

# A Recreational Development Plan For The Inland Steel Mine Site in Jackson County, Wisconsin<sup>1</sup>

by

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**Abstract:** *Statement of Problem* - A 1,300 acre abandoned taconite mine site in Jackson County, WI. has provided a great opportunity for adaptive re-use for both local and state-wide recreational park interests. A recent study by Short-Elliott-Hendrickson, Inc., in cooperation with the Jackson County Forestry and Parks Department has created a unique and innovative Recreation Development Plan for the site area. The Plan takes into consideration the challenge of utilizing both natural and man-made site features for both human and wildlife benefits in terms of passive as well as active recreation land-use activities.

*Situations* - Recognition of natural and man-made site features include, among other elements, site rehabilitation, wetlands recognition, upland enhancement and re-vegetation of impacted areas. Both engineering and planning principles are applied toward a useful recreation public purpose now and in the future.

*Solutions / Regulations* - A number of unique and challenging site situations have been reviewed and analyzed. Site adaptation methodology included recognition of the application of the existing mine pit (lake), tailings basins, tailings dump sites, operational base features, and other site elements to a practical and "implementable" land-use solution. The process included active participation by the Inland Steel Mine Company, Jackson County Commission, Jackson County Forestry & Parks Commission, Wisconsin Department of Natural Resources (WDNR), and a local Jackson County mine site citizen Task Force. A detailed Recreation Development Plan document and associated exhibits was formulated and is currently being utilized for an energetic "plan-of-action". Both State DNR mineland reclamation policies and Jackson County land-use guidelines and regulations applied.

## Introduction

### Purpose of Study

This paper consists of a Recreation Development Plan for the Inland Steel Mine site located in Jackson County, Wis-

consin (see Vicinity Maps, Figures 1 & 2). The study was initiated by the Jackson County Forestry and Parks Department to review existing and future recreation potential for an approximately 1,300 acre area being reclaimed from a taconite mining operation that ceased activities in 1983.

The purpose and need for the Recreation Development Plan stems from several issues: One of these is the relationship between the manmade, as well as natural features of the site, and

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what recreational opportunities can be made available to the citizens of Jackson County and West Central Wisconsin. It is also feasible to assume that visitors from a much wider geographical area in Wisconsin will view the site as having recreational assets worthy of a short or extended stay in the Black River Falls community area.

Further issues include the unique features of the site and how recreational opportunities can be made available as part of an integral element of the Jackson County Comprehensive Outdoor Recreation Plan (CORP), 1984. This relationship plays a determining role in the types of recreational land use activities appropriate in the site area.

#### Location/Description Of Site

The site is located four miles east of the City of Black River Falls. The area can be more specifically described as approximately 1-1/2 miles south of Highway 54 and immediately east of the Brockway Road and Bauer Road intersection (see Figure 3). Running east-west along the southern boundary of the site area is Castle Mound Road.

A description of the site includes both natural and manmade features. These two elements provide a wide variety of recreational potential and opportunities which will be highlighted in this report. Generally stated, the natural setting contains two streams (Levis Creek and Indian Grave Creek), natural forested areas of largely pin oak (*Quercus palustris*), poplar (*Populus grandidentata*), and low lying wetlands with associated vegetation and wildlife.

Significant manmade features of the site reflect the Jackson Iron Company (subsidiary of Inland Steel) taconite operation. Associated site elements include an open

mine pit (lake) filled with groundwater and covering approximately 140 surface areas, tailings basin, waste dumps, seepage basin area, and a central plant site containing the taconite processing facilities which are currently being salvaged and removed. Much of the area has or is currently being modified as part of a formal reclamation plan between Inland Steel Company and the Wisconsin Department of Natural Resources (WDNR).

#### History of Site

The Jackson County Iron Mine was owned and operated between 1969 and 1983 by Jackson County Iron Company, a wholly owned subsidiary of Inland Steel Company. During this time, low grade iron deposits were excavated, processed, and developed into iron-rich taconite pellets. During the course of operation, an average of 850,000 tons of these iron-rich taconite pellets were shipped annually from the site by rail to Inland's steel mill facility at East Chicago, Indiana.

During operation, it was determined that the mine had a projected life into the mid-1990's. In 1982, the demand for steel collapsed resulting in a reduced need for taconite pellets. This reduced pellet demand caused the temporary closure of the mine in April, 1982. Permanent closure was announced in October, 1983. The plant facility structures and all related personal property were sold to a liquidator (Park Corporation) in January, 1987. Inland Steel Company is now preparing to complete reclamation of the entire site, based on a formal Reclamation Plan approved in April, 1981, with the Wisconsin Department of Natural Resources (WDNR). An amendment request outlining specific adjusted reclamation completion dates and activities was further submitted by Inland Steel Company in June, 1987.

During the last several years, Jackson

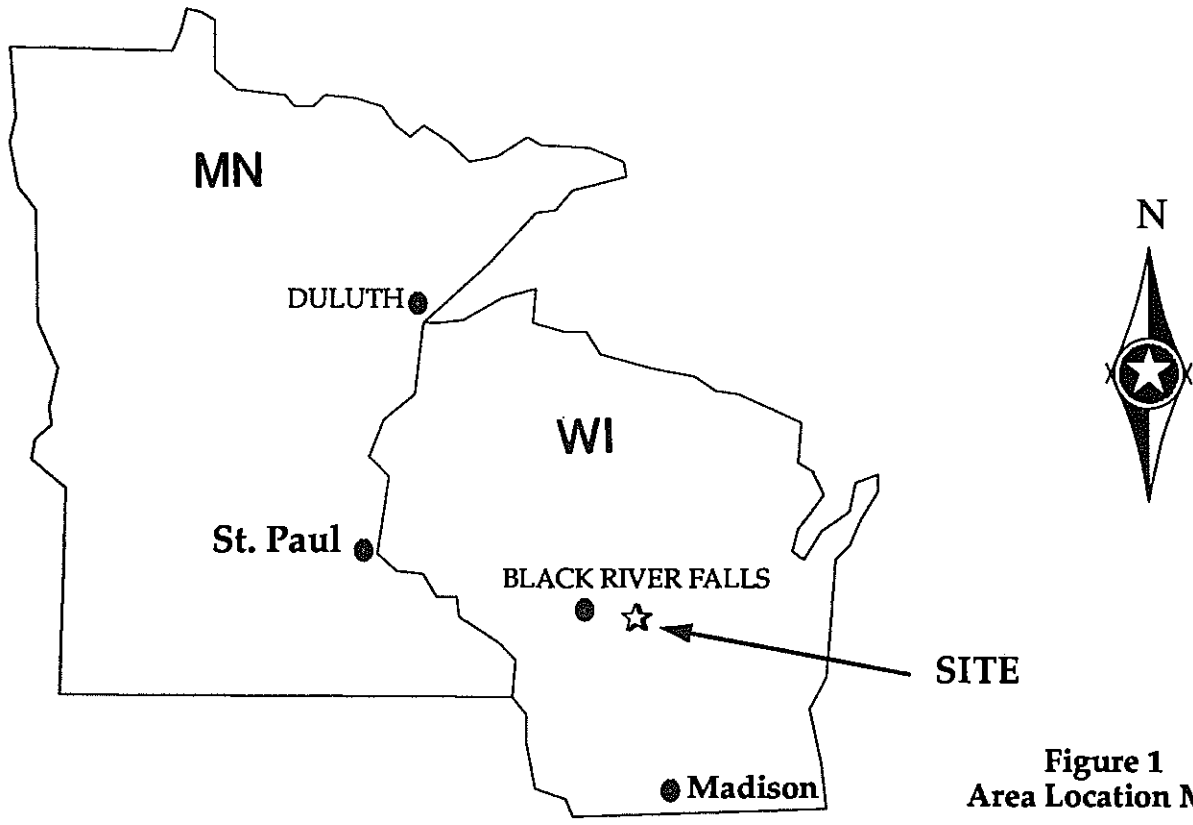


Figure 1  
Area Location Map

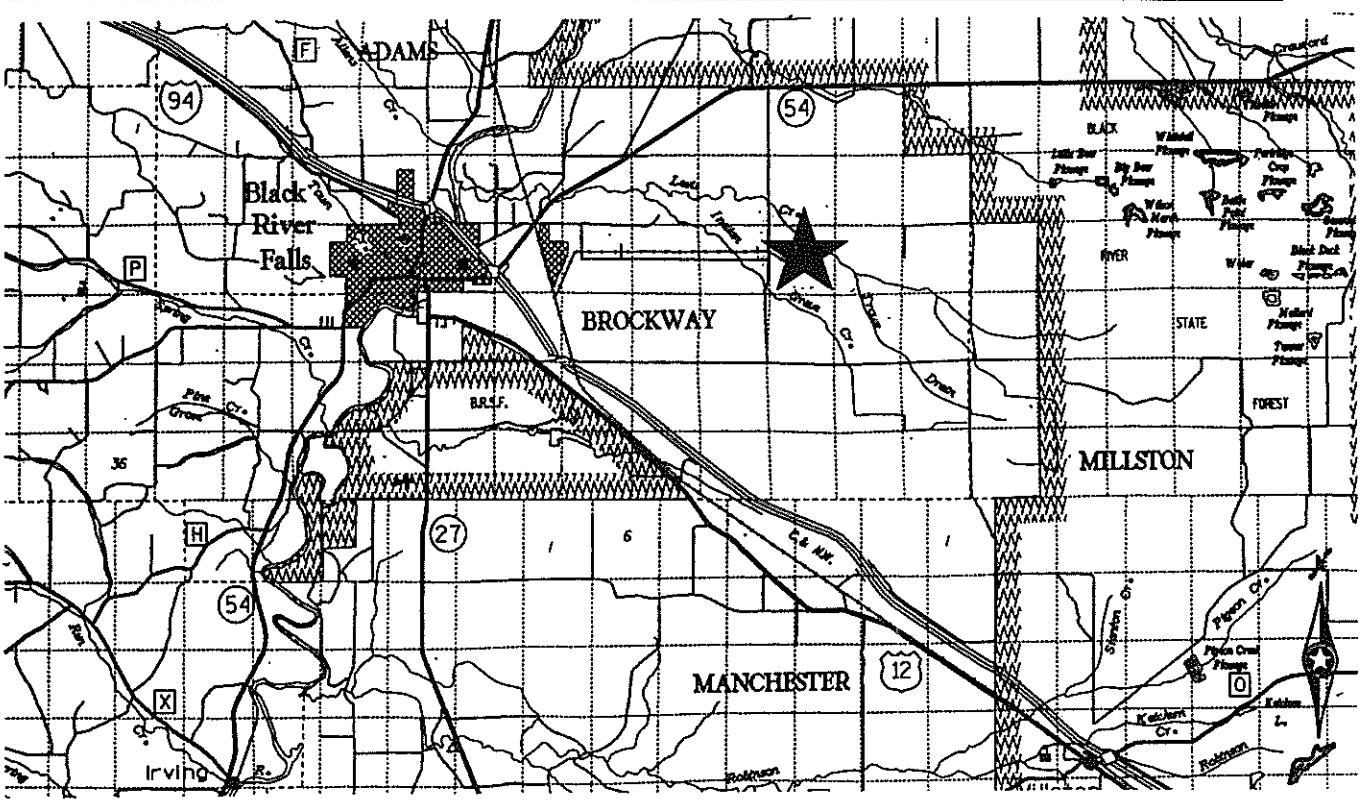
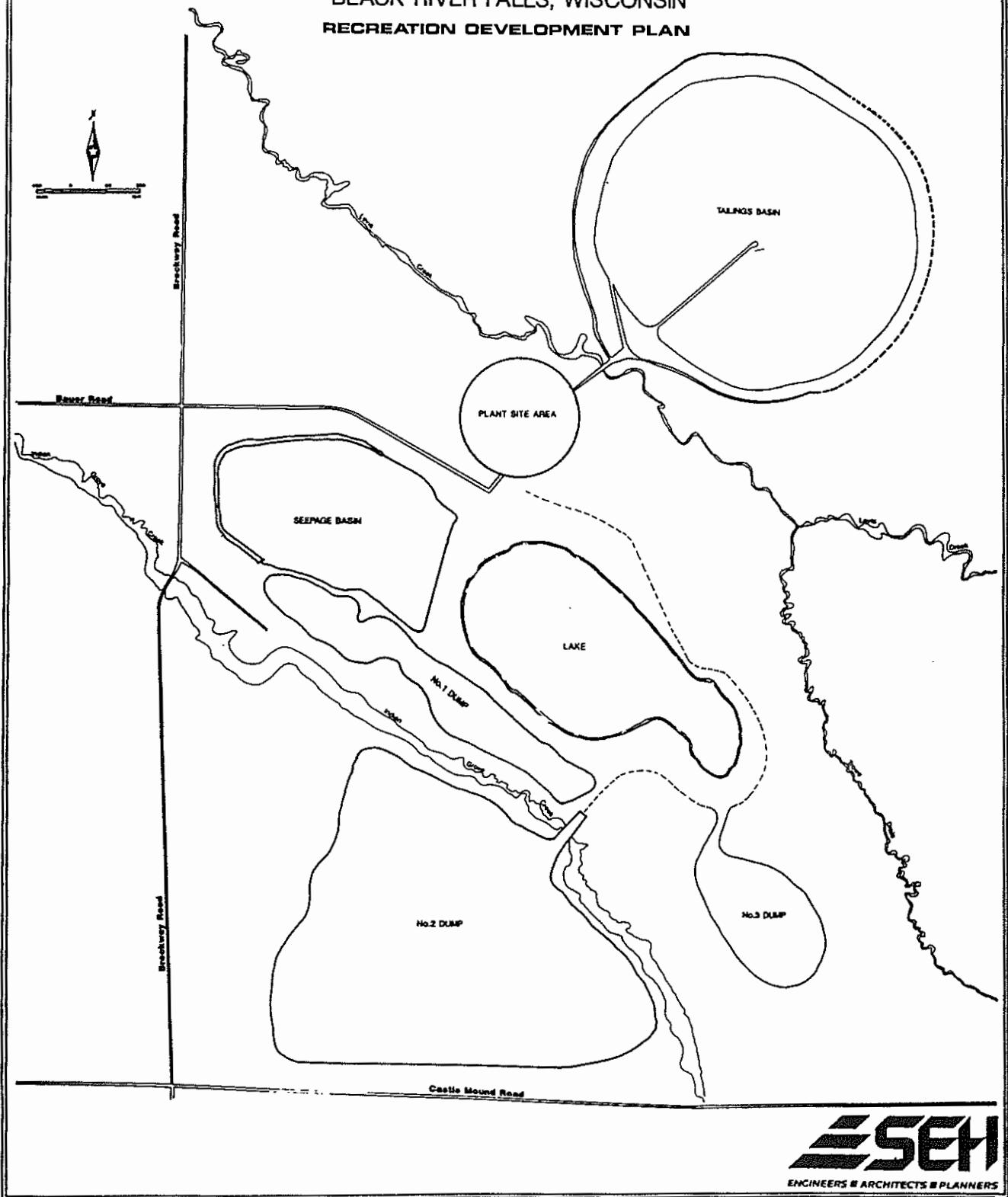


Figure 2  
Mine Site Location

**JACKSON COUNTY IRON COMPANY**  
BLACK RIVER FALLS, WISCONSIN  
**RECREATION DEVELOPMENT PLAN**



**Figure 3**  
**Existing Mine Site - Features**

County has expressed an interest in the mine site for recreational purposes. A great deal of discussion and conversation has taken place with the WDNR relating to the recreational potential the site has. Specifically, such amenities include the open mine pit (lake) area, as well as other manmade and natural features suitable for inclusion in the Jackson County Comprehensive Outdoor Recreation Master Plan (CORP), 1984. Through formal agreement with Inland Steel and WDNR, the mine site is now under Jackson County ownership pending a successful completion of the Mine Reclamation Plan. A four year monitoring observation period is further set forth by WDNR.

### Current Status

Mine Reclamation Plan - Jackson County Iron Company (JCIC), subsidiary of Inland Steel Company, received approval from the Wisconsin Department of Natural Resources (WDNR) for its mine reclamation plan on April 27, 1981. A revised reclamation plan was further submitted by JCIC on June 10, 1987 outlining a specific five year completion schedule, ending in 1992.

For purposes of this study, specific details, correspondence, and analysis of formal approved reclamation activities are not listed. Reference to that extensive information is given to the Wisconsin Department of Natural Resources (WDNR) - Mine Reclamation Section files, 1981 - present. However, it can be stated that the objective of the approved reclamation plan was to restore the entire site to its pre-mining habitat with an emphasis on recreational use, timber production, safety, stability, and biological productivity. To that end, the Jackson County Forestry and Parks Department staff has provided key input during the reclamation process.

Site Ownership - As mentioned earlier in

this report, Jackson County has received ownership of the approximately 1,300 acre mine site. All recreational plans and future development activities associated with the site are being carried out by the Jackson County Forestry and Parks Department as part of the Jackson County Comprehensive Outdoor Recreation Plan (CORP), 1984.

Zoning and Land-Use Guidelines - Review of the Jackson County Zoning Ordinance and official zoning maps find three zoning classifications designated on the site. These include, M-2 INDUSTRIAL EXTRACTIVE, M-3 MINING AND PROCESSING OF IRON ORE, and A-2 FORESTRY AND LIMITED AGRICULTURE.

The M-2 and M-3 zoning designations reflect the past taconite mining operation as well as a current Conditional Use Permit (CUP) for a rock crushing operation recently approved for the Class III ore pile immediately east of the open mine pit (lake) area.

The A-2 zoning designation is identified for the overall mine site area. The following primary land uses are stated in the Jackson County Zoning Ordinance Ordinance and reflect many of the recreational activities presented in this report.

### A-2 Forestry and Limited Agriculture Zone

Section 17-30 (a) Principle Uses. Forestry; greenhouse; nursery; stable; paddock; hatchery; fishing and hunting wildlife preserve; water retention; public parks and campgrounds; utilities; and wildcrop harvesting, including marsh hay, ferns, moss, berries, fruit trees and seeds.

Other land use guidelines include the Jackson County Shoreland Regulations and Floodplain Ordinance. These guidelines are to be reviewed and adhered to in relation to specific recreation development plans (i.e., building structures).

Input and coordination with the Jackson County Zoning Administrator is recommended as a part of the implementation phase of the subject Recreation Development Plan.

*Specific Note: As highlighted earlier in this report, the subject Recreation Development Plan will be incorporated as a part of the Jackson County Comprehensive Outdoor Recreation Plan (CORP), 1984. As such, all goals, objectives and other recreation guidelines are deemed applicable for this site.*

### Physical Setting

The Inland Steel Mine site is located in an area which provides a wide variety of recreational amenities and opportunities. The site is found in a portion of Jackson County which has easy access (i.e., I-94 and Highway No. 54) and a physical setting that shows diversity in terms of both natural and manmade features.

Both the physical setting and environmental factors are key considerations when analyzing the site for feasible recreation activities. Similar to other park planning programs in the County, the following physical factors can be identified and briefly explained.

Topography/Slope - The topography and slope of the site varies from relatively flat undisturbed areas to rather steep rises associated with the mining dump areas. In addition, natural valleys are noticed in conjunction with both Levis Creek and Indian Grave Creek as they transverse the site area. The physical feature of the mine

pit (lake) shows steep rock banks along the north, east, and west shorelines. The south and southwest shorelines do not have such a marked elevation and can be characterized as the best potential for direct lake access, relatively free of exposed bedrock.

Other portions of the site have topographic features largely reflective of the surrounding County area. Low lying areas have wetland features showing a relatively high water table while upland areas have both soils and vegetative features with associated runoff characteristics and topographic features.

Soils/Subsoil - Contact was made with the Jackson County Soil Conservation Service relating to native soil characteristics on the site. Referenced as a part of this report is a memorandum compiled by an area Soil Scientist highlighting various soil types and characteristics. In summary, the area contains native sandy soils that are erodible where active runoff is visible along steep slope areas or where vegetation is not established. Soils associated with low lying wetland areas are organic in nature with obviously high hydrologic characteristics. The subsoil characteristics include areas dominated by shale. This is noticed along the north, east and west banks of the mine pit (lake).

Because of previous mining activity, a significant percentage of the area is influenced by disturbed soils and fill operations. The dump site areas have been stabilized for vegetative cover with topsoil. Another example is the west bank of the mine pit (lake) where slope adjustments and the placement of topsoil has also been undertaken. Within the plant site area native soils have been disturbed with fill for building foundations and parking areas.

It should be noted that specific soil borings and analysis was not undertaken as a part of this report. However, such investigation is recommended prior to the construction of any recreation facility foundation areas, or other development features that require load-bearing capacity analysis. In addition, standard erosion control measures should also be investigated and adhered to for recreational development activities undertaken on the site.

Hydrology - The hydrologic features of the Inland Steel Mine site are closely related to the soils information discussed in the preceding paragraphs. Briefly stated, the water table ranges from 0' - 15'. Low lying wetland areas (located mainly in the northeast and southwest portions of the site) have a water table at or very near the surface while higher upland areas have water levels in the 15'+ range. The subsoil characteristics mentioned include shale which has a tendency to create a "perched" water table that draws the level upward and could be a contributing factor to why the mine pit (lake) filled with groundwater rather rapidly.

In terms of recreational planning, the hydrology of the site contributes to a diversity of both wetland and upland features. Such features reflect the natural appeal of the area for wildlife habitat and diversity of vegetation.

Vegetation - The vegetative features of the Inland Steel Mine site are similar to other portions of eastern Jackson County. The upland areas have largely Jack Pine (*Pinus banksiana*), White Pine (*Pinus strobus*), Pin Oak (*Quercus palustris*) and Paper Birch (*Betula papyrifera*). The lower areas have largely Jack Pine, Poplar (*Populus grandidentata*) and Red Maple (*Acer rubrum*). The wetland areas have a variety of emergents (i.e., cattails), dogwood, and other vegeta-

tion typical of a wet environment.

For recreational purposes, the area can be described as being rather heavily forested along the Levis Creek and Indian Grave Creek areas. The dump site areas are not heavily forested but contain shrub and tree plantings that will become more predominant features in the future. (Such areas are very conducive to upland game birds such as Sharptail Grouse.) In addition, the Jackson County Forestry and Parks Department is currently undertaking a tree planting program in the seepage basin area which contains suitable characteristics for a variety of deciduous and hardwood species. The area also has native grasses and other vegetative cover established as part of the reclamation program.

## Methodology

The planning design process formulated for the study included local and regional recreational needs assessment, identification of distinguishable site characteristics, and prioritization of potential passive as well as active recreation activities. Included as important elements of the study were key meetings and input from the Jackson County Forestry and Parks Department staff, Jackson County Forestry and Parks Department Commission, Inland Steel Mine Company, and various state as well as local review agencies. A recreation land use plan was then formulated for the site taking into consideration research and recommended site alternatives. The result of the planning design process reflects a conceptual Recreation Development Plan for the site as reviewed and discussed in the following sections of this paper.

## Results/Discussion

### Recreation Opportunities/Potential

As mentioned previously in the Introduction and Background sections of this report, the Inland Steel Mine site has a variety of natural and manmade features which offer a great deal of recreational opportunities and potential. The following paragraphs briefly discuss the important relationship this site has to the overall park planning effort for Jackson County.

Jackson County Comprehensive Recreation Plan (CORP), 1984 - An important consideration in the recognition and development of the Inland Steel Mine site for a recreational area is how it reflects the purpose and goals of the Jackson County CORP. The CORP was formally adopted in 1984 and is currently being updated by the Forestry and Parks Department. Consistent with both the original plan and the current update are the goals and objectives for which recreation planning activities are based. Taken directly from the CORP, Page 2, is the following note:

*"Jackson County's primary goal in preparing this Outdoor Recreation Plan is to ultimately provide high quality outdoor recreation opportunities for its residents and visitors and to provide for the continuous development of these facilities in the most efficient and effective manner."*

A further review of the Jackson County CORP, and a 1988 Jackson County Parks and Campgrounds Master Plan, Foth and VanDyke, Inc., finds that the following recreational activities are popular for both County residents and visitors:

Swimming  
Camping  
Walking/Jogging/Hiking  
Boating  
Bicycling

Cross Country Skiing  
Fishing  
Picnicking  
Hunting

Other recreational interests are also noted and range from sight-seeing to more organized activities such as playgrounds and field sports. Stated as a part of all these items is the appreciation and need to preserve the natural beauty and abundant wildlife that the Jackson County area offers by reducing negative development impacts.

Site Overview - Taking into consideration the various recreational activities identified as important to Jackson County, the Inland Steel Mine site offers both a natural experience as well as unique manmade opportunities. Recreational categories can be listed as follows:

#### Water-Related (Fishing, Swimming, Boating) Recreational Activities

- Mine Pit (lake)
- Levis Creek
- Indian Grave Creek

#### Trail (Hiking, Biking, Nature, Cross Country Skiing) Recreational Activities

- Tailings Basin Area
- Levis Creek Area
- Mine Pit (lake) Area
- Railroad Bed and Corridor

#### Passive (Sight-seeing/Nature Education/Picnicking/Tent Camping) Recreation Activities

- Dump Sites - Vistas
- Tailings Basin
- Wetland Areas
- Forested Areas



Active (R.V. Camping/Organized Field Sports/Children's Playground) Recreation Activities

- Plant Site Area (With Utilities)

### Alternatives Considered

An integral part of any park planning study is the various site activities that relate to the unique features and recreational demand for the area. As discussed in the preceding portions of this report, Jackson County provides a variety of opportunities that range from passive to more active recreational experiences.

This section of the report incorporates specific recreational development alternatives for various elements of the Inland Steel Mine site. The site elements are identified as follows:

- Plant Site Area
- Mine Pit (lake)
- Tailings Basin Area
- Dump Sites Areas
- Seepage Basin Area
- Natural Areas
  - Forested
  - Streams
  - Wetlands
- Access/Circulation
- Entry Signage/Landscaping Areas

### Plant Site Area

#### Overview

The existing plant site area covers approximately 65 acres located generally in the center of the mine property. The area served as a hub for all operations throughout the life of the mine with associated taconite processing structures, load-out tower, truck shop, administrative office, and parking lot areas. A salvaging operation is currently under way removing these features in compliance with a Wis-

consin DNR Reclamation Plan. Reference is given to that plan for specific details involving the plant site complex, and reclamation schedule.

### Recreation Opportunities/Alternatives

A compiled list of potential recreation activities was formulated, with pertinent planning notes, to assess the degree of importance various recreational features and activities have for the plant site area. Items were ranked by the Jackson County Forestry and Parks Department Staff. Taken into consideration is input from the Forestry and Parks Committee as well as goals and objectives of the Jackson County CORP.

(Note attached Table 1 at end of paper)

### Mine Pit (lake)

#### Overview

The mine pit (lake) is the most distinguishing feature of the Inland Steel Mine site area. During taconite processing, excavation of iron ore resulted in the pit covering a surface area of approximately 160 acres and a depth of over 350 feet. Today, the area is filled with clear, cold groundwater and covers a surface area of approximately 140 acres. Water depths range from over 300 feet in the main portion of the pit (Lake) area to less than 100 feet in the south and southeast portions. The Reclamation Plan calls for stabilization, sloping, mulching and planting of suitable vegetation along pit walls and pit rim areas. Such efforts are to be completed by 1992 and are either currently finished or underway by the Inland Steel Mine Company.

### Recreation Opportunities/Alternatives

The mine pit (lake) can be identified as the primary recreational feature of the Inland Steel Mine site area. It offers a variety of

recreational opportunities and provides a deep, cold water fish habitat unique to not only Jackson County but Wisconsin as well. In addition, associated picnicking, boating, scuba diving, and swimming are all recreational activities that can be planned and enjoyed for many years to come by local citizens as well as tourists to the area. An environmental education opportunity is also feasible by learning and studying the ecological establishment of a lake habitat for aquatic vegetation and fish species in an abandoned mine pit (lake) setting. A compiled list of potential recreation activities was formulated, with pertinent planning notes, to assess the degree of importance various recreation features and activities have for the mine pit (lake).

(Note attached Table 2 at end of paper)

## **Tailings Basin**

### **Overview**

The tailings basin served as a settling area for the taconite processing operation. It is circular in shape and has a dike to the center from the plant site. The tailings basin covers a surface area of approximately 320 acres (not including an outer perimeter road) and has a shallow pond of approximately 35 surface acres. The Reclamation Plan calls for stabilization of the area for a wetland, sedge meadow type. Some revegetation of the basin and slopes along the dike, as well as basin rim, have been undertaken.

### **Recreation Opportunities/Alternatives**

The tailings basin offers opportunity for recognition as a wildlife (i.e., waterfowl) habitat area. The dike going out to the center of the basin provides an opportunity for a developed walkway and observation point. The pond area attracts a variety of waterfowl and the balance of the basin can be utilized and studied as a viewable wet-

land area. Also, the outer perimeter roadway provides a good opportunity for the development of a walkway/trail corridor.

A compiled list of potential recreation activities was formulated, with pertinent planning notes, to further assess the degree of importance various recreational features and activities have for the tailings basin area. Similar to other elements of the Inland Steel Mine site, items were ranked with input from the Jackson County Forestry and Parks Department Staff. Taken into consideration is input from the Forestry and Parks Committee as well as reference to the goals of the Jackson County CORP.

(Note attached Table 3 at end of paper)

## **Dump Sites**

### **Overview**

There are three main dump site areas found in the Inland Steel Mine site. They consist of overburden and waste rocks from the mining operation. These stockpiles look like low flat-topped hills with stair-step sides. Dump No. 1 is found directly west of the mine pit (lake), is somewhat linear in shape, and covers approximately 90 acres with a total rise of about 80 feet. Dump No. 2 is the largest of the three stockpiles and is found southwest of the mine pit (lake) with access from a haul road. This dump covers approximately 270 surface acres with a rise about 115 feet. Dump No. 3 is the smallest of the three stockpiles. It covers a surface area of about 20 acres and rises 50 feet in height. The Reclamation Plan requires stabilization of all three dump sites. A vegetation, mulching, and seeding program is reflected with a completion date in 1992.

### **Recreation Opportunities/Alternatives**

The dump site areas provide unique opportunities for recreation activities. The el-

evated features are such that views of the surrounding area are available with access by either walkways or gravel vehicular roads (with turn-around loops). Categorizing the three dumps for recreation potential can be given as follows:

**Dump No. 1 (Scenic Vista)**

- Access Road with Turn-Around Loop
- Walkway
- Picnic Area

**Dump No. 2 (Major Scenic Vista)**

- Access Road with Turn-Around Loop
- Walkway
- Observation Points

**Dump No. 3 (Open Play Area)**

- Walkway
- Open Field Area

A compiled list of potential recreation activities was formulated, with pertinent planning notes, to further access the degree of importance various recreational features and activities have for the dump sites as a whole. Similar to other elements of the Inland Steel Mine site, items were ranked with input from the Jackson County Forestry and Parks Department Staff. Taken into consideration is input from the Forestry and Parks Committee as well as reference to the Jackson County CORP.

(Note attached Table 4 at end of paper)

**Seepage Basin**

**Overview**

The seepage basin was a major part of the drainage basin complex for the ore excavation process. The area covers approximately 140 acres. Internal dikes surrounding a series of holding cells range

in height from 4 feet to 18 feet. Many of these dike areas have or will be removed by the Reclamation Plan and a current rock crushing operation.

**Recreation Opportunities/Alternatives**

The seepage basin has been recognized by both Jackson County and the Wisconsin DNR as a tree planting area. Recreational opportunities include educational (timber management), as well as nature observation. A compiled list of potential recreation activities was formulated, with pertinent planning notes, to further access the degree of importance various recreational features and activities have for the seepage basins as a whole.

(Note attached Table 5 at end of paper)

**Access/Circulation - Entry Sign/Landscape**

**Overview**

Internal access/circulation was reviewed and analyzed for the Inland Steel Mine site. Aside from a good external connection, internal movement of vehicles and people are necessary in any park planning effort. If not properly considered, conflicts may arise which have a direct impact on safety, preservation of natural features, and lack of opportunities for all park visitors (i.e., handicapped).

An identifiable entry point and effective landscape treatment is also very important to the visibility and continued use of a park area. The entry can be a control point moving people and vehicles to various recreation activities and an information center.

**Recreation Opportunities/Alternatives**

The Jackson County Inland Steel Mine site has both existing internal access routes as well as opportunities for developed trails and walkways. In addition, a primary en-

trance currently exists directly from Brockway Road. A compiled list of various identified access/circulation elements were prioritized and ranked similar to other site elements.

(Note attached Table 6 at end of paper)

## **Natural Areas (Forested, Wetlands, Streams)**

### **Overview**

Although portions of the Inland Steel Mine site have been disturbed by the taconite mining and processing operation, a great many natural amenities still exist. In some cases, the manmade features of the mine (i.e., tailings basin, mine pit lake) and efforts of the Reclamation Plan have added to or accentuated the natural setting. The following three categories relate to the overall natural setting of the Inland Steel Mine site. They include the Forested areas; Wetland areas; and Stream areas.

The Forested areas associated with the site are difficult to quantify in terms of total acreage. They are found in the outer portions of the site, along Levis and Indian Grave Creeks, between various areas such as the mine pit (lake) and the plant site. In addition, significant forested "pockets" are located in undisturbed areas along the upper rim and directly east of the mine pit (lake). Species consists of evergreen (i.e., Jack Pine, etc.) and deciduous (i.e., Pin Oak, etc.) trees in upland areas. Lower areas have Evergreen (i.e., Green Spruce, etc.) and deciduous (i.e., Poplar, etc.) trees. Many of the forested areas of the site are similar to the surrounding portions of Jackson County and Black River Falls State Forest directly to the east.

Natural Wetland areas are found in the northeast and southwest portions of the site. A variety of vegetative and wildlife habitat is found in these areas. Vegetation

consists of emergent (i.e., cattails) plant species as well as shrubs (i.e., Alders, Dogwood, etc.) associated with a wet environment.

There are two Streams which are located in the site area. These include Levis Creek and Indian Grave Creek. The streams provide a local trout fishery as well as a variety of vegetation and wildlife along shoreline banks.

### **Recreation Opportunities/Alternatives**

Proper recognition and utilization of the natural areas are important in analyzing the Inland Steel Mine site for recreation activities. Adverse impacts should be avoided with well designed facilities and trails. A compiled list of natural area site features and potential recreation activities were graded and ranked.

(Note attached Table 7 at end of paper)

## **Recreation Development Plan**

Presented is a Recreation Development Plan (Master Plan) for the Inland Steel Mine site. The plan reflects the background information, research, site alternatives, and analysis that has been discussed in this report. Shown graphically (note Figure 4) are designated passive, as well as active recreational areas, internal access roads/walkways, and key connection points to a central "visitor center" area. Both natural and manmade features are recognized in the plan with a variety of recreational opportunities shown.

## **Conclusions and Recommendations**

The information contained in this paper reflects key ideas derived from an in-depth study of the Inland Steel Mine site

in Jackson County, Wisconsin.

The site is located in an area with a wide variety of recreational opportunities and potential. The natural setting of the County attracts numerous visitors and has long been recognized as a key vacation region of central and western Wisconsin.

The Recreation Development Plan presented in this report shows an overall park plan for the approximately 1300 acre site. The unique character of the site contains both natural and manmade features that create a variety of recreational experiences. Major key points from the Plan are as follows:

- Utilization/development of man-made features for recreation activities are incorporated in the Plan.
  - Mine Pit (lake) - Public Fishing/Boating (Non-motorized)/Swimming
  - Tailings Basin Area - Wildlife Sanctuary/Observation
  - Dump Site Areas - Scenic Views/Observation
  - Plant Site Area - Visitor Center/"Hub" of Park Activities/R.V. Camping
  - Seepage Basin Area - Tree Plantings/Educational
- Utilization/development of natural areas for recreational activities are reflected.
  - Streams (Levis Creek, Indian Grave Creek) - Trout Fishing/Scenic
  - Forested Areas - Camping/Scenic/Picnic Grounds
  - Wetland Areas - Wildlife Sanctuary/Educational

- Open Areas - Field Games/Picnic Grounds

- Development of trails/walkways linking passive and active recreation areas are shown on the Plan.
- A trout/salmon or a "two-tier" (trout, walleye, northern) fish stocking program is recommended for the mine pit (lake). Assistance and coordination with the Wisconsin Department of Natural Resources (WDNR) is reflected in the plan.
- Restricted or designated hunting areas and activities are recommended to be reviewed and acted upon by the Forestry and Parks Committee and County Board
- Historical recognition of the Inland Steel taconite mining operation (i.e., within visitor center as interpretive displays) is reflected in the Plan.

Jackson County is blessed by having an important and unique asset like the Inland Steel Mine site. By promoting the wide variety of recreational opportunities of the site, the County can greatly benefit by continuing to attract local, regional, and state visitors. The Recreation Development Plan presented in this report will be included as a key addition to the Jackson County Comprehensive Outdoor Recreation Plan (CORP), 1984.

## Implementation Strategy

### Site Development/Considerations

1. The Recreation Development Plan for the Inland Steel Mine site should be implemented over a ten year period beginning in the fall of 1991 and early in 1992.
2. A phased development schedule is recommended as follows:

### **Phase I**

- Identification Signage (i.e., Entry Sign)
- Trails/Walkways (Initial)
- Tree Planting (Seepage Basin Area)
- Fish Stocking (Mine Pit Lake/DNR Assistance)

### **Phase II**

- Identification Signage (i.e., Site Features)
- Trails/Walkways (Continuation)
- Design R.V./Car Camping Areas
- Design Picnic Areas
- Design Observation Platforms
- Design Boat Launch Area
- Design Beach Area
- Design Visitor Center

### **Phase III**

- Identification Signage (i.e., Site Features)
- Finish Trails/Walkways
- Upgrade Access Roads
- Develop Observation Platforms
- Develop R.V./Car Camping Areas
- Develop Picnic Areas
- Develop Boat Launch Area
- Develop Beach Area

### **Phase IV**

- Build Visitor Center
- Develop Parking Areas
- Landscape Entrance Road
- Finish Identification Signage
- Finish Miscellaneous Tree Planting/Landscaping

3. When implementing various elements of the Recreation Develop-

ment Plan, information presented in the alternatives section of this paper should be referred to. Aside from information shown on the master plan schematic, listed items that rank 3 or higher should be considered in the specific recreation site design phase.

4. The design and development of all building structures, picnic shelters, observation platforms, and restroom facilities should be compatible with the local setting. This includes earth tone colors and building materials as well as specific structure(s) orientation.
5. The visitor center should serve as a strategic "hub" for park information office space, and as educational facility for local mining history as well as nature exhibits.
6. The mine pit (lake) is a unique and valuable resource. Recognition of the lake as a public fishing area is recommended after a trout/salmon or "two-tier" (trout, walleye, northern) fish stocking program is implemented. Aqua-culture (fish farming) is not deemed compatible as a commercial activity with such public fish stocking efforts, Non-motorized boat use as well as restricted live bait is further recommended.
7. The southeast shoreline of the mine pit (lake) should be recontoured to accommodate a swimming beach that is both safe and accessible.
8. Wetlands, stream (Levis Creek, Indian Grave Creek) corridors, and natural forested area should be enhanced and preserved as important site features for wildlife habitat and visitor enjoyment.

9. Erosion control measures should be utilized on all recreation site development activities.

### **Funding Opportunities**

1. Public funding should be sought from all levels of government. Aid programs include, but are not limited to, the following:

LAWCON = Federal (Land and Water Conservation Fund)

LPA = State (Local Park Aids)

OGS = State (Open Green Space)

2. Wisconsin DNR assistance should be solicited in a mine pit (lake) fish stocking program. Wildlife habitat enhancement in wetland/forested areas should also be pursued.
3. Other local funding assistance should be solicited (note Local Involvement).

### **Local Involvement Strategy**

1. A number of groups and organizations can be identified that may provide volunteer labor and/or financial assistance in implementing the Recreation Development Plan. They include, but are not limited to, the following:

- Jackson County Wildlife Fund

- Ducks Unlimited

- Trout Unlimited

- Pheasants Forever

- Ruffed Grouse Society

- Whitetails Unlimited

- Chamber of Commerce

- Historical Society

2. Private donations of materials and volunteer labor should be coordinated and approved by the Jackson County Forestry and Parks Department Staff and Advisory Committee.

3. Honorary plaques to commemorate donations and volunteer work should be incorporated into the visitor center.

### **Mine-Pit (lake) Development**

#### **Scenarios Strategy**

#### **Recreational Fishery Development**

- Work with Wisconsin Department of Natural Resources (WDNR) on establishing a recreational trout/salmon sport fishery in the mine pit (lake). The primary species for the "put & take" fishery should be Rainbow Trout (*Salmo gairdneri*) and Atlantic Salmon (*Salmo salar*).
- If the trout/salmon fishery does not provide enough recreational use, then a "two-story" fishery could be attempted with walleye (*Stizostedion Vitreum Vitreum*)/panfish (*Family centrarchiae*) as the principal species mix with the trout/salmon.
- In concert with the above, one or two fishing piers with handicapped access should be considered for installation on the mine pit (lake).
- The lake volume in the pit lake should be adequate to permit a continuous 3 - 5 cubic-feet-per-second cold water augmentation of the Indian Grave Creek to improve an existing brook trout fishery.
- In concert with the above, a trail system should be established along Indian Grave Creek to facilitate fishing access and provide a tie-in to the remaining park facilities

### Swimming/SCUBA Recreational Development

- The mine pit (Lake's) southeast end has potential with its shallower depths for development of a swimming beach with the addition of an appropriate amount of sand.
- The mine pit (lake) may likely have a very good transparency (10-20 feet) which would lend itself to promotion as a SCUBA diving area. Consideration should be given to the addition of underwater facilities for both fish spawning and SCUBA exploring.

### Water Quality Survey

- The mine pit (lake) should undergo a detailed water quality sampling. This would provide substantial information upon its future potential uses. If the water body is in very good to excellent condition, then its uses may be best for recreation. If only good to very good quality, then perhaps aquaculture is a better use.

This abandoned mine pit (lake) has the potential to provide an annual cold water fishing usage of at least 2000+ fishing days or use over the June-August period. This would amount to 20-25 persons per day. The basis for this is looking at Square Lake in Washington County, Minnesota. This lake is about twice the size at 200 acres versus the Jackson County Mine Pit (lake) at 135 acres. During the June-August, 1980 period, Square Lake Regional Park had 75,000 users of which the water related use was 50,000 swimmers, 6,000 boating/fishing and 5,200 SCUBA divers. Square Lake's usage by the year 2000 is estimated at 125,000 users in the summer. The Jackson County Mine Pit (lake) should easily achieve 30-50% of Square Lake's usage if properly developed, promoted and man-

aged.

General boating use on the Jackson County Mine Pit (lake) would be limited due to its relatively small surface area. Surface use restriction may be essential on this lake to promote and achieve what may be its most promising features; a cold water fishery and SCUBA diving use.

### Acknowledgments

The author acknowledges the valuable input and direction from Mr. Darren Marsh, Assistant Administrator of the Jackson County, Wisconsin Forestry and Parks Department.

### Literature Cited

Jackson County, Wisconsin, 1984

Comprehensive Outdoor Recreation Plan, 90p.

Foth and VanDyke, Inc., 1988

Jackson County, Wisconsin Parks and Campgrounds Master Plan, 68p.



**Table No. 1**

**PLANT SITE - RECREATION FEATURES/ACTIVITIES**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
• Visitor Center/mine Interpretive Display	Central Organizing Space - Activities Emanate From Here	4
• R.V. Camping/Car Camping	Structured Camping Area/Between Visitor Center and Lake	4
• Picnic Area/Pavilion/Grill/Tables	Located Between Camping Areas and Passive Recreation Opportunities	4.5
• Swimming Pool/Kids Wading Pool	Direct Access from Visitor Center	2
• Court Games/ Active Recreation	Close to Visitor Center	4
• Crafts and Games Meeting Area	Inside/Directly Outside Visitor Center	3.5
• Restrooms/Showers/Sauna	Largest Facility Located in R.V./Car Camping Area	4.5
• Outdoor Amphitheater	Toward North Shore of Lake - Semi-Circular Form	3
• Playground/Tot Lot - Mine Theme	Located Between Active Recreation Area and Camping/Replication of Mine Equipment for Kids	4.5
• Mine Interpretive Display	Conjunction with Visitor Center/Site History	5
• Gazebo/Trellis w/Reflecting Pool	Passive Activity Adjacent to Visitor Center	3
• Wildflower Gardens/Native Plants I.D.	Environmental Education	4
• Snack Bar/Cafe/Concession Building	Located in Conjunction with Visitor Center	3.5
• Petting Zoo for Kids/Stuffed Critters	Special For Children	1
• Maintenance Building	Architectural Treatment that Fits in with Other Buildings and Environment	5
• Bike Rental	Located at Visitor Center; Free Structure	3
• Nature Art Gallery	Located at Visitor Center	3
• R.V. Sanitary and Water Hookups/ Electric	R.V./Car Camping Area. Essential for Units	5
• Coin Operated Laundry	Campground Option	3.5
• Guided Tours	By Park Ranger	3
• "Iron Man" Statue - Black River Legend	Mining History	2.5
• Winnebago Indian Museum	Local History/Interest	3.5

**\*Ranking System**

1 - Strongly Disagree    2 - Disagree    3 - Neutral    4 - Agree    5 - Strongly Agree

**Table 2**  
**MINE PIT (LAKE) - RECREATION FEATURES/ACTIVITIES**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
• Beach - Sand/S.E. Shore	Cutback Shoreline - Gradual Slope	4.5
• Boat Launch	Ease of Access - Concrete Ramp with Gradual Slope Restricted Motors/Boat Size	5
• Boat Launch Parking	Car/Trailers, Up to 30 Vehicles with Trailers, Bituminous Surface	
• Observation Platform/Deck	Overlooking North End of Lake	5
• Small Boat Dock	Conjunction with Boat Launch Ease of Docking	4.5
• Beach House	Changing Room	5
• Restrooms	Self-contained Facilities - Forest Service Design	5
• Small Sailboat Rental	Docking Area	3.5
• Floating Dock/Swimming Platform	Anchored Offshore	1
• Small Rental Cabins on North Lake Shore	Overlooking Lake, Rustic Appearance	1
• Poplar Reforestation on Tailings at Shoreline	Natural Cover, Fall Color	3.5
• Gravel Paths Along Shoreline/Upper Level	Low Maintenance, Walking and Sight-seeing	4.5
• Two-Tier Fishing (Trout, Walleye, Northern)	Lake Stocking Program - DNR	5

**\*Ranking System**

1 - Strongly Disagree    2 - Disagree    3 - Neutral    4 - Agree    5 - Strongly Agree

**Table 3**  
**TAILINGS BASIN - RECREATION FEATURES/ACTIVITIES**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
• Wildlife Observation Platform	End of Walkway, Secluded Blind Up to 30 People	4.5
• Marsh Trail w/Blinds	Half-Dozen Blinds for Up to 10 People. Perimeter Areas	4.5
• Interpretive Display - Plants and Animals	Native Plants & Animals - Identification	4.5
• Rest Area w/Benches	Along Marsh Trail	5
• Boardwalk	Leading to Observation Platform	5
• Enhance Natural Appeal/Wildlife Habitat	Introduce Native Wetland Grasses, Wildlife Habitat Plantings	5

**\*Ranking System**

1 - Strongly Disagree    2 - Disagree    3 - Neutral    4 - Agree    5 - Strongly Agree

**Table 4**  
**DUMP SITES - RECREATION FEATURES/ACTIVITIES**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
• Observation Points/Platforms	Dump No. 2 Constructed at Edge of Slope for Scenic View	4.5
• Roadway - Loop	Dump No. 1 (Limited to West End), Dump No. 2 Controlled Vehicular Access, Handicapped Accessible	4.5
• Information Display/Maps	At Observation Platforms. Describe Surrounding Environment Scenic Views	5
• Telescopes - Coin Operated	For Viewing Areas	2
• Kite Flying Area	Dump No. 3 At Top in Open Area	4
• Small Downhill Ski/Toboggan Run	Dump Slopes	2
• Hill Climbing	Dump Slopes	1.5
• Model Airplane Flying/R.C.	Dump No. 2 or Dump No. 3 At Top in Open Area	3.5

**\*Ranking System**

1 - Strongly Disagree   2 - Disagree   3 - Neutral   4 - Agree   5 - Strongly Agree

**Table 5**  
**SEEPAGE BASIN - RECREATION FEATURES/ACTIVITIES**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
• Reforestation Area	Diversity of Evergreen & Deciduous Trees	5
• Nature Trails	Vegetation/Wildlife Observation. Marked Walkway	4.5
• Native Grasses/Savannah	Open - Non-Forested Area	4.5
• Wildflower Open Areas	Color and Beauty	4.5
• Horseback Riding	Specific Marked Trails	2.5
• Archery Range	Designated Open Areas	3.5
• Berry Patch - Picking Wild Food	Educational/Variety of Family Participation	4.5

**\*Ranking System**

1 - Strongly Disagree   2 - Disagree   3 - Neutral   4 - Agree   5 - Strongly Agree

**Table 6**  
**ACCESS/CIRCULATION**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
• Entry Parkway	Enhance Sense of Arrival	4
• Visitor Center Parking	Centrally Located/Parks for Variety of Vehicles	5
• R.V. and Car Camping Routes	Controlled Access	5
• Lakeside Drive	Access and Site Aesthetics	4
• Boat Launch Access/Parking	For Mine Pit (Lake) Vehicles/Trailers	5
• Dump Site Parking	Limited Stay	5
• Hiking Trails	Developed - Reduces Erosion	5
• Cross Country Skiing Trails	Seasonal Opportunity	4
• Rest Areas w/Benches	Developed with Natural Materials	5
• Hay Rides	Added Activity	3
• Bike Trail	Links Site to Black River Falls/Railroad Bed	5

**ENTRY SIGN/LANDSCAPE**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
• Entry Signage to Act as Gateway	Dramatic Signage Creates a Strong Sense of Arrival	5
• Natural Landscaping	Local Species	4
• Map of Complex	Decision Making When Entering Park	4
• Information Brochures at Entry	Reference Material	5
• Undulate Entry Road	Less Formal	3
• Boulder Landscaping Helps Say Mining	Reinforces Historic Link	4
• Couple Mine Artifacts on Display	Reinforces Historic Link	4
• Some Native Wildflowers at Entry	Native Species/Color	4
• Contact Station/Guard House	Control Point	5
• Admission Fee? Pay Here	County Park Fees	5

**\*Ranking System**

1 - Strongly Disagree    2 - Disagree    3 - Neutral    4 - Agree    5 - Strongly Agree

**Table 7**  
**NATURAL AREAS - RECREATION FEATURES/ACTIVITIES**

<u>ITEM</u>	<u>PLANNING NOTES</u>	<u>RANK (AVERAGE)*</u>
<b><u>FORESTED</u></b>		
• Wildlife Habitat	Habitat Enhancement	4
• Camping - Car & R.V.	Designed with Marked Areas/Selected Utilities	5
• Camping - Primitive	Hike-In. Limited Areas	2-3
• Equestrian Trail	Marked Trail	.2
• Evergreen/Deciduous Forest	Forest Diversity, Environmental Education	5
<b><u>WETLANDS</u></b>		
• Wildlife Habitat - Birds, Fish, Animal, Reptile	Habitat Enhancement	5
• Boardwalk w/Information Displays	Controlled Walkway, Environmental Education	4
• Botanical Identification Area/Name that Plant	Environmental Education	4
• Define Wetland Types 1-8	Environmental Education	4
• Define a Bog/Wetland Soils	Environmental Education	4
• Guided Tour w/Ranger	Informative Tour	2
<b><u>STREAMS</u></b>		
• Pedestrian Bridge Crossings	Key Locations	4
• Fishing Areas	Controlled at Specific Locations	4
• Boardwalk	High Traffic Areas	4
• Trout Pools	Improve Habitat, Siltation Prevention Measure	4
• Primitive Footpaths along One Side	Reduces Streambank Erosion	4
• Native Materials for Erosion Control	Native Shrubs and Trees	5
• Primitive Camping at Remote Sites	Hike-In. Trail Access Only	2-3

**\*Ranking System**

1 - Strongly Disagree    2 - Disagree    3 - Neutral    4 - Agree    5 - Strongly Agree

# JACKSON COUNTY IRON COMPANY

BLACK RIVER FALLS, WISCONSIN

## RECREATION DEVELOPMENT PLAN

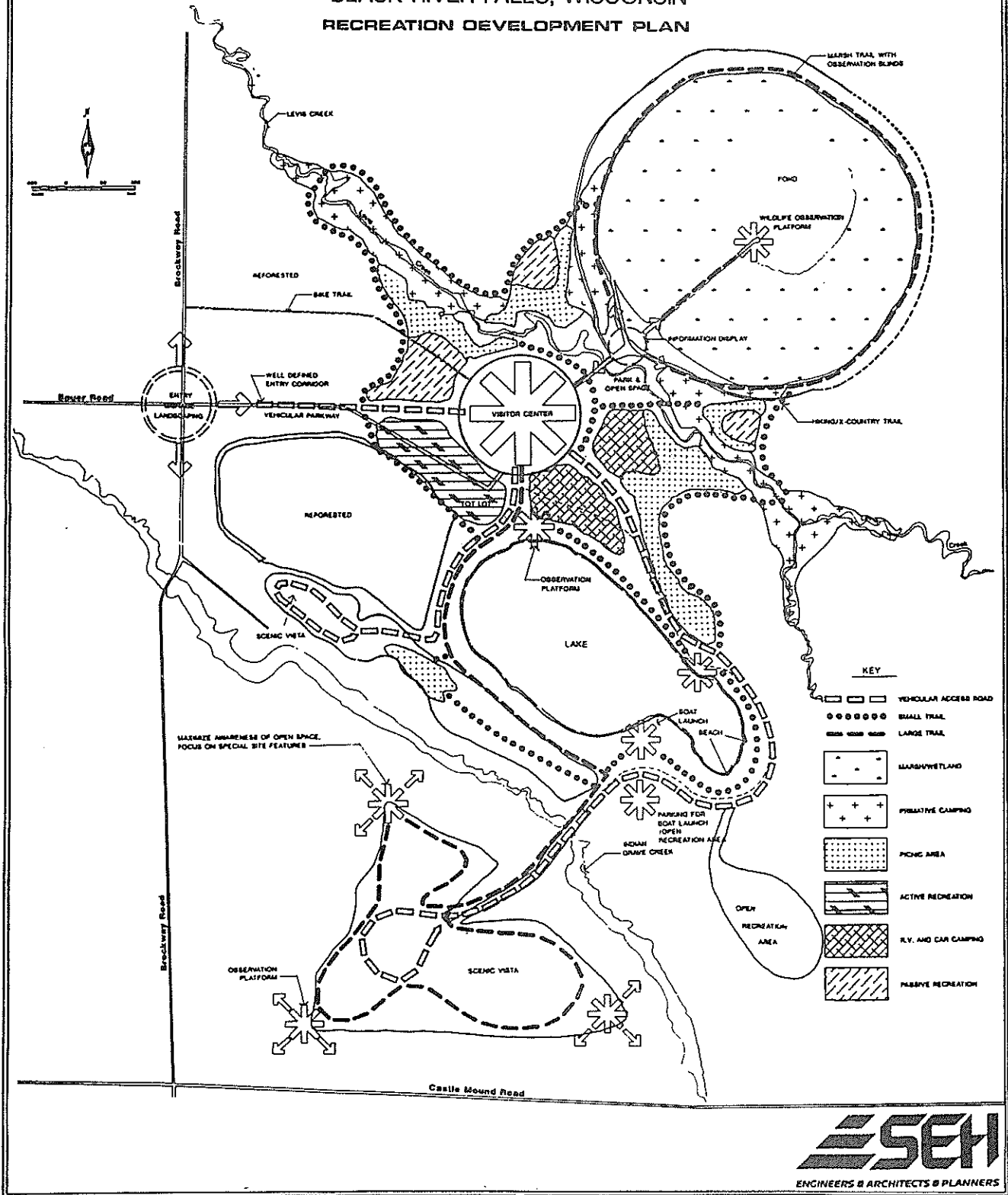


Figure 4  
Recreation Development Plan - Land Use

