise treaty rights in the Ceded Territory was identified as a concern, so it has been included in this analysis.

Coordination and consultation will continue throughout the planning process.

Ceded Lands

Wisconsin's native tribes retain their right to hunt, fish and gather within their former territories as a matter of federal treaty. The maintenance of these rights is comparable to a conservation easement and the off-reservation lands are known as ceded lands. Nothing in this plan or its implementation is intended to modify, abrogate, or otherwise adversely affect tribal reserve or treaty-guaranteed rights.

5.10.2 Environmental Consequences Native American Cultural Resources & Concerns

Native American Cultural Resources & Concerns: No Action

Under the No Action alternative, a 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 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 associated policies related to tribal consultation.

Native American Cultural Resources & Concerns: Proposed Action

The NPS and SHPO have a Programmatic Agreement that outlines how the NPS will carry out Section 106 regarding the Ice Age and North Country National Scenic Trails in the State of Wisconsin. In general, there are two situations where Section 106 is triggered for both trails. They are the Corridor Planning Process and individual trail segment construction and maintenance. The agreement outlines the stipulations for meeting requirements. (See Appendix E—Programmatic Agreement between the US Department of Interior, Ice Age and North County NSTs and the Wisconsin State Historic Preservation Officer).

Through the Corridor Planning Process, 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. 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 cultural properties and archeological resources. If necessary, additional resource surveys are undertaken to locate and avoid potential resources. Copies of all survey reports are provided to the SHPO and TPHOs for their records.

5.11 SOCIOECONOMICS

5.11.1 Affected Environment - Socioeconomics

Within Chippewa County there are 23 unincorporated towns, four villages and five cities. The predominant land use in the study area in rural Chippewa County is farmland interspersed amongst woodlands, with dairy farming being an important contributor to the local economy. Agricultural crops include silage, hay and corn.

The city of Chippewa Falls is the county seat and is the second largest city in the county with a population of 13,000. The proposed corridor's largest community, the city of Cornell, has a population of 1,500 and is located at the confluence of the scenic Chippewa and Fisher Rivers along State Highway 47; it is 115 miles from Minneapolis/St. Paul; 45 miles from Eau Claire; 190 miles from Madison; 280 miles from Milwaukee; and 370 miles from Chicago. State Highways 64 and 27, plus the Scenic "River Road", Highway 178, provide easy access to this area.

Aside from the city of Cornell, the bulk of the proposed corridor's local economic activity is centered around agricultural pursuits, including farming, dairy, and forestry. Cornell itself has a diverse mixture of private employers including construction and engineering firms, restaurants, and auto repair services. Much of the corridor's non-farming workforce commutes to Eau Claire and Chippewa Falls for jobs in the service sector, particularly in the health care industry. County-wide, the top employment sectors are construction, agriculture and healthcare.

While Chippewa County is technically part of the Census Bureau's Eau Claire Metropolitan Statistical Area, aside from Eau Claire and Chippewa Falls, the county is decidedly rural. The two urban areas attract corporate offices, specialized medical and education facilities and financial institutions along with higher paying jobs. Generally, socio-economic and population growth is greatest in the urban areas; however, within the rural part of the county the growth rates are below the rest of the state.

Communities and Businesses: The project area includes 4 of the county's 23 towns: Arthur, Colburn, Delmar, and Estella. The city of Cornell, with a population of 1,500 is the only incorporated community within the proposed corridor. Overall, the county's population has grown at nearly twice the rate of the state. These increases have occurred almost exclusively in the urbanized areas. Throughout the county, the rural farm population has been steadily decreasing since 1960. Population projections through 2025 for the Town of Arthur shows a population decrease of 20 residents over the next 15 years. The projections for the towns of Colburn and Delmar show no net change. The city of Cornell is projected to lose approximately 75 residents. Only the Town of Estella is expected to have a positive change in population, with an increase of about 30 residents.

The area's housing stock is aging, as is the population. Most of the homes in the proposed corridor were constructed prior to 1939. The housing market is fairly stable with 75% being owner-occupied, and 25% rental units. A majority of housing is occupied year-round. Since the proposed Ice Age NST corridor contains few lakes and public lands, there are few high-end vacation properties, although Pike Lake and Otter Lake have attracted some secondary lakefront home development.

Within the project area, the city of Cornell stands out as a center of economic activity. In the project area, Stanley, Cadott, Chippewa Falls, and Eau Claire offer additional employment opportunities for residents not in agriculture. The number of agricultural parcels in the four towns has increased by 0.2% (48 parcels), while the total acres of farmland has decreased at 0.03% (172 acres). Dairy farming is prominent; however the number of dairy farms is decreasing. For the most part agricultural land being sold remains in agricultural use, with crops predominantly comprised of forage, hay and corn. Another important activity is the production of maple syrup.

Land Use and Land Ownership: Primary land uses in the project area are residential and agriculture. At the present time more than half of the project area is used for agricultural purposes, with about 16% being classified as residential. These non-farmstead residential properties are located almost entirely in Cornell, the corridor's only urbanized area. Small residential developments are also located in proximity to Pike Lake and Otter Lake. There is nearly as much forested land (15%) in the project area as residential land.

The city of Cornell has adopted its own zoning. All other rural towns in the project area are currently under Chippewa County zoning with most of the land zoned for agriculture. Stand-alone single-family residences or minor subdivisions are a permitted use in agricultural districts, making it easy for those wishing to build in rural areas. Re-zonings to Residential generally

accompany platted subdivisions, but this type of development is rare with the exception of lakeshore areas. Future subdivision activity is expected to be minimal in the proposed corridor as it is difficult to market these relatively small parcels when opportunities to acquire larger rural homesites are prevalent.

The Ice Age NST would be a permitted use in all zoning classification by state statute (ss. 236.292 Wis. Stats.).

Table 3: Existing Land Use-Ice Age Trail Project Area

TABLE 3: EXISTING LAND USE - Ice Age Trail Project Area		
LAND USE CATEGORY	ACRES (acres)	% OF TOTAL
Agriculture <ul style="list-style-type: none"> • Non-irrigated cropland • Irrigated cropland • Farmsteads (House and outbuildings) 	21313.6	50.47
Forest <ul style="list-style-type: none"> • Unplanted woodlots • Planted woodlots 	6619.1	15.67
Grasslands/Brushland/Vacant Open Space	3832.6	9.08
Residential	6857.4	16.24
Commercial	187.2	0.44
Industrial (including active quarries)	20.3	0.05
Parks/Recreation	337.8	0.80
Public Facilities/Utilities	336.7	0.80
Transportation (includes road rights-of-way)	1246.8	2.95
Water Features (surface water)	1480.7	3.50
TOTALS	42,232.2	100.00

Source: Chippewa County Planning Department derived from 2008 assessment data, aerial photography and tax roll information

Tax Base: According to the Chippewa County Planning Department, in 2018, the collective tax base of the four towns through which the proposed Ice Age NST corridor passes—Estella, Arthur, Colburn, and Delmar— was \$239,620,300. This included about \$95,295,500 in land value and an additional \$144,324,800 in improvements. Based on the proportion of each town’s land area actually lying within the corridor boundary, it is estimated that the total tax base of corridor lands is \$63,497,000 including \$32,260,400 in land and \$31,236,600 in improvements. With the land within the corridor estimated at about 31,748.8 acres, the gross average assessed value of land was slightly over \$1,999.9 per acre. For the four towns in the

project area (excluding incorporated communities), the 2018 gross average assessed value was about \$2,086.7 per acre.

5.11.2 Environmental Consequences on Socioeconomics

Socioeconomics: No Action

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.

Communities and Businesses: Under the No Action it would be up to state and/or local entities to plan, coordinate and construct the trail and its associated support facilities which could benefit the local economy. If the trail is not constructed and local entities do not take the initiative, it is likely that current land uses, development trends and pressures would continue. Socioeconomic impacts as a result of the No Action would be commensurate with recreation trends in the future and would depend largely on local 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.

Socioeconomics: Proposed Action

Communities and Businesses: In the Proposed Action, establishment of the trail would attract users into the communities through which the trail passes, which would benefit local businesses within the cities of Cornell and Stanley, and near Otter and Pike Lakes.

The University of Wisconsin-Whitewater Fiscal and Economic Research Center (UW-Whitewater) did a study on the users of the Ice Age Trail 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 that benefit from Ice Age Trail 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.

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. According to the Natural Resources Conservation Service (NRCS), projects that irreversibly convert farmland to non-agricultural uses are considered subject to the Farmland Protection Policy Act. The NRCS does not consider the Ice Age NST project 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 railway (land that is managed for the purposes of the Ice Age NST, see page 13 for definition); 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 on a “willing seller-buyer basis.” 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.

The State’s “Payment in Lieu of Taxes” or 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 PILT payments are based upon Wisconsin State Statute 70:1114. 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 70:1114, 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 (PILT), 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 local governments 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 Department of the Interior 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 eastern Chippewa 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.

6 PUBLIC INVOLVEMENT, CONSULTATION, COORDINATION, and DEFINITION OF TERMS

6.1 PUBLIC INVOLVEMENT-MEETINGS

Throughout the planning process there has been considerable emphasis on public involvement. As a part of this effort, the NPS, IATA and WDNR contacted the public, Chippewa County elected officials and affected townships, county planning and forestry departments, as well as held numerous Scoping and Open House meetings. The Core Team also spent considerable time researching the glacial topography of eastern Chippewa County, the county’s cultural history and development, as well as the feasibility of constructing the Ice Age NST through the project area.

6.1.1 Core Team Meetings

Talk of initiating the Corridor Planning Process (CPP) to extend the Ice Age NST into the eastern part of Chippewa County began in 2004/2005 when the local chapter and Chippewa County expressed an interest after the success of the Ice Age NST Wayward Beaver project in the Chippewa Moraine. The primary partners in the Ice Age NST—National Park Service, Ice Age Trail Alliance staff and volunteers, Wisconsin Department of Natural Resources—met to review the components of the CPP, discuss past efforts to establish the Ice Age NST in eastern Chippewa County, and evaluate the county’s glacial landscape and other significant natural and cultural features. 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.

6.1.2 Town and County Board Meetings- Scoping

In September-October 2004 scoping was initiated. The local trail chapter made a series of presentations to each of the local town and village boards within the project area to discuss the CPP and respond to questions and concerns about the Ice Age NST. Two very wide (multiple mile) conceptual corridors were developed and presented to public officials at these meetings (see Map 5-4). Before the local official contact and input, a third alternative had also been evaluated. It was located due east of the city of Cornell, utilizing county forest lands, reflecting the route in the *1983 Comprehensive Management Plan for the Ice Age NST*. The locations of all three corridors were dependent upon the need to cross the Yellow River in eastern Chippewa County. This could be accomplished by using existing crossings at Highway 64, County Road G, and County Road S. Following comments received from public officials and additional research, it was determined that the northernmost option which paralleled Highway 64 was not feasible (too wet) and eliminated it from further consideration.

6.1.3 Public Meetings- Scoping

After receiving the town and county boards input, the Core Team hosted a series of open house meetings to present the two study areas—Northern and Southern—to the public to identify issues and opportunities, collect additional information, and further refine them. The northern concept passed through the eastern portion of the county south of the city of Cornell, north of Pike Lake. It crossed the Yellow River at a bridge (Map 4-1, Northern and Southern Conceptual Corridors) on County Road G and terminated at the Taylor County Line near the north end of Otter Lake. The southern concept alternative also passed through the eastern portion of the county south of the city of Cornell, incorporating Pike Lake. It crossed the Yellow River at County Highway S. The southern concept alternative terminated at the Taylor County Line near the southern end of Otter Lake. These scoping meetings took place in the cities of Cornell and Stanley in June 2005 and were publicized via local newspapers and radio announcements.

6.1.4 Town and County Board Meetings - Presentation of Alternatives:

Due to staff turnover, some time passed between the scoping phase and the development of alternatives phase. In the fall of 2010, the Core Team reconvened and began developing two alternatives based upon the conceptual ideas presented during the initial scoping phase of the project. The northern alternative crossed the Yellow River at County Road G. The southern alternative crossed the river at County Road S. These alternatives were defined using roads and section lines. Support facilities for hikers were also identified. Meetings were held with the County Board, the city of Cornell and the towns in the project area to provide updates on the process, present the two alternatives under consideration, and answer questions. These meetings occurred in June and July of 2013.

6.1.5 Public Meetings - Presentation of Alternatives:

Individual invitations were sent to all landowners within Alternatives 2 & 3. Meeting notices were also posted in the local newspaper. 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. These public meetings took place in July and August of 2013.

6.1.6 Town and County Board - Proposed Action:

After carefully reviewing the public comments received and extensive field visits to eastern Chippewa County, the Core Team determined that neither the northern nor southern alignments fully met the needs of the Ice Age National Scenic Trail. While both concepts focused on the Perkinstown Moraine, the northern trail included the majority of public lands, and the southern trail included the majority of glacial features. Utilizing elements from both alignments, the Core Team then developed The Proposed Action, which became the preferred alternative. The Proposed Action combines the best elements of both the northern and southern alignments, including the greatest diversity of glacial features and the most support facilities for hikers. The Proposed Action has a defined boundary based upon roads and public land survey section lines.

Once the preferred alternative was identified, each of the towns, the County Board, and the city of Cornell were contacted. Rather than receive a presentation from the Core Team, all indicated a written report detailing the process and graphically describing the preferred alternative would be sufficient. This report was compiled and forwarded to each unit of government in the spring of 2014.

6.1.7 Public Meetings - Preferred Alternative and Route Options:

The Core Team hosted another series of open house meetings to present the Proposed Action to the public on August 2 and August 7, 2014. Individual invitations were sent to each of the landowners within the proposed corridor. Meeting notices were also posted in the local newspaper.

These meetings provided information about the Ice Age NST project and answered questions and concerns regarding the implementation and management of the trail. Presentations regarding the volunteers who construct the trail and its economic benefits were also provided. The August 2 meeting was preceded by a guided hike on a nearby completed section of the trail.

6.1.8 Local Planning Efforts:

During the development of the eastern Chippewa County Corridor Plan and associated Environmental Assessment, Chippewa County undertook a process to update its county-wide recreational opportunities plan and Comprehensive Plan. Members of the Core Team were involved in both processes, kept the county's planning team informed, and ensured that the Ice Age NST was incorporated in the county's updated document.

The city of Cornell has also begun planning the redevelopment of its riverfront. They plan to integrate the Ice Age NST into this effort.

6.2 CONSULTATION FOR PREPARATION OF ENVIRONMENTAL ASSESSMENT

Agencies and individuals contacted:

Chip Brown, State Historical Society of Wisconsin
Janet Smith, United States Fish and Wildlife Service
Edith S. Leoso, Bad River Band of Lake Superior Tribe of Chippewa Indians
Johnathan L. Buffalo, Sac and Fox Tribe of the Mississippi in Iowa
Ryan Brown, Chippewa County Planning and Zoning Department
Daniel Masterpole, Chippewa County Department Director, County Conservationist
Mike Dahlby, Chippewa County Department of Land Conservation & Forest Management
Jim Skorczewski, County Forester, Wisconsin Department of Natural Resources
Randy Knapp, University of Wisconsin- Chippewa County Extension
Rhonda Kenning, WDNR Real Estate Specialist
Jolene Brod, WDNR Real Estate Specialist/Reviewer
Cameron Bump, WDNR Park and Recreation Specialist

6.3 COORDINATION FOR CORRIDOR PLANNING PROCESS

As mentioned in Chapter 5: 5.5 Vegetation—Threatened and Endangered Resources, 5.9 Cultural Resources and 5.10 Native American Resources, consultation and development of the Ice Age NST is typically carried out in two phases—the first is a review of corridor alternatives through the Corridor Planning Process, and the second is a more detailed review after trail developers have secured a specific trail alignment for construction.

Throughout the Chippewa County Ice Age NST Corridor Planning Process (first phase), there was extensive communication and correspondence with federal agencies, tribes, federal and state representatives, county and local officials, in regards to carrying out the planning process, and potential impacts to resources contained within the corridor alternatives. Consulting federal agencies included: US Fish and Wildlife Service, USDA Natural Resources Conservation Service, Environmental Protection Agency, Federal Highway Administration, US Geological Survey, US Army Corps of Engineers, and USDA Forest Service.

Invitations for public scoping and open house meetings were also sent to federal agencies, federal and state representatives, county and local units of government and landowners within the study corridors. All of the referenced correspondence is held in the historic administrative record at the NPS Ice Age National Scenic Trail office in Cross Plains, Wisconsin.

6.4 DEFINITION OF TERMS

Biodiversity: Biodiversity is the variety and variability among living organisms and the ecological system in which they occur on the local and regional landscape.

Certification: Certification is an administrative process that Federal trail administrators use to officially recognize protected trail segments on non-Federal and Federal lands associated with National Trails. (Excerpted from NPS Reference Manual-45, Section 4.10)

Corridor of Opportunity: A planned and mapped linear space, generally about 2 to 5 miles wide, but wider in some places to protect exceptional features, within which the cooperating partners are working to establish the “Trail” and a suitable “Trailway”. The “Corridor” has different implications for each primary partner:

- To the WDNR, it represents the area within which it may (1) accept gifts of lands for dedication for the Ice Age State Scenic Trail, and (2) acquire lands for the trailway.
- To the NPS, it represents the area within which it will exercise its authorities to establish, protect, and manage the Ice Age NST. It is an area that has been delineated through a public planning process and has met federal environmental compliance requirements. The lines defining the corridor will be treated as the “park” boundary for the trail and the limits within which federal land acquisition authority for the trail would be exercised to create a suitable “Trailway.” It also represents the area which will be considered in other planning documents such as resource management plans and land protection plans.

- To the IATA, it represents the area within which it will seek to protect or have protected a suitable “Trailway” for the Ice Age NST in order to preserve significant glacial features, provide an outstanding trail use experience, and manage on a sustainable basis the resources of the “Trailway”. Also see Trail and Trailway.

Rarely will the partners seek to acquire or protect the entire width of the corridor for the trail, unless it contains outstanding glacial features. The reason the corridor is wider than the trailway that will be acquired is to provide the opportunity to be flexible in working with willing landowners on a voluntary basis. (see “Trailway”)

Dedication: As provided for in Wis. Stats. 23.293, the transfer of land or a permanent interest in the land to the State of Wisconsin (for Ice Age NST purposes), and a binding unilateral declaration by the State that the land rights under the ownership of the State will be held in trust for the people by the WDNR in a manner which ensures the stewardship of the area. See also “Match-Grant Program.”

Drumlins: Elliptical or elongate hills formed by erosion and deposition of material beneath thick glacial ice and streamlined in the direction of ice flow.

Endangered Species: A species on the federal or Wisconsin Endangered Species list and whose continued existence as a viable component of the State’s wild animals or wild plants is determined by the U.S. Fish and Wildlife Service or the WDNR to be in jeopardy on the basis of scientific evidence.

Exurban: Pockets of residential development lying beyond the suburbs of a city.

Ice Age Trail Alliance (IATA): The Ice Age Trail Alliance is a non-profit Wisconsin Corporation whose mission is to create, support, and protect a thousand-mile foot trail tracing Ice Age formations across Wisconsin.

Kettle: A depression formed by the melting of buried glacial ice. Some kettles contain water (pond or lake).

Moraine: A moraine is a ridge formed by the gravel, sand, and boulders carried along by the glacier and deposited where the glacier stopped. Morainal ridges vary in height.

National Park Service (NPS): The agency within the U.S. Department of the Interior responsible for preserving, protecting, and managing the natural, cultural, and recreational areas of the National Park System. The mission of the NPS includes two primary goals: to preserve our natural and cultural resources and to provide for public use and enjoyment of these resources in ways that will leave them unimpaired for future generations. The NPS is responsible at the federal level for carrying out the provisions of the National Trails System Act as they relate to the Ice Age NST by coordinating, guiding, and assisting the efforts of others to acquire, develop, operate, protect, and maintain the trail. The *1983 Ice Age National Scenic Trail Comprehensive Management Plan* prepared by the NPS identifies the DNR and the IATA as the primary cooperators in the long-term effort to develop and manage the trail.

Outwash: A sloping deposit of rounded gravel and fine sand left from the ice streams flowing away from the glaciers.

Special Concern Species: Species about which a problem of abundance or distribution is suspected but not yet proven scientifically. This State classification focuses attention on species before they become threatened or endangered.

Stewardship Fund: A Wisconsin legislatively established fund administered by the WDNR, which provides funding for conservation and recreation programs, including matching grants to not-for-profit conservation organizations for certain projects. The Ice Age NST is one of the qualifying projects and may receive grants for land acquisition.

Threatened Species: A species on the federal or Wisconsin Threatened Species list is one which appears likely, within the foreseeable future, on the basis of scientific evidence, to become endangered.

Trail: The usable tread and immediate surrounding space that is maintained for the purpose of passage along the trail route. For walking only segments, this may be a 24- to 30-inch wide tread and an additional 2 feet of cleared space on either side. For segments where other activities are also allowed, these measurements would likely be greater. Also see Corridor of Opportunity and Trailway.

Trailway: The width or area of land that is managed for the purposes of the Ice Age NST. It includes the “Trail” and surrounding lands that are owned, leased, held by easement, or in some way controlled for management as part of the Ice Age NST. Generally, its width ranges from 50-1000 feet. The secured rights are typically held by the WDNR, IATA, or County. Where the trail passes through existing public ownership or management areas, the “Trailway” is the width or area of land that the managing agency has committed to management for the trail. Also see Corridor of Opportunity and Trail.

Wisconsin Department of Natural Resources (WDNR): The state agency responsible for implementing state and federal laws that protect and enhance Wisconsin’s natural resources—its air, land, water, wildlife, fish, and plants. It coordinates the many State-administered programs that protect the environment and provides a full range of outdoor recreational opportunities for Wisconsin residents and visitors.

7 APPENDICES

APPENDIX A: IDENTIFICATION OF POSSIBLE ROUTE OPTIONS

In addition to identifying a Preferred “Corridor of Opportunity” for the Ice Age NST, planners have found it useful and desirable to identify possible routes for the trail within the corridor. Because of the corridor’s extensive width (generally 2-5 miles), identifying possible routes would focus efforts to establish the trail (time and money), and enable planners to design routes that best exemplify the trail’s mission and goals. The trail was divided up into segments spanning the corridor’s entire length. Again, since participation in the Ice Age NST project is voluntary, the trail’s ultimate location would be determined by the willingness of landowners to sell lands or grant permission to cross their property.

To help design the Possible Route Options, the Ice Age NST Planning Team identified ten objectives listed below:

- Trail should provide scenic vistas
- Trail should traverse a variety of glacial features.
- Trail links other significant archeological, historical, cultural, geographical, geological, and biological sites.
- Trail utilizes public lands when possible.
- Trail traverses through a variety of plant communities.
- Trail has local landowner and town support.
- Trail avoids development in rural areas.
- Trail provides support facilities.
- Trail links to communities.
- Trail links other significant resource areas.

After the Possible Route Options were identified based on the ten objectives, the desirability of each alternative could be evaluated based on three broad categories of concern: **trail quality**, **environmental considerations**, and **sociological considerations**.

Trail quality is a description of each Possible Route Option from the hiker’s point of view. These criteria evaluate, as objectively as possible, how well each route meets the purpose and objectives of the Ice Age NST as set forth in the National Trails System Act. The purpose of National Scenic Trail, as stated in the Act, is “to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass” [16 U.S.C. 1242(a)(3)]. Criteria studied under **trail quality** include:

- Length – the length of each proposed route. Information was obtained from GIS digital files compiled by the National Park Service.

- Road Crossings – the identification and number of road crossings. A high number of crossings may take away from the user’s experience of the trail and create a greater potential for accidents.
- Diversity and Interest of Route – identifies the significant points of interest that are designed into each route to create a desirable hiking experience. Elements evaluated may include significant geologic features, the amount of trail located in the sun and shade, amount of trail located on both hills and valley, scenic views, and visually outstanding, unique or geographically limited plant communities. Information was obtained from the Core Team members, aerial photographs, and topographic maps.
- Existing development and the probability of future development (low, moderate, high) – the level of existing development and the degree to which each route is likely to be affected by future development. Assessments of future development, while speculative, are based on extrapolations of current patterns of development. Information was obtained from recent aerial photographs, detailed topographic maps and, where available, proposed land use from local land management plans.

Environmental considerations are those impacts that the trail might have on the local natural resources. Information on these impacts has been gathered by questioning federal, state and county agencies, and interested private organizations and individuals. Criteria studied under **environmental considerations** include:

- Construction Impacts/Number of Stream Crossings – an evaluation of each possible route based on the degree of development needed to construct the trail. The assessment is based on slope, bridge installations, potential of soil erosion or excessive compaction, and impacts to wetlands, floodplains and fisheries. Information sources included but were not limited to the WDNR Bureaus of Wildlife Management and Water Resources Management.
- Rare, endangered, and threatened species – identifies if a route goes through an occurrence of a plant or animal species that have been identified by the federal or state governments as being endangered or threatened. Information was obtained primarily from the U.S. Fish and Wildlife Service, and WDNR Bureaus of Wildlife Management and Natural Heritage Conservation.

Sociological considerations are those impacts that the trail might have on the local human environment, affected landowners, and communities through which the trail may pass. Criteria studied under **sociological considerations** include:

- Number of affected landowners – the number of landowners whose property might be crossed by each route.

- Percentage of public land utilized – the percentage of public lands crossed in relation to the total length of the possible route.
- Secondary benefits – potential positive outcomes resulting from the development of the trail through an area that affect public access, natural resource preservation or enhancement, or economic resources. Information was obtained from local officials, University of Wisconsin staff, local chapters of the Ice Age Trail Alliance, and landowners.

What it means if a possible trail route option goes through your property: Participation by landowners in the Ice Age NST project is voluntary. Planners recognize that actual trail placement will be modified due to the need for landowner acceptance and land-use constraints. The next section provides a summary of each possible route.

DESCRIPTION AND ANALYSIS OF POSSIBLE ROUTE OPTIONS

TABLE 1– Possible Route Option, Segment 1

Trail Quality	From County Highway CC to Mill Yard Park in Cornell, WI
Approx. Segment Length (miles)	1.5
Road Crossings	1 Total 1- State Highway (64)
Diversity and Interest of Route	This possible route option begins at the current trail terminus at County Highway ZZ and ends at Cornell's Mill Yard Park. Brunet Island State Park is a short walk from the city park. This route provides dramatic views of the Chippewa River, dam and historic Pulpwood Stacker in Cornell.
Existing Development and Probability of Future Development	The City of Cornell is planning to re-develop it's riverfront to incorporate additional recreational facilities and mixed use areas. This riverside development will be beneficial to users of the Ice Age NST. The 10-acre Mill Yard Park has a small visitor center and on week-ends in the summer holds a farmers market.
Environmental Considerations	
Construction Impacts/Number of Stream Crossings	The proposed route crosses the Chippewa River utilizing the Highway 64 bridge. There are some wet areas between Perch Lake and the bridge which may require the construction of a short boardwalk. A trailhead should be constructed at the City of Cornell/Old Abe State Recreation Trail.
Endangered, Threatened, or Special Concern Species Identified by USFWS or WDNR BER	none
Sociological Considerations	
Number of Landowners Affected	3-4
Landowner Interest	There is landowner interest along this proposed route.

Public Lands and Rights-of-way Used	A significant portion of this route is owned publicly. There is WDNR, WisDot (State Highway 64 and pedestrian walkway), and city of Cornell property located along this proposed route.
Secondary Benefits	Completion of this trail segment would connect the City of Cornell to the Chippewa Moraine Visitor Center, Chippewa County Forest, and approximately 23 miles of existing Ice Age NST.

TABLE 2— Possible Route Option, Segment 2

Trail Quality	2A Through downtown Cornell then south	2B South on the Old Abe Trail
Approx. Segment Length (miles)	2.16	1.94
Road Crossings	State Highway 64, and several short residential streets	-State Highway 27 -205 th Street
Diversity and Interest of Route	This route option would take the trail through the city of Cornell, making its post office, laundry and shops easily accessible for hikers.	This option follows along the Chippewa River via the Old Abe Trail. It rises out of the Chippewa River Valley on to a wooded highland which would afford a scenic view across the valley to the west.
Existing Development and Probability of Future Development	There is some development potential along S 8 th street.	There is some development pressures along State Highway 27
Environmental Considerations		
Construction Impacts/Number of Stream Crossings	none	A secondary trailhead may need to be constructed off State Highway 27. There is one stream crossing- French Creek.
Endangered, Threatened, or Special Concern Species Identified by USFWS or WDNR BER		
Sociological Considerations		
Number of Landowners Affected	4-5 beyond Cornell city limit	3-4 beyond Cornell city limit
Landowner Interest	City of Cornell is very supportive	Unknown
Public Lands and Rights-of-way Used	Much of this option relies on sidewalks and right-of-way on lightly traveled, local roads.	This option utilizes a portion of the Old Abe Trail

Secondary Benefits		The Old Abe Trail connects Brunet Island State Park and Lake Wissota State Park.
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TABLE 3– Possible Route Option, Segment 3

Trail Quality	3A E then S past ice-walled lake plains	3B Roadless Tract SE
Approx. Segment Length (miles)	3.97	4.27
Road Crossings	County Highway EE	County Highway EE
Diversity and Interest of Route	The start of route option generally meanders along French Creek and presents the opportunity for several crossings. Here the topography of the Perkinstown Moraine is relatively flat and includes ice-walled lake plains and extensive wetlands. The land is mostly wooded with a few openings on to agricultural fields.	This potential option traverses the shallow valley of Little Drywood Creek then rises onto the Perkinstown Moraine. This largely roadless landscape is predominantly forested with a few small kettles and wetlands
Existing Development and Probability of Future Development	Majority of land remains in large parcels under managed forest contracts. Currently there is very little development in the area. Preservation of the existing woodlands is expected in the future. Parcels located near roads and those nearest to the City of Cornell have the highest probability of future development.	Majority of land remains in large parcels under managed forest contracts. Currently there is very little development in the area. Preservation of the existing woodlands is expected in the future. Parcels located near roads and those nearest to the City of Cornell have the highest probability of future development.
Environmental Considerations		
Construction Impacts/Number of Stream Crossings	French Creek	Little Drywood creek
Endangered, Threatened, or Special Concern Species Identified by USFWS or WDNR BER	None	None
Sociological Considerations		
Number of Landowners Affected	9-11	2-4
Landowner Interest	unknown	unknown
Public Lands and Rights-of-way Used	None	None
Secondary Benefits	.	Continued preservation of extensive roadless woodland into perpetuity.

TABLE 4– Possible Route Option, Segment 4

Trail Quality	4A N of Pike Lake to Yellow River Bridge	4B S to Pike Lake	4C S of Pike Lake N through ice-walled lake plains to Yellow River Bridge	4D S of Pike Lake S through ice-walled lake plains to Yellow River Bridge
Approx. Segment Length (miles)	5.78	1.9	4.27	5.19
Road Crossings	Total: 4 2-minor 2- major: County Trunk Highways S, and D	Total: 2 2-minor crossing	Total: 5 3 minor 2 major: County Trunk Highways D And S	Total: 3 1- minor 2 major: County Trunk Highways D And S
Diversity and Interest of Route	This option traverses the area north of Pike Lake, former Glacial Lake Colburn. It includes pine plantations, extensive woodlands and wetlands, a portion of which also contain the Cross Cut Snowmobile Trail. The route skirts several large agricultural fields.	This option takes the trail to the west side of Pike Lake where it acts as a connection for 2 options that could highlight the significant ice-walled lake plains of the area.	This potential route option contains a mixture of meadows, woodlands and agricultural fields. It passes to the south of Pike Lake, near an existing private campground and incorporates several ponds, ice-walled lake plains, and a small meltwater stream channel.	This option is predominantly forested and passes to the south of Pike Lake and Option 4C. East of Pike Lake it encounters several ponds and ice-walled lake plains which, due to their level nature, are actively farmed. This option also includes one of the highest points within the proposed corridor.
Existing Development and Probability of Future Development	There is little development pressure along this potential route.	There is slight development pressure near Pike Lake.	There is little development pressure along this potential route.	There is little development pressure along this potential route.
Environmental Considerations				
Construction Impacts/Number of Stream Crossings	Trailheads should be constructed in the area of Pike Lake and Yellow River	Trailheads should be constructed in the area of Pike Lake and Yellow River	Trailheads should be constructed in the area of Pike Lake and Yellow River	Trailheads should be constructed in the area of Pike Lake and Yellow River
Endangered, Threatened, or Special Concern Species Identified by USFWS or WDNR BER	None	None	None	None
Sociological Considerations				

Number of Landowners Affected	11-13	5-6	11-13	11-12
Landowner Interest	There is some landowner interest along this potential route option.	There is some landowner interest along this potential route option.	There is some landowner interest along this potential route option.	There is some landowner interest along this potential route option.
Public Lands and Rights-of-way Used	Very little public land is available for the trail beyond road rights-of-way. Yellow River Woods SNA at east end of route.	Very little public land is available for the trail beyond road rights-of-way.	Very little public land is available beyond road rights-of-way. for the trail. Yellow River Woods SNA at east end of route.	Very little public land is available for the trail beyond road rights- Yellow River Woods SNA at east end of route of way.
Secondary Benefits		May bring additional visitors to Pike Lake and Yellow River	May bring additional visitors to Pike Lake and Yellow River	May bring additional visitors to Pike Lake and Yellow River

TABLE 5– Possible Route Option, Segment 5

Trail Quality	5- Yellow River Woods and drainage ways
Approx. Segment Length (miles)	1.54
Road Crossings	none
Diversity and Interest of Route	Large forested tract. Numerous Ice-walled Lake Plains, drainage ways
Existing Development and Probability of Future Development	low
Environmental Considerations	
Construction Impacts/Number of Stream Crossings	No stream crossings
Endangered, Threatened, or Special Concern Species Identified by USFWS or WDNR BER	Yellow River Woods is a county forest unit
Sociological Considerations	
Number of Landowners Affected	2, including Yellow River Woods county forest special unit
Landowner Interest	
Public Lands and Rights-of-way Used	Yellow River Woods county forest special unit.

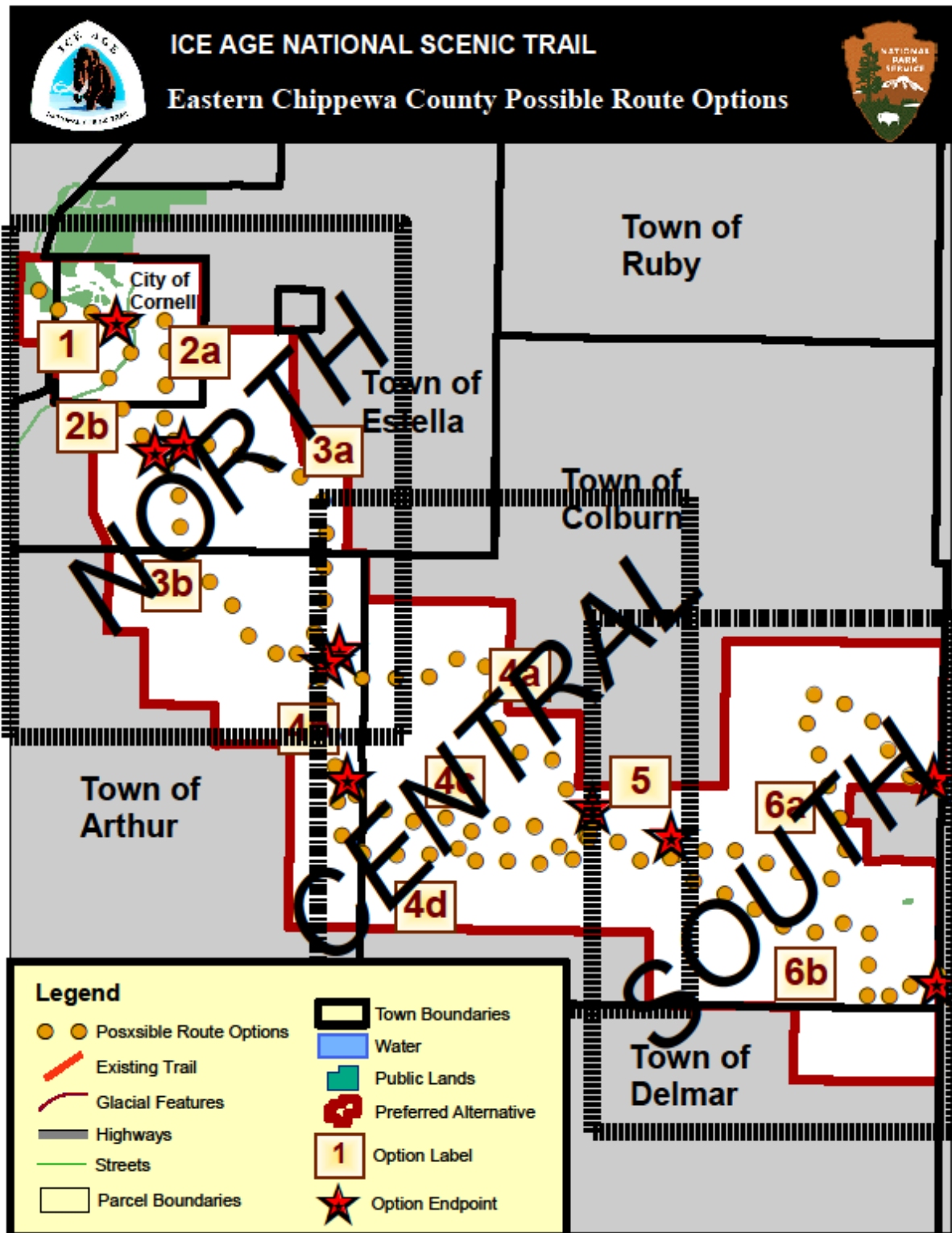
Secondary Benefits	
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TABLE 6– Possible Route Option, Segment 6

Trail Quality	6A North end of Otter Lake through Otter Lake County Park	6B South end of Otter Lake including Esker
Approx. Segment Length (miles)	7.26	5.53
Road Crossings	4 minor 1 County Trunk H	6 minor 1 County Trunk H
Diversity and Interest of Route	Large forested tracts. Numerous Ice-walled Lake Plains, drainage ways; county park on north end of Otter Lake; views of Tunnel Channel and Esker	Numerous Ice-walled Lake Plains, drainage ways. Provides an opportunity to traverse a portion of an esker that formed within the Otter Lake Tunnel Channel. Portions of this route are wet.
Existing Development and Probability of Future Development	West of Otter lake, there is little development pressure. There are some large forested tracts and agricultural fields present. The western shore of the lake is being developed and the proposed route should avoid the shoreline. If this route is chosen, an Ice Age Trail kiosk trailhead should be placed at Otter Lake County Park.	West of Otter lake, there is little development pressure. There are large some large forested tracts and agricultural fields present. The east shore is fully developed. WDNR has a boat launch on the south end of Otter Lake on 365 th .
Environmental Considerations		
Construction Impacts/Number of Stream Crossings	There is a road that connects the County Park to County Trunk H. There are extensive wetlands adjacent to this road that will have to be taken into consideration, if this option is chosen. Otter Lake has support facilities for hikers including parking, camping. Both ends of Otter Lake would be great locations for interpreting the significant geologic features found here.	WDNR has a large, extensive parking area on the southeast side of Otter Lake on 365 th . There may be an opportunity to have a trailhead, kiosk and dispersed campsite for the Ice Age Trail within this ownership. Both ends of Otter Lake would be great locations for interpreting the significant geologic features found here.
Endangered, Threatened, or Special Concern Species Identified by USFWS or WDNR BER	None	None
Sociological Considerations		

Number of Landowners Affected	15-17	15-17
Landowner Interest	There is some landowner interest along this route,	There is some landowner interest along this route, and some landowners who are not interested.
Public Lands and Rights-of-way Used	Very little public land is available for the trail beyond road rights-of-way. and Otter Lake County Park.	Very little public land is available for the trail beyond road rights-of-way and WDNR Wildlife land on east side of Otter Lake.
Secondary Benefits	Potential to link Yellow River Woods and Otter Lake County Park.	Lands purchased for the trailway may protect/preserve entire examples of ice-walled lake plains as well as a very significant esker within a tunnel channel.

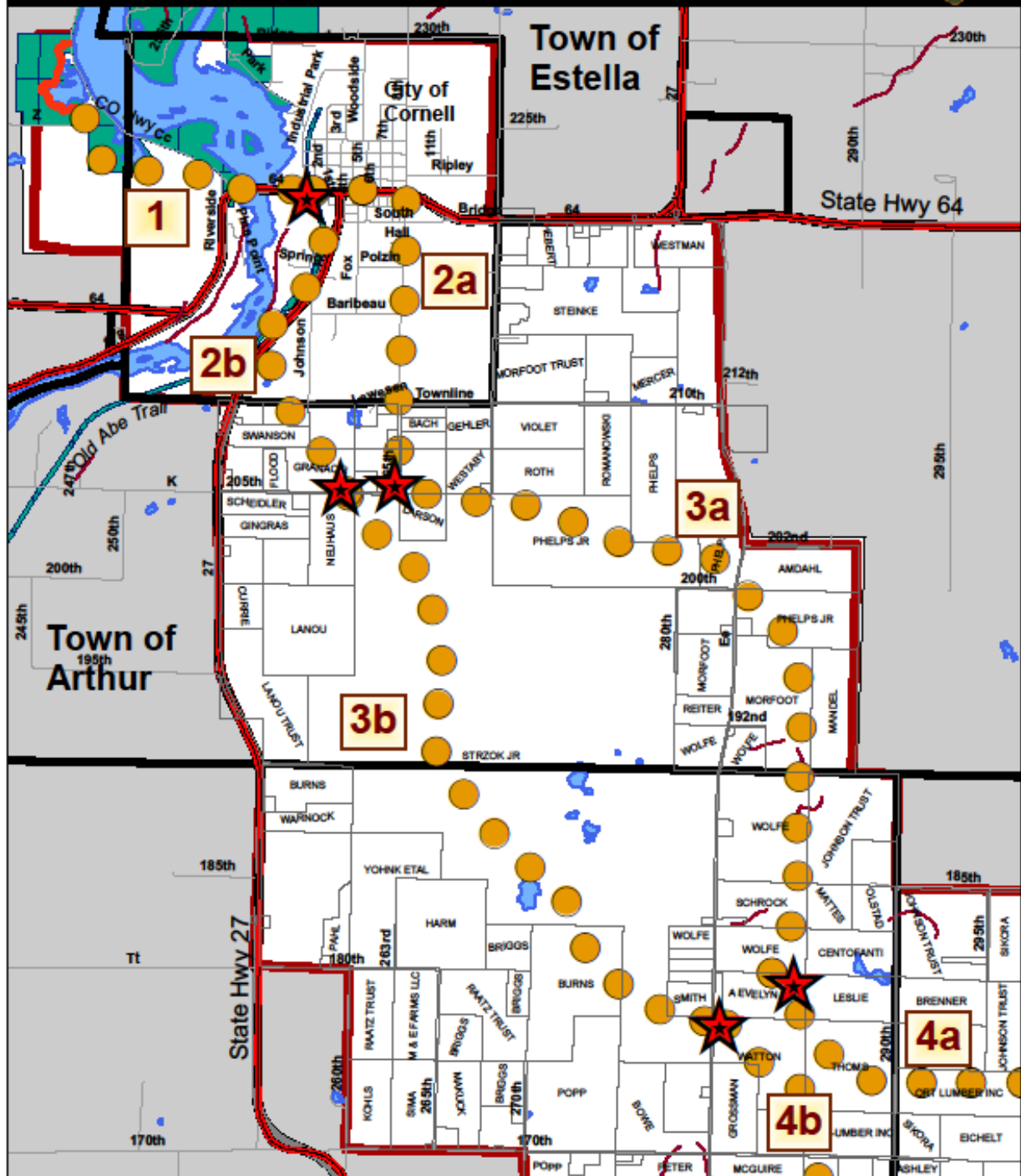
Map 8-11 (Possible Route Options)



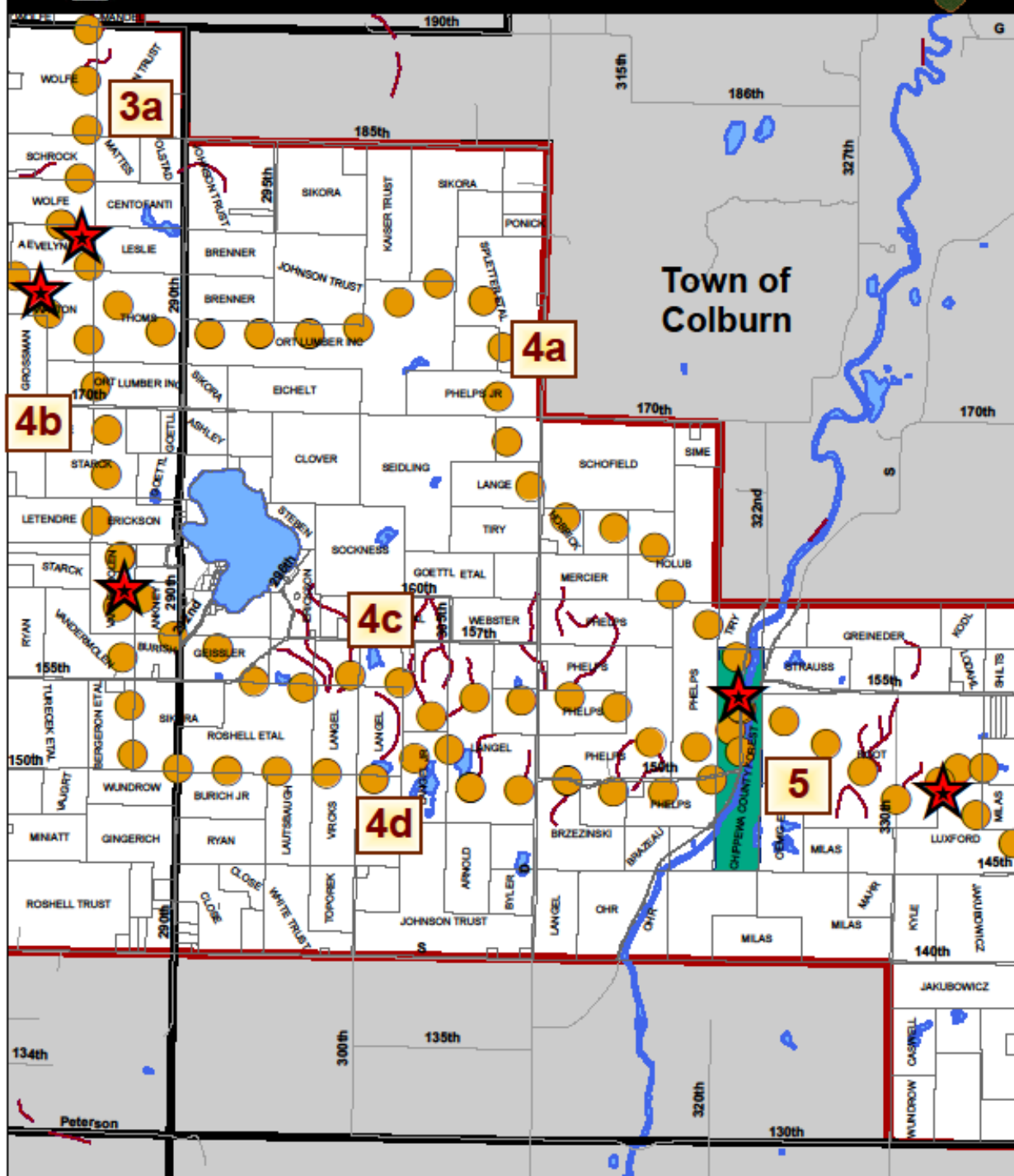


ICE AGE NATIONAL SCENIC TRAIL

E. Chippewa Co. Possible Route Options-NORTH



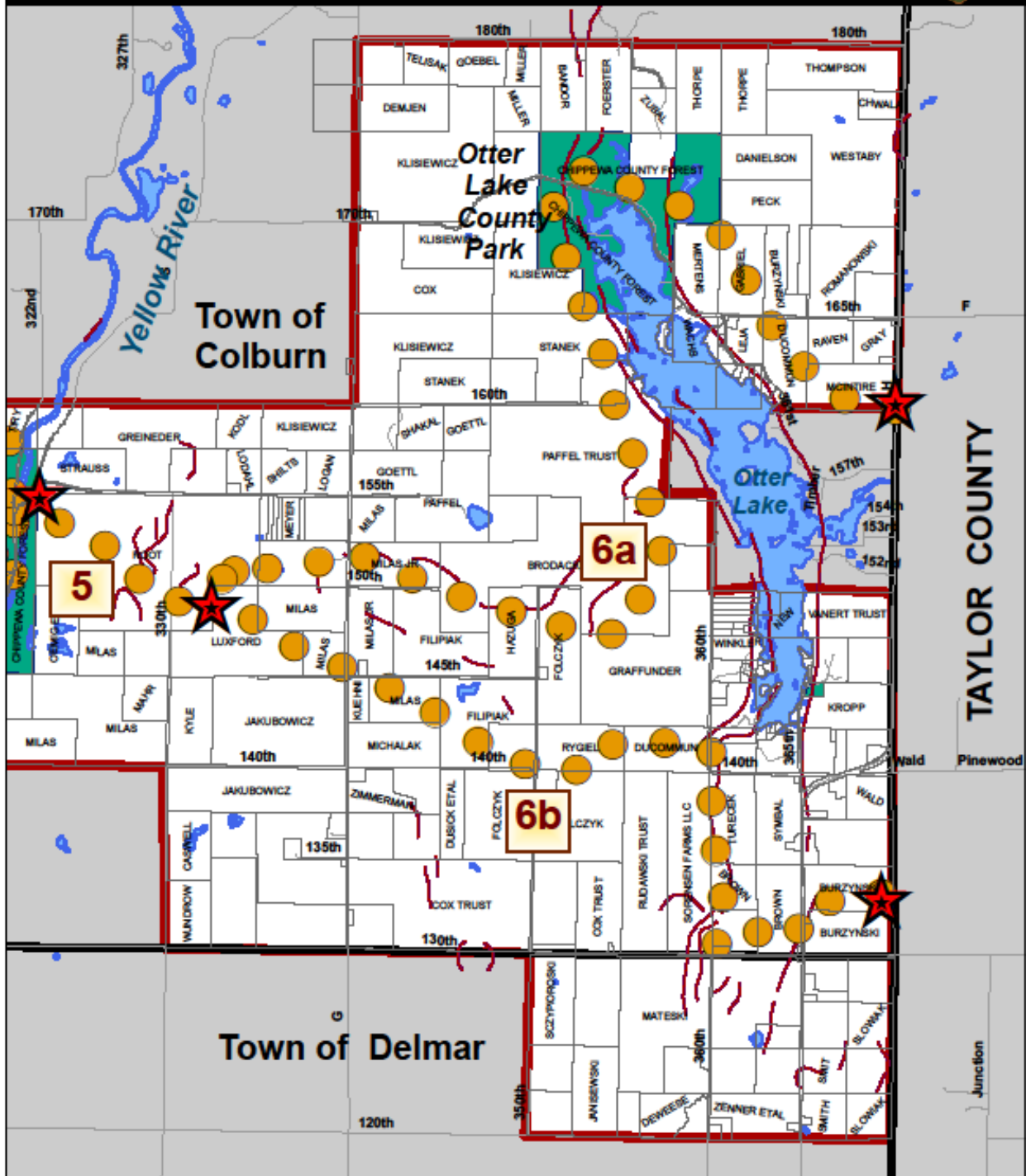
E. Chippewa Co. Possible Route Options-CENTRAL





ICE AGE NATIONAL SCENIC TRAIL

E. Chippewa Co. Possible Route Options-SOUTH



APPENDIX B: TRAIL DEVELOPMENT AND MANAGEMENT STANDARDS

Appendix B provides general, introductory guidance for planners and developers of the Ice Age NST across the state. *The Ice Age National Scenic Trail, A Handbook for Trail Design, Construction and Maintenance* is the primary reference for building and maintaining the trail. Information on the trail's standards may be obtained from the National Park Service or Ice Age Trail Alliance upon request. For each individual trail segment, the managing authority will make the final development and management decisions.

The way in which the Ice Age NST is designed, developed and maintained should make it easily recognizable as a National Scenic Trail (NST). The 1966 Department of Interior report, "Trails for America," which helped set the stage for eventual passage of the National Trails System Act two years later, described NSTs as very special trails: "A standard of excellence in the routing, construction, maintenance, and marking consistent with each trail's character and purpose should distinguish all national scenic trails. Each should stand out in its own right as a recreation resource of superlative quality and of physical challenge." It is important that the collective effort of the many partners involved in this project maintains the Ice Age NST's national significance and superlative qualities. The most basic way to accomplish this is to ensure that the trail is planned, established, and managed with a level of consistency over its entire length that conveys a sense of "connectedness" and continuity to the users. Quality design and construction of the trail, parking lots, and other facilities; clear and consistent signage, and timely response to problems created by storms or routine recreational use all help to maintain this consistency and foster pride in the trail. Regular cleanups of litter and a timely response to other public concerns about trail-related problems ensure that the trail will be a welcome addition to a community or area.

A. Development

Layout

The route of Ice Age NST generally follows the glacial features and moraines left by the Wisconsin Glaciation. The goal of those working on the trail and of Congress in authorizing the trail is that it be established within a permanently protected trailway corridor. The Ice Age NST will be designed to take advantage of the recreational, scenic, educational, and cultural opportunities present along this route. The route of the trail will minimize negative impacts on natural resources, cultural resources, the human environment, and adjacent land uses. Some basic principles that are used when laying out a route include:

- Traverse a variety of glacial features that are located in a visually pleasing corridor.
- Provide for a diverse user experience by incorporating a variety of plant communities, terrain, open and enclosed spaces (e.g. forests, savannas, prairies, etc.).
- Provide vistas to broader landscapes for scenic and interpretive purposes.
- Link and protect significant biological, archeological, and geological sites.

- Connect or provide linkages to communities and other trails for recreational, environmental, and/or user support purposes.
- Obtain local landowner and town support.
- Use publicly owned land for support facilities.

Construction/Maintenance of Trail and Trail-Related Structures

The Recreational Opportunity Spectrum (ROS), developed by the U.S. Forest Service, provides a framework for defining classes of outdoor recreation environments. These classes are useful guides for trail construction and management decisions. A modified form of the ROS reflecting the recreational environment of the Ice Age NST has been adopted, resulting in three broad categories of recreation settings—urban, rural/roaded natural and semi-primitive.

- **Urban** settings are characterized by substantially urbanized and modified natural environments. Large numbers of visitors may be present, both on-site and in adjoining areas. Sections of the Ice Age NST following sidewalks through towns or on highly developed linear parkways are described as “urban.”
- **Rural/Roaded Natural** settings are characterized by a more natural appearing environment with moderate evidence of human activity. Resource modification is evident, but it is also harmonious with the natural environment. “Rural” settings are typically farmland or pastoral landscapes. “Roaded Natural” settings are mainly forested lands. Similar standards apply to trails being constructed through both types of settings. The majority of the Ice Age NST will pass through “Rural” and “Roaded Natural” areas including exurban and agricultural landscapes.
- **Semi-Primitive** settings are characterized by a predominately natural appearing environment of moderate to large size. Interaction between visitors is low and there is evidence of only minimal human activity. The Chequamegon National Forest and portions of Taylor, Lincoln, and Chippewa Counties are examples where this type of setting occurs along the Ice Age NST.

Typically, before new trail is constructed, a site plan will be developed to guide the layout, design and maintenance of the trail and related structures. Design standards will reflect the ROS setting determination for the segment, resource considerations, and accessibility levels.

Crossing broad expanses of wetland will be avoided by careful trail planning. Where it is necessary to cross creeks, wetlands, and other seasonally wet areas, boardwalks and simple bridges will be used. Many proven designs using native material or treated timbers and boards can be found in the sources listed in Tools of the Trail: A Bibliography on Planning, Advocating, Designing, Building, Maintaining and Managing Trails Throughout America. In all instances, wetlands will be treated in accordance with NPS standards and guidelines and Wisconsin’s Wetland Act. (See Impacts to Water Resources in Section 7 of this document).

Signing

The trail will be marked with 2 by 6-inch vertical yellow paint blazes or small plastic markers placed on trees or posts, facing the hiker coming from either direction. Small, 3 ½-inch Ice Age NST emblems will be placed where the trail crosses minor roads and at about half-mile intervals along the trail. Large, 9-inch Ice Age NST emblems will be placed at major trailheads and major road crossings. Primary trail access points should also have informational kiosks or signs with specific information about the adjacent trail segments. Regulatory signs will be posted as needed.

Support Facilities

Support facilities provide for hiker convenience, comfort and sanitation. These structures should be designed to harmonize with the surrounding environment and reflect the ROS determination for the trail segment. Whenever possible, parking and other support facilities will be provided in nearby communities, but they may also be provided on county, state and federal lands.

B. Management

Recreational Uses

The *1983 Comprehensive Plan* for the Ice Age NST states that the trail is primarily intended to be a hiking trail. Travel on foot is the one use that must be provided on all segments of the trail.

Although the trail is designed primarily as a hiking trail, other compatible recreational uses are encouraged (such as photography, birdwatching, and snowshoeing). In addition, the trail will accommodate ungroomed cross-country skiing on segments that are designed and constructed for this use. In general, horses and bikes are not allowed on the trail except for those sections that follow State Recreation Trails (such as the Military Ridge, Ahnapee and Tuscobia). Also, occasional travel on or across the trail with motorized vehicles by the landowner or manager for the purpose of managing and using their land is permitted.

Sections of the Ice Age NST that pass-through lands open to hunting (e.g. State Wildlife Areas) will remain open to hunting. Managing authorities may choose to discourage or prohibit non-hunting use of the trail during certain game seasons. On private lands, if a landowner grants permission for trail passage either informally or through permanent easement, hunting privileges are conveyed only if stated in the agreement. Other lands which are posted “closed” to hunting will remain closed after trail development.

The National Trails System Act specifies that National Scenic Trails may not be open to motorized use by the general public. However, the 1980 amendment authorizing the Ice Age NST also specified that segments could be open to snowmobiling, where it is deemed appropriate by the managing authority responsible for the segment and the Secretary of the Interior. Like horseback riding or bicycling, limited snowmobiling opportunities are available, and these are located primarily on State Rail-Trails which are included as part of the Ice Age NST route.

Accessibility

The Ice Age NST will be designed to ensure that people with a wide range of ability levels have the opportunity to experience the significant resources that make this trail unique. At the same time, planners will strive to maintain the generally rustic character of a National Scenic Trail. To accomplish these goals, the trail will provide a range of opportunities to accommodate individuals who enjoy a challenge, as well as those who prefer easier, non-strenuous hiking.

Some segments of the trail will be fully accessible. These segments are designed to improve access for persons with mobility and vision impairments. They meet a number of specifications addressing width, passing space, surface, running slope, cross slope, edging, clear headroom, resting areas, signage and information points. Generally, these sites are usable without assistance. Multi-use trails near urban areas should be fully accessible, accommodating wheelchairs, strollers, and hikers of all abilities.

Some segments of the trail will be designed to provide a more challenging experience, while still accommodating use by individuals with disabilities. Facilities remain fully accessible, but the trail grades and surface materials may be more challenging to persons with limited mobility. Whenever possible, these segments are constructed “barrier-free” without possible impediments to movement (such as steps, waterbars, fords, steppingstones and narrow bridges). However, they offer a higher level of risk and challenge than is found in urban settings and some people with disabilities may need assistance.

Portions of the trail may not be accessible to people with disabilities. In some cases, the contours of the land or the natural surface of rocks present impediments which cannot be removed without causing major impacts on the environment or drastically altering the character of the trail. Other factors influencing decisions on accessibility include the protection of natural and cultural resources and the trail setting.

The Ice Age NST would provide all individuals, including individuals with disabilities, the opportunity to choose trails that provide different experiences and varying degrees of challenge and difficulty.

Law Enforcement

The Ice Age NST as a partnership endeavor, is a patchwork of ownership and managing authorities; no single entity owns and manages the entire trail. On state lands, Conservation Officers have enforcement authority on all WDNR-owned lands. As lands are protected for the trail, the NPS or WDNR may enter into agreements with local units of government or with the IATA for cooperative management of the trailway.

Some trail segments will be on county or municipal lands and will be under the direct protection and enforcement of these local authorities. Additional trailway lands may be owned by the IATA or may be on private lands under an easement or agreement with the IATA. Volunteers will monitor trail developed on private lands and will alert local law enforcement officials of any issues requiring their attention. The County Sheriff has jurisdiction over all lands in the county,

including those used for the Ice Age NST. However, experience and research have shown that linear trails have few law enforcement problems.

The IATA stresses low impact trail use through signage, literature and public contact along the trail. Experience has shown that hikers leave very little litter and generally pack out what they pack in. Concentrations of litter normally occur near roads and other access points and are easy to monitor. If littering does occur, volunteers will clean it up during regularly scheduled trail maintenance.

APPENDIX C: PURPOSE and SIGNIFICANCE STATEMENT of the ICE AGE NST

The mission of the National Park Service is to acquire, develop, operate, maintain, and protect through public and private partnerships, the Ice Age National Scenic Trail—a trail that meanders for approximately 1,200 miles through Wisconsin, from Potawatomi State Park in Door County to Interstate State Park in Polk County, generally following the terminal moraine and other glacial landscape features as a component of the National Trails System, for the enjoyment of present and future generations.

Purpose Statement

The purpose of the Ice Age National Scenic Trail is:

To establish a trail within scenic areas of the Nation to provide increased outdoor recreation opportunities and promote preservation of, public access to, travel within, and enjoyment and appreciation of the nation scenic and historic resources.

To provide for maximum outdoor recreation potential and for the conservation and enjoyment of nationally significant scenic, historic, natural, and cultural qualities through which the trail passes.

To provide a superlative hiking facility and experience consistent with preserving the landscape in which the trail is established.

To encourage and assist volunteer citizen involvement in the planning, development, maintenance, and management of the trail wherever appropriate.

Significance Statement

The Ice Age National Scenic Trail preserves outstanding landscapes and landscape features resulting from continental glaciation. Nowhere are the marks of continental glaciation upon the land more impressive than in Wisconsin. Indeed, the State has lent its name to the most recent series of glacial advances and retreats—the Wisconsin Glaciation lasting from about 100,000 to 10,000 years ago. The meandering landscape that exhibits the marks of the glacier's furthest advance is a showplace of moraines, kames, drumlins, erratics, kettle lakes, potholes, eskers, marshes, meltwater channels, gorges, ice-walled lake plains, outwash plains, and glacial lake beds.

The Ice Age National Scenic Trail links together six of the nine units of the Ice Age National Scientific Reserve. The Reserve units contain outstanding examples of the glacial land forms found along the trail and are major nodes of interpretation of the glacial story and landscape.

The Ice Age Trail provides an opportunity to explore a slice of American landscape at a walking pace rather than at freeway speed, and a place of retreat from the hectic routine of everyday life. It exists as much for the enjoyment of the casual walker as it does for the challenge of hikers who travel its entire length, providing outstanding opportunities for recreation, education, inspiration, solitude, and enjoyment.

APPENDIX D: MEMORANDUM OF UNDERSTANDING BETWEEN THE NPS, WDNR, IATA; and, VISION STATEMENT

MEMORANDUM OF UNDERSTANDING BETWEEN THE NATIONAL PARK SERVICE AND THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES AND THE ICE AGE TRAIL ALLIANCE, INC. CONCERNING THE ICE AGE NATIONAL AND STATE SCENIC TRAIL

This agreement is made and entered into, by and between the National Park Service, hereinafter referred to as the "NPS," and the Wisconsin Department of Natural Resources, hereinafter referred to as the "DNR," and the Ice Age Trail Alliance, Inc., hereinafter referred to as the "IATA," in furtherance of the purposes of and pursuant to the powers and authorities contained in the National Trails System Act of October 2, 1968, as amended [16 U.S.C. 1241 et seq.], hereinafter referred to as the "Act," and in ss. 23.17, 23.09(2)(d)10., 23.293, and 23.295, Wisconsin Statutes. These three partners are collectively hereinafter referred to as the "Triad".

Article I - BACKGROUND AND OBJECTIVES

This agreement is for the purpose of cooperating in the completion and long-term management of the Ice Age National Scenic Trail, hereinafter referred to as the "Trail," clarifying the responsibilities of each party for the Trail and lands traversed by the Trail, including Trail lands acquired with Wisconsin Stewardship grants and Ice Age Trail dedication, pursuant to the Act and ss. 20.866(2)(tz), 23.17, 23.175, and 23.293(11) Wis. Stats. This agreement supersedes the 2004 agreement between the NPS, DNR, and IAPTF.

On October 3, 1980, Congress amended the Act to authorize and establish the Ice Age National Scenic Trail as a component of the National Trails System [94 Stat. 1360; 16 U.S.C. 1244(a)(10)]. The Trail meanders through Wisconsin for approximately 1,200 miles from Potawatomi State Park in Door County to Interstate State Park in Polk County, generally following the terminal moraine and other glacial landscape features. The Secretary of the Interior was assigned administrative responsibility for the Trail.

The Act provides, in Section 7(h) [16 U.S.C. 1246(h)], that when determined to be in the public interest, the Secretary of the Interior may enter into written cooperative agreements with States or their political subdivisions, landowners, private organizations, or individuals to operate, develop, and maintain any portion of a national scenic trail either within or outside a federally-administered area. Such agreements may include provisions for limited financial assistance to encourage participation in the acquisition, protection, operation, development, or maintenance of such a trail, provisions providing volunteer in the park status (in accordance with the Volunteers in the Parks Act of 1969) to individuals, private organizations, or landowners participating in such activities, or provisions of both types.

Because the Trail involves only a small portion of federal lands and the Act provides that the

development, operation, and maintenance of the Trail shall be a cooperative venture, with special emphasis on the participation of private volunteer trail organizations, the Secretary of the Interior has determined it to be in the public interest to enter into this agreement.

The Secretary of the Interior has delegated overall administrative responsibility for the Trail to the NPS. The NPS, in cooperation with the other parties to this agreement, completed a *Comprehensive Plan for Management and Use* of the Trail in September 1983. The NPS is responsible at the federal level for carrying out the provisions of the Act as they relate to the Trail. The NPS carries out or facilitates trail planning, environmental compliance, and land protection activities. The NPS assists other public and private partners by coordinating, guiding, and assisting their efforts to acquire, develop, operate, protect, and maintain the Trail in accordance with the comprehensive plan and any supplemental plans. The comprehensive plan identifies the DNR and the IATA as cooperators in the long-term effort to develop and manage the Trail. The NPS serves as the primary liaison with other federal agencies in matters relating to the Trail. In carrying out this role, the NPS reviews and comments on federal or federally-assisted/permitted projects and activities that may affect trail segments, such as highway, utility, and other development proposals.

The DNR is the State agency responsible for providing and maintaining outdoor recreation resources of Statewide significance, including trails, in Wisconsin. The Statewide significance of the Trail, the involvement of State recreation facilities in the route of the Trail, and the relationship of the Trail to the State-administered Ice Age National Scientific Reserve form the basis for the DNR's participation in development and management of the Trail. In 1987, the State legislature formalized this role by passing legislation designating the Trail as a State Scenic Trail and assigning the DNR responsibility for coordinating the involvement of State agencies in the Trail project and cooperating with the NPS and private interests in planning, acquiring, developing, and maintaining the Trail. Other legislation has made the DNR responsible for administering financial aids to assist the IATA and others to acquire lands for the Trail. The DNR serves as the primary liaison with other State agencies in matters relating to the Trail. In carrying out this role, the DNR works with other State agencies to ensure that the trail is accommodated within the lands and programs such agencies may manage.

The IATA is a private, nonstock, nonprofit corporation composed of individual members and county chapters. The IATA was incorporated in 1958 and it then and now exists under the Wisconsin Nonstock Corporation Law. The IATA is exempt from federal income taxation under sec. 501(c)(3) of the Internal Revenue Code, and is classified under sec. 509(a) as other than a private foundation. The mission of the IATA is to create, support, and protect a thousand-mile foot trail tracing Ice Age formations across Wisconsin. It does this primarily by organizing and coordinating local government and private sector involvement in such efforts, including fund raising and the recruitment and training of volunteer trail builders/maintainers. It has the primary responsibility to develop and encourage the growth of strong and active local volunteer chapters. The IATA serves as the primary liaison with local governmental agencies and other nonprofit conservation organizations in matters relating to the Trail. In carrying out this role, the IATA works to secure and coordinate the involvement of local government, private interests, and private sector resources in the planning, acquisition, development, operation, maintenance, and protection of the Trail.

Article II - STATEMENT OF WORK

The NPS, DNR, and IATA agree to coordinate their work to establish and manage the Trail in accordance with the attached *Vision Statement and Attributes*, and commit to carrying out various tasks relating thereto, according to the following tables:

TRIAD ROLES

PLANNING THE ICE AGE TRAIL

Wisconsin DNR	National Park Service	Ice Age Trail Alliance
<ol style="list-style-type: none"> 1. Commit central office and regional staff to: <ol style="list-style-type: none"> a. lead trailway planning process in selected counties b. participate on the trailway planning and trailway protection strategy core teams in other counties c. lead master planning on State Ice Age Trail Areas (SIATAs) d. advise real estate staff on acquisition decisions to implement plans e. provide technical assistance for site planning on protected lands 2. Interface the Trail with <i>Land Legacy Report</i>, Feasibility Studies, Master Plans for DNR properties, and other DNR-led projects. 3. Ensure that all DNR-led trailway planning complies with federal and state laws and regulations. Coordinate with NPS to ensure it complies with federal requirements. 4. Provide Natural Heritage Inventory information, via an NHI data sharing agreement, to inform and guide Ice Age Trail planning efforts related to endangered resources (rare species, high-quality natural communities, and significant natural features). Provide endangered resources expertise in planning 	<ol style="list-style-type: none"> 1. Coordinate the Ice Age Trail corridor planning and trailway protection strategy processes <ol style="list-style-type: none"> a. coordinate assignment of lead responsibility and timing for each county b. monitor progress in each county 2. Commit staff to: <ol style="list-style-type: none"> a. lead trailway planning and trailway protection strategy processes in selected counties b. participate on the trailway planning and trailway protection strategy core teams in other counties c. manage planning contracts in counties where a contract agency leads the process d. Provide GIS mapping support 3. Ensure that all NPS-led trailway planning complies with federal and state laws and regulations. Coordinate with DNR to ensure it complies with Wisconsin requirements. 4. Enter into an NHI data sharing agreement with DNR's Endangered Resources Review program; use NHI data to generate maps and other information and materials needed to inform the corridor planning process. 	<ol style="list-style-type: none"> 1. Commit staff to participate on trailway planning and trailway protection strategy processes core teams. 2. Recruit volunteers to participate on trailway planning process core teams. 3. Contact landowners as part of the planning process with the guidance of the core team. 4. Enter into an NHI data sharing agreement with DNR's Endangered Resources Review program; use NHI data to inform the trail layout planning process. 5. Participate in the preliminary scoping process for counties that have not yet had trailway planning. 6. Develop chapters/constituencies where needed to support the planning process. 7. Advocate for and support the integration of the Trail into "Smart Growth" planning at the local level. 8. As able, assist with on-the-ground field assessments during the planning process.

<p>efforts.</p> <ol style="list-style-type: none"> 5. Act as primary liaison with the Wisconsin Department of Transportation, especially to ensure safe highway and road crossings and access points, and to notify the other parties of projects that may affect the Trail. 6. Participate in the preliminary scoping process for counties that have not yet had trailway planning. 7. Use all appropriate opportunities to help ensure that the Trail is integrated into “Smart Growth” planning at the local level. 8. Use every available opportunity to ensure that the Trail is incorporated into all appropriate long range County Forest plans. 	<ol style="list-style-type: none"> 5. Submit request for formal Endangered Resources Review of the proposed corridor during the collection of information for the Environmental Assessment. 6. Coordinate the preliminary scoping process for counties that have not yet had trailway planning. 7. Use all appropriate opportunities to help ensure that the Trail is integrated into “Smart Growth” planning at the local level. 	
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TRIAD ROLES

FUNDING THE ICE AGE TRAIL

Wisconsin DNR	National Park Service	Ice Age Trail Alliance
<ol style="list-style-type: none"> 1. Provide DNR staff support: <ol style="list-style-type: none"> a. dedicated Ice Age Trail manager b. regional staff <ul style="list-style-type: none"> - trailway planning - trail implementation - land acquisition - managing SIATAs - technical assistance related to endangered resources c. state trails coordinator assistance, including determining and disseminating policy guidance department-wide d. endangered resources staff support for conducting Endangered Resources Reviews 2. Provide capital development funding for trail improvements on department lands, 3. Provide capital development grant funding for trail development and facilities. 4. Provide land acquisition funding (Stewardship Program and federal LWCF grant funds) <ol style="list-style-type: none"> a. For DNR acquisitions b. For grants to local governments c. For grants to nonprofit conservation organizations 5. Seek accommodation of Ice Age Trail in 	<ol style="list-style-type: none"> 1. Provide funding for NPS operations: <ol style="list-style-type: none"> a. Ice Age NST staff and office b. financial support to partners for operational needs via cooperative agreement c. signing, brochures, etc. d. technical support and assistance related to endangered resources e. cultural resource compliance (e.g. Section 106 (of the National Historic Preservation Act of 1966) reviews and surveys) 2. Fund Challenge Cost Share projects. 3. Fund Volunteers in Parks (VIP) Program activities <ul style="list-style-type: none"> - volunteer training - awards and recognition - tools and equipment 4. Utilize NPS project funds for development and maintenance projects. 5. Administer Land and Water Conservation Fund appropriations for Ice Age Trail land protection. 6. Seek increased funding through Operations Formulation System (OFS) and Project Management Information System (PMIS). 7. Seek accommodation of Ice Age Trail in 	<ol style="list-style-type: none"> 1. Provide funding for foundation operations: <ol style="list-style-type: none"> a. administration b. volunteer and chapter support c. technical support and assistance related to endangered resources d. programs <ul style="list-style-type: none"> - newsletter - website - GIS - Mobile Skills Crew - Land stewardship 2. Seek congressional and legislative appropriations and private grants. 3. Provide funding for selected key acquisitions, as available. 4. Seek appropriate funding for long-term stewardship of IATA-held easements and fee lands.

other state or state-assisted projects and programs.	other federal or federally-assisted projects and programs.	
6. Provide funding for long-term stewardship of DNR-held easements and fee lands.	8. Provide funding for long-term stewardship of NPS-held easements and fee lands.	

TRIAD ROLES

DEVELOPING, MAINTAINING, AND MANAGING THE ICE AGE TRAIL

Wisconsin DNR	National Park Service	Ice Age Trail Alliance
<ol style="list-style-type: none"> 1. Coordinate development, maintenance, and management of the Ice Age Trail on DNR managed properties and facilitate Ice Age Trail on state properties not managed by the DNR. This should be done in accordance with Triad approved <i>Ice Age NST Handbook</i> standards. 2. Provide technical assistance and materials for development, maintenance, and management on DNR owned properties where the IATA or others will develop and maintain the trail. 3. Develop a policy and process that addresses the long term management of State Ice Age Trail Areas. 4. Allow for the development of the Ice Age Trail on State Ice Age Trail Areas in advance of a master plan for the State Ice Age Trail Area, or allow an amendment to an existing master plan that specifically addresses the Ice Age Trail on the property. The location of the Trail and the specifications for trail development shall be agreed to by the Triad. This should be done in accordance with Triad approved <i>Ice Age NST Handbook</i> standards. 5. Participate in the development of a policy that addresses long-term management of the Trail. 	<ol style="list-style-type: none"> 1. Coordinate development, maintenance, and management of the Ice Age Trail on NPS managed properties and facilitate Ice Age Trail on properties not managed by the NPS. This should be done in accordance with Triad approved <i>Ice Age NST Handbook</i> standards. 2. Provide technical assistance to public and private partners in all aspects of trail planning, acquisition, development, operation, maintenance, protection, and interpretation. 3. Participate in the development of a policy that addresses long-term management of the Trail. Depending on resources and priority, provide a Resources Management staff position for the Ice Age Trail. 4. Assist with the development of a policy that addresses the long-term management of State Ice Age Trail Areas. 5. Certify Trail segments and provide official Ice Age NST markers. 6. Provide tools, materials, and other use, regulatory, directional, and trailhead signage as resources allow. 7. Develop and maintain trail geospatial and management databases and other information about the trail to support trail 	<ol style="list-style-type: none"> 1. Coordinate development, maintenance, and management of the Ice Age Trail on IATA managed properties and facilitate Ice Age Trail on other private lands. This should be done in accordance with Triad approved <i>Ice Age NST Handbook</i> standards. 2. Provide volunteer services for Trail development and maintenance, and management of Trail lands. 3. Build and maintain the trail in accordance with Triad approved Ice Age NST Standards Handbook. 4. Identify other support for trail building and maintenance, and management of Trail lands, where volunteer support is lacking. 5. Assist with the development of a policy that addresses the long-term management of State Ice Age Trail Areas. 6. Participate in the development of a policy that addresses long-term management of the Trail. 7. Submit certification applications to NPS for Trail segments on IATA properties and other private property. Prepare certification applications for lands

<p>6. Submit certification applications to NPS for Trail segments on state property.</p> <p>7. Host and provide GIS support facilities for the IATA GIS function.</p> <p>8. Appoint a representative in each region to act as an Ice Age Trail clearinghouse for dissemination of Trail information and to help identify and coordinate additional staff resources.</p> <p>9. Complete DNR required reviews and documentation for Ice Age Trail development projects on DNR lands.</p> <p>10. Provide technical assistance related to endangered resources, including formal Endangered Resources Reviews, during the corridor planning and trail layout planning processes.</p> <p>11. Develop camping opportunities and infrastructure improvements on state-owned lands to facilitate long-distance hiking of the Ice Age Trail.</p> <p>12. DNR land managers will work with IATA staff to obtain necessary permits and meet permit requirements.</p> <p>13. Provide technical assistance and training to partners for resource management practices, including exotic plant removal and the protection and enhancement of rare and endangered plants, animals, and community types.</p> <p>14. Review County Forest comprehensive plans to ensure appropriate accommodations for the Ice Age Trail.</p>	<p>planning and management.</p> <p>8. Recognize the IATA and its members as Volunteers-in Parks through an Agreement for Sponsored Voluntary Services, for purposes of injury compensation and protection from tort liability.</p> <p>9. Complete NPS required reviews, compliance (cultural resources—Section 106, T&E Species—Section 7, etc.), and documentation for Ice Age Trail development projects.</p> <p>10. Provide partners with copies of the <i>Ice Age NST Handbook for Trail Design, Construction & Maintenance</i>.</p> <p>11. Provide technical assistance and training to partners for natural and cultural resource management, such as exotic plant removal and archeological artifact recognition and protection.</p> <p>12. Develop camping opportunities and infrastructure improvements on NPS-owned lands to facilitate long-distance hiking of the Ice Age Trail.</p> <p>13. Lead partner efforts to plan and provide for interpretation along the Trail.</p>	<p>administered by other public partners.</p> <p>8. Assist in the development and maintenance of a GIS database and produce user-oriented maps and other appropriate information.</p> <p>9. Assist the DNR and NPS with completion of necessary reviews and documentation for Ice Age Trail development projects.</p> <p>10. With landowner cooperation, develop camping opportunities and infrastructure improvements to facilitate long-distance hiking of the Ice Age Trail.</p> <p>11. Assist partners in managing Trail lands.</p> <p>12. Prepare or assist in preparing applications for needed permits relating to development of the Trail, with permission and on behalf of responsible parties.</p> <p>13. Develop camping opportunities and infrastructure improvements on IATA-owned lands to facilitate long-distance hiking of the Ice Age Trail.</p> <p>14. Submit requests for formal Endangered Resources Reviews of proposed trail section layouts well in advance of planned trail construction dates. Conduct and/or coordinate follow-up actions (e.g., site visits) identified in the Endangered Resources Review.</p> <p>15. Work with County Forests to establish or revise appropriate ordinances, comprehensive plans, and/or land use agreements related to the Ice Age Trail.</p>
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TRIAD ROLES

PROTECTING LANDS FOR THE ICE AGE TRAIL

Wisconsin DNR	National Park Service	Ice Age Trail Alliance
<ol style="list-style-type: none"> 1. Lead the acquisition process. At least semi-annually, meet with NPS and IATA to discuss the status of Trail land acquisition efforts and to set or confirm priority areas. 2. Maintain a current list showing the utilization and planned utilization of all federal funds granted to the state for Trail land acquisition. 3. Participate in the prioritization of lands to be acquired. 4. Directly acquire lands in agreed upon prioritized areas. 5. Dedicate lands under s.23.293, Wisc. Stats. 6. As requested or needed, exchange information with NPS & IATA staff concerning lands that have been or may be acquired in agreed upon priority areas or elsewhere. 	<ol style="list-style-type: none"> 1. Administer the Special Ice Age Trail LWCF grant program. Prepare and administer grant agreements, process invoices, and monitor compliance with grant program regulations. 2. Participate in the prioritization of lands to be acquired. 3. Acquire and protect lands for the Trail to the extent it has authority to do so. 4. Provide technical and financial support to partners for land acquisition activities. 5. Periodically, as the need and opportunity arise, contact or meet with and exchange information with DNR lands staff in central and regional offices and IATA staff concerning lands that have been or may be acquired in agreed upon priority areas or elsewhere. 	<ol style="list-style-type: none"> 1. Participate in the prioritization of lands to be acquired. 2. Serve as primary advocate at local level for trail protection. <ol style="list-style-type: none"> a. Provide volunteer support to alert partners of acquisition opportunities and to aid in contacting landowners. b. Facilitate involvement of local government partners in the protection of trailway lands. 3. Secure temporary routes through handshake or license agreements. <ol style="list-style-type: none"> a. Institute and maintain a landowner registry program. b. Institute and maintain a Land Stewardship and monitoring program 4. Advocate for federal and state funding to protect lands for the Trail. 5. As funding permits, acquire lands in agreed upon prioritized lands areas. 6. Participate in the dedication of Trail lands under s.23.293, Wisc. Stats. 7. Develop policies for determining when to acquire and hold properties, taking in account long-term stewardship responsibilities and associated costs.

TRIAD ROLES

PUBLIC RELATIONS FOR THE ICE AGE TRAIL

Wisconsin DNR	National Park Service	Ice Age Trail Alliance
<ol style="list-style-type: none"> 1. Provide for public relations in appropriate DNR publications, communications, and outreach such as State Parks Visitor's Guide, press releases, internet, property maps, etc. 2. Promote the Ice Age Trail by displaying information on state properties, and providing NPS Ice Age Trail brochures and Ice Age Park and Trail Foundation's membership brochures and other appropriate materials at visitor centers and contact stations. 3. Promote Ice Age Trail and Trail related events on the DNR website. 4. Provide interpretive programs on the Trail and the Trail's landscape. 5. Support and host Ice Age Trail events on state properties when and where appropriate. 6. Take the lead in coordinating or facilitating the involvement of other State agencies (DOT, Tourism, etc.) in marketing the Trail. 7. Include the Ice Age Trail in GIS information available to the public. 	<ol style="list-style-type: none"> 1. Provide a variety of promotional material or financial support for: <ol style="list-style-type: none"> a. brochures b. videos c. wayside exhibits d. maps e. publications f. Trail signs 2. Promote the Ice Age Trail on the NPS website. 3. Promote the Ice Age Trail in NPS publications and within the National Trails System. 	<ol style="list-style-type: none"> 1. Produce for members and trail users: <ol style="list-style-type: none"> a. Quarterly newsletter b. Membership brochure c. Trail maps d. Trail merchandise 2. Conduct special events, such as: <ol style="list-style-type: none"> a. Parade of Colors Fall Hikes b. National Trails Day Events c. Statewide Trail building, maintenance, or stewardship projects such as Mobile Skills Crew events. 3. Serve as primary advocate with local, state, and national media. 4. Provide easy access to Trail information.

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Article III - TERM OF AGREEMENT

This MOU is executed as of the date of the last signature shown below and shall be in effect for a period not to exceed 10 years, at which time it will be subject to review, renewal, revision, or expiration. However, at the end of 5 years, the parties to this MOU will conduct an interim review of its language, tasks, and direction and make any necessary corrections as mutually agreeable.

Article IV - KEY OFFICIALS

The key NPS officials are the Superintendent, Ice Age and North Country National Scenic Trails, and the Manager, Ice Age National Scenic Trail, located at 700 Rayovac Drive, Suite 100, Madison, Wisconsin 53711.

The key DNR officials are the Secretary, the Division of Land Administrator, and the Director of the Bureau of Parks and Recreation, located at 101 S. Webster Street, Madison, Wisconsin 53703.

The key IATA official is Executive Director, located at 2110 Main Street, Cross Plains, Wisconsin 53528.

Article V - TERMINATION

This agreement may be terminated upon 60 days advance written notice given by one party to the others, or it may be terminated earlier or revised by mutual consent of all parties. Termination of this agreement does not affect any operation and maintenance agreements or responsibilities under Chapter NR 51, Wisconsin Administrative Code, or those executed separately from the provisions of NR 51.

Article VI - STANDARD PROVISIONS

The obligation of the NPS, DNR, and IATA to perform the responsibilities specified in this agreement is contingent upon the necessary funds being available through governmental appropriations or other sources. No legal liability on the part of the NPS, DNR, or IATA to carry out such responsibilities shall arise unless and until funds are available to cover the expenses associated with performing the responsibilities specified herein.

Additional NPS Provisions

Nothing in this agreement shall affect or interfere with fulfillment of the obligations or exercise of the authority of the NPS or any other federal agency to manage the lands along the Trail route (within the boundaries of areas they administer) and the programs under their jurisdiction in accordance with their basic land management responsibilities.

No member of or delegate to Congress, or resident Commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

During the performance of this agreement, the participants agree to abide by the terms of Executive Order 11246 on nondiscrimination and will not discriminate against any person because of race, color, religion, sex, or national origin. The participants will take affirmative action to ensure that applicants are employed without regard to their race, color, religion, sex, or national origin.

Additional DNR Provisions

Nothing in this agreement shall affect or interfere with fulfillment of the obligations or exercise of the authority of the DNR or any other State agency to manage the lands along the Trail route (within the boundaries of areas they administer) and the programs under their jurisdiction in accordance with their basic land management responsibilities.

In connection with the performance of work under this agreement, the parties agree not to discriminate against any employee, applicant for employment, member, volunteer, or trail user because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined in s. 51.01(5), Wisc. Stats., or national origin. This provision shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay, or other forms of compensation, and selection for training, including apprenticeship. The parties further agree to take affirmative action to ensure equal employment opportunities. The parties agree to post, in a conspicuous place available for employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

Should the IATA at any time have paid employees working on the Trail on DNR lands, they shall furnish proof to the DNR of worker's compensation coverage in the form of a Certificate of Insurance indicating such for these individuals. The insurance policy shall contain a provision by which the insurer agrees to notify the DNR upon any lapse or change in coverage. Failure to satisfy the provisions of this paragraph will result in the voiding of this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Understanding as of the last date written below.

/s/ Thomas L. Gilbert
Superintendent, Ice Age National Scenic Trail,
National Park Service

4/15/10
Date

/s/ Matthew Frank
Secretary, Department of Natural Resources

4/7/10
Date

/s/ Michael G. Wollmer
Executive Director, Ice Age Trail Alliance, Inc.

4/12/10
Date

Attachments:

Vision Statement and Attributes: Ice Age National and State Scenic Trail

Rev. 03-15-10

Ice Age National and State Scenic Trail

Vision Statement and Attributes

Ice Age Trail Park and Trail Foundation¹
Wisconsin Department of Natural Resources
National Park Service

I. Vision Statement:

The Ice Age Trail is a continuous footpath through diverse landscapes that:

- Provides superlative outdoor recreation experiences;
- Preserves and commemorates world renowned geological features formed during the Wisconsin Glaciation;
- Provides a natural corridor that protects habitat and enables the movement of wildlife;
- Serves as a lifelong educational resource;
- Provides quiet places for people to form and nurture a spiritual connection with the landscape;
- Promotes the health and vigor of users of all ages and abilities, and
- Links the history and diverse human cultures of the land that we call Wisconsin.

II. Attributes of the Ice Age Trail:

- A. **General Route**—The trail extends approximately 1,200 miles across the State of Wisconsin between Interstate State Park on the St. Croix River in Polk County and Potawatomi State Park in Door County.
- B. **Glacial Features**—The trail generally follows the terminal moraine, which provides the means for a continuous trail linking many other diverse glacial landscapes. A continuous, meandering trail maximizes the number and quality of diverse glacial landscapes incorporated into the Ice Age Trail, while minimizing the additional trail length required to include such landscapes. The trail will thus deviate from the terminal moraine to connect other geological, scenic and cultural resources into the Ice Age Trail.
- C. **Design of Corridor and Trail Route**—The trail and railway are designed elements within an overall planned and approved corridor of opportunity. The design of the preferred trail route and railway within the corridor is tailored to highlight regional landscape features and is intended to preserve or afford views of geologic, natural, cultural, scenic and/or biotic resources and provide a variety of educational experiences for visitors in regard to these resources.

¹ At its annual meeting on April 25, 2009, the membership of the Ice Age Park and Trail Foundation, Inc., voted to change their corporate name to the Ice Age Trail Alliance, Inc.

- D. **Trail Development Philosophy**—The trail lies lightly on the land. It generally follows natural contours, is constructed of local natural materials, and is a maintained pathway.
- E. **Management Objectives**—The trail and the railway are managed and maintained in order to enhance users' experiences. Trail quality, aesthetics, and vegetative management should be incorporated into the design and management of the trail and railway. Areas with outstanding geologic or biotic features will be managed to preserve or restore those resources. Management plans and maintenance standards to achieve these objectives will be mutually agreed upon by the trail partners.
- F. **Trail Use**—The long-term goal is an off-road trail for public use on foot, providing scenic, aesthetic, educational and sensory experiences for users. The trail provides opportunity for non-consumptive recreation and a variety of challenge levels, including fully accessible segments. To provide essential connections for long-distance users, the Ice Age Trail might temporarily or permanently utilize portions of other trails that permit uses other than hiking.
- G. **Trailway Width**—The width of the acquired or protected trailway varies according to the character of the landscape through which it passes, and the need to either insulate visitors from a view or expose them to it. In urban areas, the trailway may be a sidewalk or other narrow trailway. In non-urban areas, it generally will average 200-1,000 feet, with occasional wider areas to protect a significant natural/cultural feature or viewscape.
- H. **Signs and Marking**—The trail is marked with a system that identifies the trail, regulates usage, provides directions and information, and interprets significant features.
- I. **User Support Facilities**—The Ice Age Trail will rely to a large extent on existing parks and forests, communities, and private sector enterprises to provide many of the basic user needs, such as parking, lodging, restaurants, etc. The trail will in many instances be deliberately routed to take advantage of these amenities. In other instances, connecting trails may be developed or utilized to provide access to these amenities.
- J. **Interpretation**—Major interpretation of the Ice Age and Wisconsin's glacial landscape will occur at Units of the Ice Age National Scientific Reserve, the companion project of the Ice Age National Scenic Trail. However, there are many outstanding glacial landforms and other natural and cultural resources along the trail that are deserving of and need high quality wayside exhibits or other appropriate interpretive media and programs to help trail users understand and appreciate them.
- K. **Use of Roads as Connectors**—The trail may also utilize road rights of way where necessary for continuous linkage. This utilization is temporary except where roadways provide the optimum trail experience or only possible long-term connection.
- L. **Intersection with Other Trails**—The Ice Age Trail will intersect or link with many other trails as it meanders across Wisconsin. New intersecting trails that allow uses other

than hiking should be minimized. While such trails may allow uses other than hiking, their connections to the Ice Age Trail must be designed to prevent access of other uses onto the Ice Age Trail.

More specific guidance is found in ***Ice Age National Scenic Trail: A Handbook for Trail Design, Construction, and Maintenance.***

Agreement:

<u>/s/ Christine Thisted White</u> Executive Director, Ice Age Park and Trail Foundation	<u>10/28/02</u> Date
<u>/s/ Darrell Bazzell</u> Secretary, Department of Natural Resources	<u>11/8/02</u> Date
<u>/s/ Thomas L. Gilbert</u> Superintendent, National Park Service	<u>10/23/02</u> Date

APPENDIX E: PROGRAMMATIC AGREEMENT, NPS ICE AGE and NORTH COUNTRY NSTs and WISCONSIN STATE HISTORIC PRESERVATION OFFICE

Programmatic Agreement Between the United States Department of the Interior, Ice Age and North Country National Scenic Trails, and the Wisconsin State Historic Preservation Office

Regarding § 106 of the National Historic Preservation Act
and Specific Provisions of the Advisory Council on Historic Preservation's
Implementing Regulations at 36 CFR Part 800

WHEREAS, the United States Department of the Interior, National Park Service, Ice Age and North Country National Scenic Trails provide financial assistance to private organizations, municipalities, counties, state, and other federal agencies; and

WHEREAS, National Park Service (hereinafter “NPS”) has determined that with its administration of the its Ice Age and North Country National Scenic Trails (hereinafter TRAILS, undertakings may result in effects to historic properties as defined at 36 CFR § 800.16(l); and

WHEREAS, the NPS and the Advisory Council on Historic Preservation (hereinafter “ACHP”) have in place a Nationwide Programmatic Agreement (hereinafter “NPA”) constituting a program alternative as defined by 36 CFR § 800.14; and

WHEREAS, the NPS and the Wisconsin State Historic Preservation Officer (hereinafter “SHPO”) agree that this Programmatic Agreement (hereinafter “PA”) does not represent a Subsequent Agreement as described by Section IX of the NPA, but rather, this PA represents an expedited consultation process between the SHPO and the NPS, pursuant to 36 CFR § 800.3(g), and does not constitute a program alternative, per 36 CFR § 800.14; and

WHEREAS, the NPS and the SHPO agree that each has responsibilities under the National Historic Preservation Act (hereinafter “NHPA”) and the ACHP implementing regulations at 36 CFR Part 800 that are neither referenced in nor incorporated into this PA; and

WHEREAS, this programmatic agreement will apply to TRAILS undertakings throughout the state of Wisconsin; and

WHEREAS, the SHPO and NPS agree that this programmatic agreement does not pertain to any undertakings pursuant to the NHPA and the ACHP’s implementing regulations at 36 CFR § 800

over which a Tribal Historic Preservation Officer, established pursuant to § 101(d)(2) of the National Historic Preservation Act of 1966 and further described at 36 CFR § 800.2(c), retains jurisdiction; and

WHEREAS, the definitions given in 36 CFR Part 800.16 are applicable throughout this programmatic agreement; and

WHEREAS, "The Wisconsin NHPA § 106 Review Process" (located on the World Wide Web at: http://www.wisconsinhistory.org/hp/protecting/106_intro.asp, or such World Wide Web location as identified by the SHPO in writing to the NPS) (hereinafter "Wisconsin Process", Appendix II) is referenced in and applicable throughout this PA.

NOW, THEREFORE the NPS and the SHPO agree that the TRAILS undertakings shall be carried out in accordance with the following stipulations:

Stipulations

I. Personnel

- A. The NPS shall designate a single staff person for each trail (hereinafter "Staff") to coordinate per the Wisconsin Process, and to be the contact point with the SHPO for all matters concerning this programmatic agreement. The Superintendent of the Ice Age and North Country National Scenic Trails is the person responsible for ensuring that all provisions of the programmatic agreement are carried out. NPS Staff has designated cultural resources professional advisors to consult with at the NPS Midwest Region office in Omaha, Nebraska.
- B. The NPS shall notify the SHPO of any proposed Staff changes. If, at any time through the duration of this programmatic agreement, the NPS does not have Staff in place to carry out the review, then the NPS and the SHPO shall consult to develop alternative administrative procedures for implementing the programmatic agreement.

II. Review Process

- A. A list of undertaking determined not to have the potential to affect historic properties can be found in Appendix I.
- B. Corridor Planning Process -- The NPS shall consult the Wisconsin Archeological and Historical Resources Database (hereinafter "WisAHRD") and shall summarize the information derived from the WisAHRD into the specific corridor plan.

C. Construction

1. Ground-Disturbing Undertakings

- a. If NPS determines through consultation of the WisAHRD or through other means, that a known archeological site is located within the project area, then the undertaking must be submitted to the SHPO for review and comments pursuant to the provisions of the Wisconsin Process.
- b. The NPS shall ensure that trail construction personnel receive pertinent information derived from the WisAHRD, including specific historic property site location information, prior to any specific trail construction activity.
- c. For undertakings that are not noted in Appendix I, the NPS shall carryout the provisions prescribed in the Wisconsin Process.

2. Non-Ground-Disturbing Undertakings

- a. Prior to commencing any undertaking that may affect a property either listed on the NRHP or eligible for listing on the NRHP, the NPS shall comply with the provisions of the Wisconsin Process.
 - b. If the property within the project Area of Potential Effect (APE) is recorded in the WisAHRD and has not been formally evaluated by the SHPO, then the NPS shall apply the NRHP criteria to determine whether the property is eligible for listing on the NRHP, and shall carryout the provisions prescribed in the Wisconsin Process.
 - b. If a property is listed on the NRHP, or previously was determined eligible for listing on the NRHP, or is determined eligible for listing on the NRHP through NPS's evaluation, then the NPS shall continue with the project review pursuant to the terms prescribed in the Wisconsin Process.
- D. The NPS shall retain comprehensive project files for all projects so that it may provide adequate documentation of these undertakings should it receive a request for such documentation. Also, this documentation shall be made available to the SHPO upon request per Part IX.

III. SHPO Review of Project Submittals

- A. The SHPO shall review all project submittals pursuant to the terms outlined in this programmatic agreement and as prescribed in the Wisconsin Process.
- B. If the SHPO believes that a specific undertaking may affect a property that is eligible for listing on the NRHP, then it shall notify NPS. Upon receipt of such notice from

the SHPO, NPS shall review the project-specific undertaking pursuant to the terms of this PA and as described in the Wisconsin Process.

IV. Emergencies

From time to time, undertakings may be wholly or partially funded and/or carried out by or on behalf of NPS in response to natural and man-made disasters. Such undertakings may be exempt from federal environmental review requirements, per 24 CFR 58.34(a)(10) being those instances which have been officially declared by the President or Governor resulting in conditions which may endanger lives or threaten property eligible for the National Register of Historic Places. If the NPS shall commence an undertaking resulting from such an emergency, then 36 CFR Part 800.12 shall apply beginning with immediate SHPO notification. An accelerated consultation process should be initiated as soon as possible for undertakings implemented within 30 days of the official declaration.

V. Inadvertent Discoveries

In the event that an archeological site (2 or more artifacts) is inadvertently discovered during an undertaking, work in that location should cease and SHPO be immediately notified. Work may not continue at that location until a determination of its eligibility for the NRHP is made. Work may continue 15 meters beyond the perimeter of the site.

VI. Human Burials

In the event that a human burial site may be affected, or is discovered during project construction, the Wisconsin Burial Law, Wis. Stat. § 157.70, shall be implemented including the immediate notification of the SHPO. The Wisconsin Burial Law has no standing on, or application to, federal land where the Native American Graves Protection and Repatriation Act (NAGPRA) would apply.

VII. Documentation

- A. Documentation required by the SHPO for consultation per the provisions of this programmatic agreement may include written descriptions of the project and affected historic properties, reports demonstrating that properties are eligible for listing in the NRHP, and maps showing APEs.
- B. All documentation generated for review purposes under the terms of this programmatic agreement shall meet the requirements of the Wisconsin Process and the provisions of 36 CFR Part 800.11.
- C. Two copies of any archeological reports or historic property documentation generated under the terms of this PA will be provided to the SHPO for inclusion into the state-wide database.

VIII. Technical Assistance

The SHPO shall notify the NPS of training opportunities, provide technical assistance to the NPS, and help develop training for its partners in areas of mutual concern and need.

IX. Monitoring

- A. The NPS shall retain documentation concerning all undertakings carried out pursuant to this programmatic agreement for a period of 3 years from project completion.
- B. The NPS, when requested, shall provide the SHPO a report summarizing the undertakings carried out pursuant to this programmatic agreement.
- C. After providing reasonable notice to the NPS, the SHPO may monitor specific undertakings.
- D. The NPS shall make available to the SHPO upon request all historic-review related documentation for projects undertaken pursuant to the provisions of this programmatic agreement. This periodic review may be carried out to evaluate the adequacy of the provisions of this programmatic agreement and to assess NPS compliance with the terms of this programmatic agreement.

X. Other Laws, Rules, Regulations

- A. No provision of this programmatic agreement, whether expressed or implied, is intended or designed to exempt either the NPS or the SHPO from their respective obligations, duties and responsibilities pursuant to any provisions of the NHPA § 106 and/or the ACHP's implementing regulations at 36 CFR Part 800 not specifically referenced herein, or the provisions of any other federal, state, or local law, regulation, rule or ordinance not specifically referenced herein.
- B. The NPS understands that it may be required to contact and/or consult with individuals, groups and/or units of government including Native American Nations or Tribes throughout the NHPA § 106 review process, consistent with and pursuant to provisions of the NHPA § 106 and the ACHP's regulations at 36 CFR Part 800 not otherwise referenced herein.

- C. It is the responsibility of the NPS and the SHPO independently to recognize, understand and carry out each of their respective obligations, duties and responsibilities under the NHPA § 106 and the ACHP's regulations at 36 CFR Part 800 not otherwise referenced herein.

XI. Amendments

This programmatic agreement may be amended if the NPS and the SHPO decide in consultation that the terms need to be revised, updated or changed for any reason.

XII. Termination

- A. Either the NPS or the SHPO may terminate this programmatic agreement by providing written notice describing the reason(s) for termination to the other party. This programmatic agreement shall remain in effect for 30 days from receipt of notice to terminate. The NPS and the SHPO shall consult prior to actual termination to resolve the written reasons for termination and if possible, to amend the programmatic agreement accordingly or seek other actions that would prevent termination.
- B. In the event that this programmatic agreement is terminated, then NPS shall comply with the NHPA, 36 CFR Part 800 and the Wisconsin Process for any undertakings that may affect historic properties.

XIII. Sunset Provision

- A. This programmatic agreement shall remain in force for 10 years from the date of the final signature unless the programmatic agreement is terminated or superseded by another programmatic agreement.
- B. Within 6 months prior to the expiration of this programmatic agreement, NPS and the SHPO agree to meet to negotiate terms for a new programmatic agreement, extension of the terms of the existing programmatic agreement, or reversion to the specific provisions of the NHPA and 36 CFR Part 800.
- C. If neither party objects to the other in writing, the existing agreement (all of its terms in their entirety, except for provision XIII Sunset Provision section A), shall renew and shall remain in force for a period of 2 years from the date of expiration of the existing agreement.

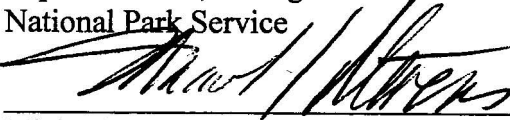
By:


Thomas Gilbert

Date: 8/30/10

Superintendent, Ice Age and North Country National Scenic Trails
National Park Service

By:


Michael E. Stevens

Date: Sept 2, 2010

Administrator, Division of Historic Preservation
Wisconsin Historical Society

Appendix I

Activities that do not have the potential to affect historic properties.

The following undertakings have been determined not to have the potential to affect historic properties pursuant to the ACHP's regulations at 36 CFR § 800.3 (a) (1). With respect to these undertakings, if the NPS finds reason to believe that a property may be eligible for or is listed on the National Register of Historic Places (hereinafter "NRHP"), then that individual undertaking shall be reviewed pursuant to other applicable provisions of this programmatic agreement. The NPS shall retain comprehensive project files on these undertakings so that it may provide adequate documentation should a request be received.

Certification of trail segments.

Activities associated with the layout and design of the trail, such as the use of marking tape and pin flags.

Blazing Trail: Trail marking and identification including painting on trees and affixing signs or other markers to trees.

Mowing: cutting vegetation growth to facilitate pedestrian use, including manual (scythe, slingblade) and machine (walk-behind or riding mower, tractor with mower deck, string trimmer) techniques.

Posts: Installation of posts for marking the trail (where blazing trees is not possible) or for marking property boundaries.

Fencing: Repairing of fences.

Vegetative Management: Pesticide application; prescribed burning; and the cutting, trimming, pruning, and harvesting of trees that does not involve removing stumps or roots.

Any undertaking that may disturb ground that has been disturbed previously to a greater extent than currently proposed is exempt.

Seed Bed Preparation/Prairie Planting: Restoring prairie from previously cultivated cropland and limiting the ground disturbance to the depth of the existing plow zone.

Fill placed on upland locations: Spreading of fill excavated from wetland restoration areas on upland locations, where there is no associated ground disturbing activity at the upland locations.

Undertakings that occur on "made land" of such a thickness as to preclude any reasonable undertaking from ever having the potential to impact the prehistoric resources which may lie beneath it. For example, former railroad grades or extensive fill may be considered "made land."

Actions in Hydric Soils: All actions that occur exclusively within hydric soils. Note: actions taken in wetland areas are restricted by other agencies.

Tile Breaks: Removing or disabling a section of drain tile in previously disturbed ground.

Ditch Plugs: Filling a ditch with soil that had been excavated previously from the ditch, or excavated from hydric soils.

Properties that are less than 50 years old are considered not eligible for listing on NRHP and are exempt from review under this programmatic agreement.

Undertakings that will only affect a property that is 50 years old or older but that previously (within 10 years from the date of the current project review) has been determined not eligible for listing on the NRHP are exempt from review under this programmatic agreement.

APPENDIX F: LEGISLATION AND STATUTES

This assessment serves to:

- A. (1) Comply with all provisions regarding environmental considerations and public involvement required by 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)2r 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 G: REFERENCES CONSULTED

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