Ice Age National Scenic Trail

# Corridor Plan and Environmental Assessment for Marathon County

## Finding of No Significant Impact

When Congress amended the National Trails System Act in 1980, it authorized the establishment of the Ice Age Trail as a National Scenic Trail (NST), but designated only a general route for it. This general route frequently identified 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 proposed route was then incorporated into the 1983 *Comprehensive Plan for Management and Use of the Ice Age National Scenic Trail* (Plan) with instructions that "Detailed planning for the location and construction of new trail segments needed to make the Ice Age NST a continuous off-road trail….begin as soon as possible." Over the years, independent efforts to establish the Ice Age Trail in Marathon County have been sporadic and have needed a professional analysis to identify a viable route.

Through the Corridor Planning Process, the National Park Service (NPS), Wisconsin Department of Natural Resources (WDNR) and Ice Age Trail Alliance (IATA), partners in the Ice Age NST project, identified and evaluated alternatives for establishing a "corridor of opportunity" within which the Ice Age NST would be developed across Marathon County. The "corridor of opportunity", which is approximately 3-6 miles in width, defines the area within which lands for the trail will be acquired or otherwise protected, but only on a willing seller basis. These protected lands known as the "trailway," average 200-1,000 feet in width, and it is on these lands that the trail is developed. The "corridor of opportunity" serves as a guide for federal, state, local, and private efforts to secure lands for the trail and as advisory information for town and county land-use planning. All participation in the Ice Age NST is voluntary.

The Purpose of the Ice Age NST 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 national scenic and historic resources.*

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

*To provide a superlative hiking trail 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*.

**The NPS decision is to adopt the corridor described as the "preferred" alternative in the *Ice Age National Scenic Trail Corridor Plan and Environmental Assessment for Marathon County, Wisconsin* (EA). This is also the "environmentally preferable" alternative.**

The EA evaluated two alternatives: the preferred alternative and a no action alternative. The no action alternative is to not adopt a specific corridor for the trail. The preferred alternative is to adopt a specific corridor for the trail. A planning team was formed to investigate potential corridors for the trail, and conduct a public review process to evaluate them. A number of trail routes within the preferred alternative's corridor were also identified and evaluated.

### Preferred Alternative

The preferred alternative will allow permanent protection of some of the geological, biological, and archeological resources within the corridor from development and will create a protected, undeveloped trailway of diverse habitats (both uplands and wetlands) that will promote an increase in biodiversity. The preferred alternative will increase public recreational opportunities and connect existing recreational resources. Securing a trailway in public ownership will help maintain the existing wildlife and in some cases, will benefit threatened and endangered species by permanently protecting their environment. The preferred alternative will 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.

The preferred alternative would amend the route identified in the Plan for Marathon County. Approximately 40-45 miles of new trail would be built; 12 miles of the trail currently exist within the proposed corridor between the Village of Hatley and the Dells of Eau Claire County Park. The preferred alternative follows the undulating terrain of the Hancock, Almond, and Elderon moraines as they wind north-northeast along the eastern edge of Marathon County. Glacial features captured by the preferred alternative include boulder fields, ice-walled lake plains and kettle ponds as well as the Wolf, Plover, and Eau Claire Rivers. The preferred alternative also has the potential to link three state fishery areas, a state natural area, two county parks, several town parks, and the Mountain Bay State Recreation Trail. Incorporated within it are a number of communities such as of Hatley, Pike Lake, Galloway, and Three Lakes. Collectively, these areas provide support facilities such as trailheads, parking, water, lodging, and phones.

## Environmentally Preferred Alternative

As stated in Section 2.7.D of *Director's Order #12 and Handbook*, the environmentally preferable alternative is the alternative that will promote the national environmental policy expressed in the National Environmental Policy Act (NEPA) (Sec. 101 (b)). Thus, the environmentally preferred alternative is 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."

The preferred alternative –to adopt a continuous corridor through Marathon County in which to develop a high quality recreation trail as part of the Ice Age NST—is the alternative that best achieves the goals of the national environmental policy as expressed in NEPA. It is also the alternative that maximizes the intent of the federal legislation relating to the trail as described in the "Purpose of the Ice Age NST." The preferred alternative incorporates those geologic features that best tell the story of the last glacial event that occurred in this region of the state, optimizes the use of public lands and existing support facilities, and will provide an outstanding hiking experience that will take the user through a diversity of habitats,

topography and cultural settings. The No Action alternative amounts to abandoning any coordinated, collaborative effort to attain these goals.

## Other Alternative Considered But Dismissed

During the initial stages of the Corridor Planning Process, the Core Team considered one other alternative for a potential "corridor of opportunity." The alternative considered is located west of the preferred alternative, south of State Highway 29, on top of the terminal Hancock Moraine and surrounded by lowlands. In the 1970's portions of the trail were located here because the moraine is very distinctive and would be great for interpretive purposes. However, upon further evaluation this alternative was dropped from consideration because it would be very difficult to wend a way through the low-lying areas which would create a poor hiking experience; and, this area is out of the way of the other completed segments of the trail requiring a longer route and overall increased costs for trail development and maintenance.

## Public Involvement

There has been considerable emphasis on public involvement during this trail planning effort. As a part of this planning process, the IATA, NPS, and WDNR made numerous contacts with the public, Marathon County and the affected townships. Outlined below are the results of our contacts:

Core Team Meetings: The Core Team is composed of representatives from the National Park Service, Wisconsin Department of Natural Resources, Ice Age Trail Alliance, North Central Planning Commission, and Marathon County Parks. They have met over forty times to coordinate public involvement, conduct field work and undertake other activities involved with refining the corridor, identifying potential trail routes, and assessing landowner interest.

Scoping--Town and County Board Meetings: During 2003 a series of presentations were made to the Marathon County Board and communities located within the planning area including: The Towns of Bevent, Harrison, Plover, Ringle, Easton, Norrie, Elderon, Franzen, Reid, and the Village of Hatley. These presentations focused on providing an overview of the Ice Age NST, discussed the Corridor Planning Process, the significant geologic features of Marathon County, and responded to questions and concerns about the project.

Public Open House Meetings—Series I: After defining the proposed alternatives, the Core Team hosted an initial round of three Open Houses meetings. They were held on January 24, 25, and 31, 2005, in the Towns of Bevent, Plover, and Reid, respectively. Information on the meetings was distributed to all government officials potentially affected by the trail (town and county boards), and the media. Individual letters were sent to all of the landowners within the proposed corridor. About 100 people attended the three meetings. These meetings provided area landowners with an opportunity to learn about the project, share their level of interest as potential participants, and gain insight on how it might affect them. The meetings also featured presentations on cultural history, geology and natural history. Both written and verbal comments were collected and noted.

Corridor Expansion

After reviewing both positive and negative comments received at the meetings, the Core Team determined it necessary to develop additional route options at its southern terminus to provide for a continuous link between Marathon and Portage Counties. This expansion included Sections 3, 10, 33 and 34 in the Town of Franzen in Marathon County, and portions of Sections 2, 3 and 4 in the Town of Alban in Portage County. Also, after noting that the corridor immediately south of Hatley was limited to the west by the Plover River, it was determined that the corridor should be expanded east to allow for a wider corridor to accommodate multiple route options, since all participation in the project by landowners is

voluntary. This second expansion included Sections 29 and 32 in the Town of Norrie and Section 5 in the Town of Elderon. Throughout 2006 and early 2007, landowners within the expanded areas were contacted individually by phone and/or in writing to advise them of their inclusion in the proposed corridor. These landowners were also provided with additional background information/materials.

Public Open House Meetings—Series II: The second series of open house meetings was held in August of 2007 to present the "Preferred" corridor alternative to the public with possible route options for the trail. Some time had lapsed between the first and second series of public meetings. The reason for this was to identify possible route options for the trail within the preferred alternative, and individually contact some of the landowners to determine the feasibility of the route options. The second series of open houses was held on August 22, 25, and 29, 2007 in the Town of Plover, the Village of Hatley, and the Town of Franzen, respectively. Again, public officials and landowners within the proposed corridor were invited, and the media was notified. Approximately 100 people attended. These meetings provided information about the Ice Age NST project, specific information about the possible route options, and answered questions and concerns regarding the implementation and management of the trail. Presentations were made by long-distance hikers at the Plover and Franzen meetings, and a guided geology hike offered during the Hatley meeting.

Both written and verbal comments were collected and noted. Some comments stated support for the trail, expressed interest in selling land or easements, and offered to build the trail. Comments received opposing the trail were generally from landowners who did not want the trail on their property. Because of the wide nature of the "corridor of opportunity," landowners opposed to the trail can be avoided as trail alignments are developed. After reviewing all comments, it has been determined that no additional changes are needed to the "Preferred" corridor alternative for further development of the Ice Age NST.

Public Review and Comment for "Draft Ice Age NST Corridor Plan and Environmental Assessment"--
The NPS issued a "Draft Ice Age National Scenic Trail Corridor Plan and Environmental Assessment for Marathon County, Wisconsin" for public review and comment for a 30-day period ending XXXXXXXX Comments about the assessment were accepted until the end of the review period. All comments were supportive of the Ice Age NST and it development. Public comment was solicited throughout the planning process.

The Preferred Alternative and Significance Criteria

The environmentally preferred alternative would not have a significant impact on the natural and cultural environment, or the socioeconomic resources of the project area. As defined in 40 CFR 1508.27, the significance of the proposal has been evaluated using the following ten criteria.

*1. Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an Environmental Impact Statement:*

The NPS has determined that the environmentally preferable alternative can be implemented with no significant adverse effect to soils, air quality, water resources, floodplain, wetlands, fisheries, wildlife, threatened/endangered species, visual quality, aesthetics/recreation, cultural resources, and the local economy. Implementation of the Preferred Alternative will actually produce long term beneficial effects for hikers and the environment.

The environmentally preferable alternative identifies a Corridor of Opportunity that is approximately 3-6 miles in width extending from north to south through Marathon County that would receive State and Federal approval. Within this corridor, a trailway that is approximately 200—1000 feet or more in width

would be acquired for Ice Age NST purposes. A wider trailway 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.

A continuous trailway would connect islands of existing public lands allowing movement of wildlife and the perpetuation and enhancement of indigenous plant communities. Also, support facilities for hikers such as trailheads, water, parking, camping, and phones will be provided by the public lands and villages located within or adjacent to the corridor, thus saving major construction/development dollars.

Adoption of this corridor will allow the expenditure of federal and state monies to permanently protect lands for the Ice Age NST for future generations. Today much of the trail exists on handshake agreements and is vulnerable to changes in land ownerships. Acquisition of lands for the trail would restrict residential, commercial and extractive development thereby protecting existing natural resources such as wetlands, fisheries and wildlife habitat.

Possible adverse effects may include problems with litter, additional soil compaction and erosion, trespass onto private lands, and interruption to wildlife patterns caused by increased access to areas within the corridor. Experience has shown on existing segments of the Ice Age NST, and other long distance trails, that these impacts are minimal. Proper construction of trail, clear and sufficient signage, and ongoing monitoring of completed trail segments by volunteers, should alleviate use problems. It is possible that some wildlife may be disturbed by the use of the trail, but this disturbance is short term and wildlife will become accustomed to the occasional presence of users.

Other adverse impacts include the possibility of increased residential development along the corridor, changes of land use from agricultural to conservation/recreation, and property tax implications of land acquisition for the trail. The Ice Age NST may act as an attraction and lead to residential development along the corridor. Securing lands for the trail may change land use. However, regardless of the trail, current land use and ownership patterns are changing, particularly adjacent to State Highway 29. The effect of the trail would be localized to areas directly adjacent to the trail corridor and is not significant on a larger scale. Presently, acquisition of lands for the trail is done primarily by the State of Wisconsin. The state pays property taxes, just like private landowners. Therefore, townships receive tax payments on state land with little or no demand for services to such lands. In March 2009, the National Trail System Act was amended to allow the federal government to purchase lands for long distance trails from willing sellers, although on the Ice Age NST it is yet to be utilized. If, in the future, the NPS does purchase lands for the trail, then this action would constitute a minor, adverse impact on the local tax base. None of these adverse impacts were determined to be significant.

*2. The degree to which public health and safety are affected:*

Development of the Ice Age NST will provide the public with many benefits. First, none of the activities associated with establishing the preferred alternative will have an effect on public health or safety. However, a long distance, continuous trail that links numerous state, county and local lands will provide many opportunities for the public to walk and hike for health and fitness purposes. Today in the State of Wisconsin 61 percent of adults are overweight. Establishment of the preferred alternative for the Ice Age NST may help the state reach the 2010 Center of Disease Control (CDC) goal of only 15 percent of adults being obese. It may also help the state meet an additional CDC goal of 30 percent of adults being physically active. The impact to local communities of additional emergency response requests along the trail will be minimal.

Possible adverse effects consist of potential conflicts with agricultural management practices implemented by adjoining landowners such as pesticide applications and manure spreading. Since the trailway typically provides a buffer between the hiker and the neighboring landowner, the impact is minimal.

*3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:*

The preferred corridor alternative was selected because of its high scenic, geologic, biologic and cultural values. The landscape, shaped by multiple glacial advances of the late Pleistocene epoch, is largely defined by features found on the edge and behind the front of the glacier. The undulating topography of the Hancock and Almond Moraines and the less prominent Elderon Moraine, the bisecting tunnel channels, and numerous ponds, dry kettles, and the Dells of the Eau Claire are the significant glacial features found within the corridor. Walking along the Ice Age NST through the rolling hills and scattered open spaces and woodlands of Marathon County will provide users with an ever-changing viewscape of distant panoramas and large-scale geologic features including the distinctive tunnel channel that contains State Highway 29. The juxtaposition of land uses (crops, farm buildings) upon the corridor's topographic features offers variety as well as a pedestrian scale to the landscape. The proposed alternative has an abundance of natural resource features. There are significant stands of nearly pure cedar and upland hardwood forests. Beneath the hardwoods, wildflowers such as jack-in-the-pulpit, spring beauty, squirrel corn, trout lily, and bloodroot form a carpet in the spring. The proposed corridor also contains a wide variety of wetlands, including marshes and bogs, and the unique riparian communities associated with the Wolf, Plover and Eau Claire Rivers.

Within the proposed corridor there are also a number of interesting cultural features including the Legion Ball Park in Hatley which was the meeting ground of the Ho-Chunk Indians who came from as far away as Nebraska and camped there to receive their government annuities. Another place of note listed in the Wisconsin Historic and Archeological database is a Native American Church in the Town of Franzen.

There are currently no sites in the proposed corridor that are listed in the Natural Register of Historic Places, although there are records in the Wisconsin Historical Society's Architecture and History Inventory (AHI). The AHI contains information on historic buildings and districts, structures, sites, objects throughout the Wisconsin. They include architecturally unique farm buildings in the town of Easton, an architecturally unique house in the town of Norrie, a basement barn and the Eau Claire Dells Bridge in the town of Plover.

The benefit of winding the trail through these areas is to provide a delightful hiking experience, educate the public about their significance, and through acquisition protect some of their scenic and natural values.

Construction of trail through these areas may cause a slight amount of soil erosion. However, with proper layout of the trail on the landscape, erosion control techniques, planking or bridges, and trail monitoring, all potential impacts from constructing and using the trail can be mitigated to a non-significant level. Wetlands will be avoided where possible and where wetlands must be traversed, they will be crossed utilizing elevated structures to minimize impacts. There are no national wild or scenic rivers that would be affected.

*4. The degree to which impacts are likely to be highly controversial:*

There are no highly controversial effects on the quality of the human environment identified during either preparation of the EA or the public review period. Comments received from the public expressed concerns about the trail's proximity to residences and active agricultural fields, trail users trespassing on private property, snowmobile trespass, the trail's effect on property values and tax base, parking for trail users, disturbance of wildlife, and conflicts with hunters. Other comments stated support for the trail, expressed interest in selling land or easements for the trail, offered to help build the trail, and volunteered to host overnight camping for hikers. The impacts of this action are not highly controversial.

*5. The degree to which the potential impacts are highly uncertain or involve unique or unknown risks:*

There are no highly uncertain impacts to this action. The Ice Age NST is primarily an 18 inch - 30 inch-wide brushed or constructed footpath through meadows and woodlands. This action will not involve any unique or unknown risks.

*6. Whether the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration:*

The Corridor Planning Process for the Ice Age NST is typically done on a county-by-county basis. Designation of this preferred alternative in Marathon County will connect future trail with an approved Ice Age NST corridor in Portage County. The location of connecting trail on its northern terminus at the Marathon/Langlade County line is being determined through a similar planning process currently taking place in Langlade County. This action is not deleterious and will not have significant future effects. These connections have been well thought out in terms of the significant regional glacial features, linkage to public lands for support facilities, provision for a varied and scenic hiking experience, and preservation of natural features.

*7. Whether the action is related to other actions that may have individual insignificant impacts but cumulatively significant effects:*

Acquisition of land or easements by public agencies is often perceived by landowners or townships as threatening, detrimental, or resulting in loss of tax base. The local tax base should not be significantly affected by this action. If land is acquired by the state, property tax revenues on that land will be paid under provision of state law. If land is purchased 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. If the NPS acquires land for the Ice Age NST, taxes would be paid under the PILT program. This action would constitute a minor, adverse impact on the local tax base.

*8. The degree to which an action may adversely affect historic properties in or eligible for listing in the National Register of Historic Places, or other significant scientific, archeological, or cultural resources:*

On September 2, 2010, the NPS signed a Programmatic Agreement with the Wisconsin State Historic Preservation Officer (SHPO) that defines methods to identify and avoid impacts to cultural resources when designing and building the Ice Age NST. During the Corridor Planning Process, known archeological sites were identified that will be avoided during trail development. If any other historic properties are discovered during trail design and construction, the trail will be relocated or other mitigating measures will be taken in consultation with the SHPO, as required under Section 106 of the National Historic Preservation Act.

*9. The degree to which an action may adversely affect an endangered or threatened species or its habitat:*

According to the U.S. Fish and Wildlife Service (USFWS), the only federally listed endangered species which might occur in Marathon County is the Whooping Crane. The Wisconsin population of this species is considered to be experimental except where it occurs within the National Wildlife Refuge System or the National Park System, where it is a treated as a threatened species. The experimental population designation denotes more flexible management for proposed endangered species or threatened species. It prefers bogs, lake margins, wetlands, and marshes with water from 8 to 10 inches to as much as 18 inches deep. Habitat for this species is found in several locations in and near the proposed Ice Age NST corridor, however they tend to be poor areas in which to locate a trail.

Currently, the NPS and USFWS are working together to develop Best Management Practices (BMPs). These practices are intended to minimize the impacts to threatened and endangered species resulting from the construction and use of the Ice Age NST. By adhering to the BMPs being developed, the preferred alternative is unlikely to negatively impact threatened and endangered species. In the event that the NPS is not able to avoid adverse effects to listed species, formal consultation would be initiated with USFWS.

*10. Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment:*

The preferred alternative violates no federal, state, or local law, including environmental laws.

**Impairment**

After review of the impacts of the proposal, it has been determined that the alternative selected will not result in the impairment of resources and will not violate the NPS Organic Act.

**Basis for Decision**

The NPS selected the preferred alternative over the no-action alternative to ensure that the intent of the Ice Age NST's authorizing legislation, the National Trails System Act, is met. The preferred alternative is consistent with the *Comprehensive Plan for Management and Use of the Ice Age NST*, and will provide protection to cultural, historical and natural resources.

I find that the preferred alternative does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, in accordance with the National Environmental Policy Act of 1969 and regulations of the Council on Environmental Quality (40CFR 1508.9), an environmental impact statement will not be prepared for the project.

**Recommended:**_____ _____

**Superintendent, Ice Age National Scenic Trail** **Date**

**Approved:** _____ _____

**NPS Midwest Regional Director** **Date**

# DETERMINATION OF IMPAIRMENT

## Ice Age National Scenic Trail
## Marathon County Corridor Plan and EA

A determination of impairment is made for each of the resource impact topics carried forward and analyzed in the environmental assessment for the preferred alternative. The description of park significance was used as a basis for determining if a resource is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's comprehensive management plan or other relevant NPS planning documents as being of significance.

Impairment determinations are not necessary for visitor experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, etc., because impairment findings relate back to park resources and values. These impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired the same way that an action can impair park resources and values.

## NATURAL RESOURCE TOPICS

### Geology

The "Preferred" alternative for the Ice Age NST in Marathon County is a corridor that is approximately 51 miles long and 1-3 miles in width. Within this "corridor of opportunity" the Ice Age NST partners will work to secure lands, generally 200-1000 feet wide, on which to establish the trail. Within this "Corridor of Opportunity" are significant landforms left by the last glacial advance some 10-16,000 years ago. Some of these landforms occur on a large scale such as moraines. Here the Hancock, Almond, and Elderon moraines span the entire area in a northeast, southwest direction. Smaller features found as part of the glacial landscape are kettle ponds, tunnel channels, outwash plains, and ice walled lake plains.

Protection and interpretation of these features are some of the primary purposes of the Ice Age National Scenic Trail. Purchase of lands within the "Preferred" alternative would allow permanent protection of some of these resources from disruptive land uses which would be a beneficial impact. Acquisition within this corridor of areas larger than the trailway would at times be necessary to protect significant features. Development of a trail within this corridor would allow the public access to these geological resources, and would provide an opportunity to interpret their significance within the landscape. Some slight impacts from visitation may occur

if visitation to geologic resources were to increase. Because these impacts are only slight, the "Preferred" alternative would not result in impairment.

Soils

The bedrock soils in the Ice Age NST's proposed corridor originated from igneous, volcanic, and metamorphic rock materials created during the Precambrain Epoch. Except for major drainageways such as the Dells of the Eau Claire County Park, this Precambrain bedrock is typically overlain with 10-260 feet of glacial materials deposited by the Green Bay Lobe some 25,000-30,000 years ago during the Pleistocene Epoch. Soils found in this area are derived from the weathering of glacial drift, outwash and bedrock, and are predominately sands, loamy sands, and sandy loams. Glacial erratics are scattered throughout the project area. Sandier soils are found in the southern part of the county.

The construction of the trail tread may cause impacts to soils but can be mitigated to a negligible level. When the trail is laid out for construction, the alignment chosen would attempt to minimize the possibility of compaction or erosion of the soil surface. In addition, soils that are rocky or frequently wet would be avoided whenever possible. As necessary, proper erosion control techniques such as side hill construction, waterbars, and drainage dips would be employed. Through the use of techniques prescribed by the *Handbook on Trail Design, Construction, and Maintenance for the Ice Age NST*, the preferred alternative would not result in impairment.

Water Resources

The water resources within the proposed "Preferred" alternative are the direct results of glaciation, and are linked to the trail's geologic, recreational and interpretive significance. Rivers, streams, kettle ponds, marshes, and wetlands are some of these features, and creation of the trail affords the opportunity to preserve them and interpret their significance within the landscape.

The Plover, Eau Claire, and Little Wolf Rivers all flow through the proposed Ice Age NST corridor. All of the rivers are high quality trout fisheries. The Plover River is located between the Hancock and Almond moraines and is part of the Upper Wisconsin River Basin. It is the largest trout stream in Marathon County, and one of the largest in the State of Wisconsin. It flows generally southwest through the northern third of the corridor eventually reaching the Wisconsin River. The Little Wolf River flows southeast through the southern third of the corridor towards the Wolf River and Lake Michigan. Other Marathon County trout streams in the proposed corridor include Holt Creek, Aniwa Creek, Mole Brook and Spring Brook. Surface waters such as ponds or marshes within the project area have relatively high overall quality.

Following federal and state regulations, before trail construction occurs on any portion of the Ice Age NST, the NPS expects that the necessary permits to build structures over streams and wetlands be obtained. Trail construction within the preferred alternative may involve the construction of a few bridges and boardwalks to span streams and wetlands. Every effort would

be made to avoid such areas. The construction of these structures may cause short term and long term adverse impacts. These impacts would be extremely localized and would be mitigated through sustainable design. Because there would be only minor, localized adverse impacts, the preferred alternative would not result in impairment.

Air Quality

The ambient air quality within the proposed corridor is generally good and could be characterized as "fresh country air." For the most part, ozone is not an air quality concern in this area. Airborne dust mobilized by plowing or wind erosion of bare soil in agricultural fields at times may be a problem.

Under the "Preferred" alternative, impacts to air quality would be minimal. The increased number of hikers in the area may slightly increase the level of motorized vehicle emissions as trail users travel to the trail. Conversely, overall emissions may be reduced as more people walk the trail rather than drive for pleasure. Because trail construction and use would result in a negligible impact on the area's air quality, the preferred alternative would not result in impairment.

Visual Resources

As the Ice Age NST partners—NPS, WDNR, IATA—begin to create the trail within the preferred alternative, lands put aside for the trail would typically include an area greater than the width of the trail itself (trailway). This is to provide a visual buffer from the surrounding landscape. Vegetative management plans could be implemented to further increase the trailway's scenic value over time. This would positively affect not only the trail but also the surrounding land. Employing vegetative management plans might involve work to enhance existing plant communities or re-create former communities such as prairie restorations, which may beneficially impact biodiversity. Selective pruning or cutting to improve views of geologic features or the landscape, both inside and outside the immediate trailway, would beneficially impact the trail.

Since any location within the preferred alternative is a potential homesite, preserving the trailway through acquisition would reduce the number of incongruous visual features seen by trail users, and preserve these features for generations to come. Regarding visual resources, land protection and management efforts associated with trail development would be a beneficial impact and the "Preferred" alternative would not result in impairment.

Ecosystem

The creation of various ecosystems and microclimates are a direct result of glacial activities that occurred thousands of years ago. The preferred alternative contains a broad array of plant communities that include significant stands of upland hardwood forests such as yellow birch, sugar maple, red and white oak, white pine, hickory, basswood, and hemlock. Trees associated with second growth forests that are due to logging are white, red, and jack pines are in the northeast portion of the corridor; and aspen and birch in the southeast. In addition to

forestlands, a small portion of the proposed corridor lies in wetlands, marshes and conifer swamps.

Development of the "Preferred" alternative in Marathon County will create a continuous, protected, undeveloped trailway of diverse habitats (both uplands and wetlands) that will promote an increase in biodiversity on lands purchased for the trail. Because of the linear nature of the trail, this greenspace will serve as a wildlife corridor, facilitating movement between areas of protected land. These are beneficial impacts and would not result impairment.

Wildlife

Wildlife is abundant in the "preferred" alternative although edge species dominate. More than 100 species of birds are known to breed in the area. Principal fur bearers found here are beaver, otter, muskrat, fox, coyote, black bear, fisher, and mink. Reports of wolves making their way into the area have also surfaced. Other small mammals include raccoon, woodchuck, squirrel, and skunk. Small game species include squirrel (gray and fox) and rabbit (snowshoe and cottontail). White tail deer is the most popular species hunted.

In general, land use within the "Preferred" alternative is primarily agriculture interspersed with woodlands. The area north of State Highway 29 is primarily forested, while the southern area is more agricultural with the primary crops being field and sweet corn, soybeans, and alfalfa. This type of land use creates good wildlife habitat particularly for "edge" species. Under the "Preferred" alternative, securing a trailway would enhance wildlife habitat and provide a corridor for movement. Some wildlife may be disturbed during trail construction activities and when hikers are using the trail. However, this disturbance is short term because the Ice Age NST leaves such a small foot print on the land that the overall pattern of wildlife use would not change. Because there would be no adverse effects, the "Preferred" alternative would not result in impairment.

Fisheries

The waters of the "Preferred" alternative contain a variety of cold and warm-water fish species--northern pike, bass, panfish, carp, walleye, brook trout, brown trout, and rainbow trout. With proper and effective trail design, erosion control during construction, proper placement of water crossings, etc., it is unlikely that there would be adverse effects to the fishery resources of the area near the Ice Age NST. Proper maintenance of the trail, especially in hilly areas near surface waters, will help prevent impacts to the fishery resources due to erosion and sedimentation.

Potential impacts to fisheries include increased sedimentation, stream bank destabilization, and increased exotic species. Trail developers would work with the local WDNR wildlife biologist and water regulation and zoning staff to ensure that when construction of the trail occurs, potential impacts are minimized. Because of these efforts, impacts to fisheries can be mitigated to a negligible level. The "Preferred" alternative would not result in impairment.

## Threatened and Endangered Species

The Endangered Species Act requires federal agencies to ensure that their activities would not jeopardize existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species. Consultation with the U. S. Fish and Wildlife Service and Wisconsin Department of Natural Resources identified one potential federally endangered species and a number of state threatened, endangered, or species of concern.

According to the U.S. Fish and Wildlife Service (USFWS), the only federally listed endangered species which might occur in Marathon County is the Whooping Crane. The Wisconsin population of this species is considered to be experimental except where it occurs within the National Wildlife Refuge System or the National Park System, where it is a treated as a threatened species. It prefers bogs, lake margins, wetlands, and marshes with water levels typically 8 to 18 inches deep. Habitat for this species is found in several locations in and near the proposed Ice Age NST corridor. However, they tend to be poor areas in which to locate a trail.

The WDNR Wisconsin Natural Heritage Inventory Program tracts the location and status of rare species, natural communities, and natural features within the state. Four state threatened and special concern species were found within the proposed corridor. They are the Red-Shouldered Hawk (threatened), Deam's Rockcress (special concern) and two fish species--Pirate Perch and Redside Dace (special concern).

The National Park Service, Wisconsin Department of Natural Resources, and United States Fish and Wildlife Service (USFWS) have developed an agreed upon process to review the proposed alternative corridors and potential trail alignments for federal and state threatened and endangered species to avoid impacting them with the construction of the Ice Age NST. In constructing the trail, best management practices are also utilized. With these agreed upon processes and measures in place, the "Preferred" alternative is unlikely to negatively impact threatened and endangered species in Marathon County. The preferred alternative would not result in impairment.

## Cultural Resources

To assure that cultural resources are not impacted with the development of the trail, in 2010, the National Park Service and State Historic Preservation officer signed a Programmatic Agreement. This agreement outlines how the National Park Service will carry out their responsibilities regarding Section 106 of the National Historic Preservation Act.

### Archeological

Although archeological resources are not necessary to fulfill the purposes for which the trail is established, compliance activities associated with trail construction would have no adverse effect

as such resources are identified and avoided. Because there would be no adverse effects, the preferred alternative would not result in impairment.

Historic Structures

Currently, within the "Preferred" alternative, there are no identified National Register sites. Under the preferred alternative, historic structures could be identified, inventoried, and evaluated under the National Register of Historic Places criteria. Compliance activities associated with Section 196 would have no adverse effects since such resources are identified and avoided as the trail is developed. Because there would be no adverse effects, the preferred alternative would not result in impairment.

Cultural Landscapes

Currently, within the "Preferred" alternative there are no identified National Register sites associated with cultural landscapes. Under the preferred alternative, potential landscapes could be surveyed, inventoried, and evaluated under the National Register of Historic Places criteria. The National Park Service could encourage resource management policies that preserve the natural resource values and culturally significant character-defining patterns and features of listed, or determined eligible landscapes. Some slight impacts from visitation could occur if visitation to cultural landscapes were to increase.

Summary

As described above, adverse impacts anticipated as a result of implementing the preferred alternative on a resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the trail, key to the natural or cultural integrity of the trail, opportunities for enjoyment of the trail, or identified as significant in the trail's general management plan or other relevant NPS planning documents, would not rise to levels that would constitute impairment.