BLACK CREEK WILDLIFE FLOODING STRATEGIC PLAN 2003

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Introduction

The primary purpose of this Plan is to set the strategic direction for the Black Creek Wildlife Flooding. This Plan will guide the management activities used to achieve the desired future condition of the Flooding as set forth in this Plan. In addition, obligations of the funding sources used to acquire and manage this Flooding require that the Flooding be maintained for the purpose of managing wildlife, wildlife habitat and associated recreational activities. Other related activities and uses of the Flooding that complement or do not conflict with wildlife management have been considered and incorporated where appropriate. Although public input was encouraged and considered in developing this Plan, given the requirements for the Flooding this is not necessarily a consensus document.

Description and History

The flooding was created to provide habitat of relatively high value to wetland wildlife, with greatest emphasis on waterfowl reproduction and fall staging. It also provides the public with opportunities for hunting, trapping, fishing, and wildlife viewing. The dam is located in T44N, R11W, section 8, about 2 miles northeast of Curtis (Fig. 1). Portions of the flooding extend into sections 4, 5, 9, and 17. Other sections are influenced by the flooding, but are not covered by any part of it. The flooding is in Compartments 182 and 183 of the Sault Forest Area, Lake Superior State Forest. Land within the flooding area was acquired through tax reversion, land exchange, and purchased through the State Game Fund. Maintenance of the project is provided by the Game and Fish Protection Fund and Pittman-Robertson Fund (P-R). Federal Aid requirements mandate that all facilities paid for with P-R funds be maintained in a safe and functional condition. No dedicated boundary exists for this project.

The dam consists of a 750 foot long earth embankment, historically used as a railroad grade, and a reinforced concrete drop spillway with a structural height of 8 feet. The principal spillway is a straight drop concrete structure with four stoplog bays. The dam has expanded the surface area of the original beaver pond from 100 acres to 820 acres, with an average depth of 1 to 4 feet.

Before structure installation, the Black Creek wetland complex was probably more dynamic, changing with precipitation cycles and the arrangement of beaver dams along the creek. Since installation of the water control structure, water level management of the area has been ineffective due to vandalism and beaver activity at the dam and downstream from the dam. The system has been stabilized to some degree due to the artificial dam.

Pre-settlement vegetation around the present day flooding was described as swamp dominated by cedar, tamarack, and spruce. Scattered higher areas contained sugar maple, beech, and yellow birch (Fig. 2). Knowledge of pre-settlement vegetation is useful as a benchmark for understanding the potential conditions that can exist in an area, but should not be viewed as a management goal for an area.

According to Albert's Regional Landscape Ecosystem classification system, the Black Creek flooding lies within the St. Ignace subsection of the Niagaran Escarpment and Lake Plain (Subsection VIII.1.1). This area is in turn a part of the Northern Lacustrine-Influenced Upper Michigan and Wisconsin section. The St. Ignace subsection is typified by sandy lake plain and limestone bedrock at or near the surface. Lacustrine features include sand dunes, embayments with complexes of parallel beach ridges and swales, and extensive conifer-dominated wetlands on sand or bedrock. Other typical components are northern hardwoods, fens, coastal emergent marshes, and alvar.

Area topography is the result of glacial deposits placed 10,000 to 12,000 years ago. The land is gently rolling. The soils are Markley-Solona-Graveraet Association, described by the Mackinac County Soil Survey as very deep, nearly level to rolling, very poorly drained, mucky and loamy soils on ground moraines and outwash plains. This association is described as generally used as woodland. In the summer months, the maximum temperatures average approximately 74 degrees F. The winter minimum average temperature is about 9 degrees F. The lowest recorded temperature at Newberry (about 12 miles to the northeast) was -27 degrees F. Total average precipitation is about 32 inches per year. The area receives an average of more than 100 inches of snowfall annually.

Presently, the predominant forest types surrounding the flooding are marsh, treed bog, white cedar and swamp conifers, aspen, northern hardwoods, and lowland hardwoods (Fig. 3). Primary wildlife use of the flooding is by waterfowl and waterbirds. Rare species using the flooding include osprey and eagles (Appendix A). Furbearing species such as beaver and muskrat are regular inhabitants of the flooding. Fisheries Division conducted a survey of the flooding in 1981 which revealed the presence of northern pike, largemouth bass, yellow perch, pumpkinseed, brown bullhead, and rock bass. Non-native or nuisance plant species are not known to be of any significant concern.

The area immediately surrounding Black Creek Flooding is state owned land and is used mainly for outdoor recreation (consumptive and non-consumptive uses) and timber management. This appears to be similar to the historical use of the area. The flooding adds diversity to the area by providing edge and permanent water for wildlife. Persons using small boats and canoes are commonly seen sightseeing from their craft in the flooding. Black Creek Flooding has no known commercial uses. However, all commercial activities are incidental to management activities that are undertaken to meet stated management goals.

The earthen dam and concrete spillway structure are the only capital improvements at this site.

Management Goals and Objectives

The mission of Wildlife Division is "to enhance, restore, and conserve the State's wildlife resources, natural communities and ecosystems for the benefit of Michigan's citizens, visitors and future generations." For Black Creek Flooding, the goal is to provide habitat of relatively high value to wetland wildlife, with greatest emphasis on waterfowl reproduction and fall staging. The area also provides recreational opportunities for hunters, trappers, and wildlife viewers.

Major legislation and policies that affect management of this project are found in the Michigan Compiled Laws, Public Act 451 of 1994 Part 301, Inland Waters, part 315, Dam Safety, Part 355 – Biological Diversity Conservation**,** Part 405 – Wildlife Restoration, Management, and Research, Act 203 of 1979, Goemare-Anderson Wetland Protection, and Federal Aid in Wildlife Restoration Act (Pittman-Robertson). Natural Resources Commission policies affecting management of this area include, but may not be limited to, 2108.8 - Wildlife Flooding Projects - Operation and Maintenance.

Beaver activity will prevent water level manipulation on the flooding, thus the early objectives of optimizing water depth and altering plant to water ratios can not be met through management. However, the wetland complex can retain significant wetland wildlife values without manipulation. The strategic management goal for this site should focus more on retaining access and increasing management efficiency by reducing infrastructure maintenance.

Whereas wildlife values do not depend on the dam, and may actually improve without the dam by increasing system dynamics, user access from the existing forest road may be affected. Boating from the area near the dam should remain unaffected due to the similar water levels on either side of the dam. The artificial structure will ultimately require major maintenance, and redesigning (or removing) the dam and water control works to improve efficiency (reduce maintenance) will ease maintenance burden at this site. Management options include: 1) maintaining the current condition, 2) simplify the structure to a simple spillway and retain consistent public access, and 3) completely remove the control structure but retain the railroad grade, naturalizing the system but making access into the Flooding less consistent. Options 2 and 3 better fit a shift away from projects with relatively high maintenance burden (limited return on investment) to allow greater work on larger scale planning. Complete control structure removal will best achieve reduced maintenance, but option 2 may be the best choice for reduced infrastructure but consistent access. Achieving the management goal will require work with local stakeholders to gain public support.

The impoundment has some value as a spawning and nursery area for fish. To the extent compatible with Wildlife Division objectives, water level management will accommodate fishery interests.

Management Activities

In the past, active management attempted periodic water level manipulations which were intended to mimic the dynamic of a naturally functioning wetland. As previously mentioned, due to topographical features, vandalism and beaver activity, these manipulations resulted with limited success. A complete drawdown of the flooding has never been conducted. Frequently, the water on the downstream side of the dam is only three or four inches lower than the upstream side. On occasion, the water on both sides of the dam is identical due to the statutory level on Big Manistique Lake. Beaver dams constructed above the flooding dam have nearly eliminated water flow several times in the last couple of decades. Therefore, no major water level management activities are planned.

There are no recent records of formal wildlife or human use surveys at Black Creek flooding. Habitat monitoring is conducted through the annual forest operations inventory as part of the Lake Superior State Forest compartment review process.

Facility monitoring includes routine inspections which are made by Wildlife Division and FMFMD staff each spring, summer and fall. Particular attention should be paid to removing brush and debris from the control structure and dam, checking for dam leaks, and condition of stop logs. If possible, at periods of drawdown, the lower portion of the water control structure should be examined for wear.

Facilities management includes periodic inspections by the Dam Safety Program personnel from the Geological and Land Management Division, Department of Environmental Quality. Suggested maintenance activities are performed by Wildlife Division personnel. They have noted that an Emergency Action Plan is not required for this dam because of its low hazard potential.

Public and Agency Involvement

Management of this flooding will be adaptable and consider input from numerous sources. The Master Plan will be reviewed annually by Departmental staff using public input, whether the stated objective is being met and whether those objectives are still consistent with the overall management goals for the area. The public will and has been invited to comment during the established annual compartment review process which is advertised in the DNR Calendar, on the DNR web site and in local newspapers. During that time, opportunities exist for both the public and agency personnel to provide input for consideration in the Master Plan. Management goals, objectives and activities can and will be reconsidered as the need arises. No public comments were received during the 2003 planning process.

Conclusion

This Master Plan was developed using previous Operations, Maintenance and Management Plans (OMMP) as the basis of the document. Other valuable information was taken from the Lake Superior State Forest compartment plans. Economic, social and biological factors will need to be considered in future management decisions for the Black Creek Flooding. Balancing the various factors will involve people with diverse interests who may need to arrive at a consensus within the context of the total landscape. Whatever decisions are made, they should accurately reflect the needs of both humans and wildlife. Thanks to Robert Aldrich for initial write up, Cory Louto for GIS information, Steve Rodock (Natural Resources Conservation Service) for helpful soil information, Karen Rodock (Forest, Mineral, and Fire Management) for technical assistance, and Terry Stark (Office of Lands and Facilities) for providing records of the original land surveys..

Management Plan References

Albert, D. A. 1995. REGIONAL LANDSCAPE ECOSYSTEMS OF MICHIGAN, MINNESOTA, AND WISCONSIN. Upper Great Lakes Biodiversity Committee, U. S. Forest Service Technical Report NC-178. 250 pp.

Kadlec, J. A. 1962. MANAGEMENT PLAN FOR THE BLACK CREEK FLOODING, MACKINAC COUNTY. Unpublished.

Whitney, G. D. 1997. SOIL SURVEY OF MACKINAC COUNTY, MICHIGAN. U. S. D. A. Natural Resources Conservation Service. 378 pp. plus maps

Various notes and records in the Black Creek Wildlife Flooding file, MDNR, Newberry Operations Service Center, Wildlife Division.

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Figure 1. Location of Black Creek Flooding, Mackinac County, Michigan.

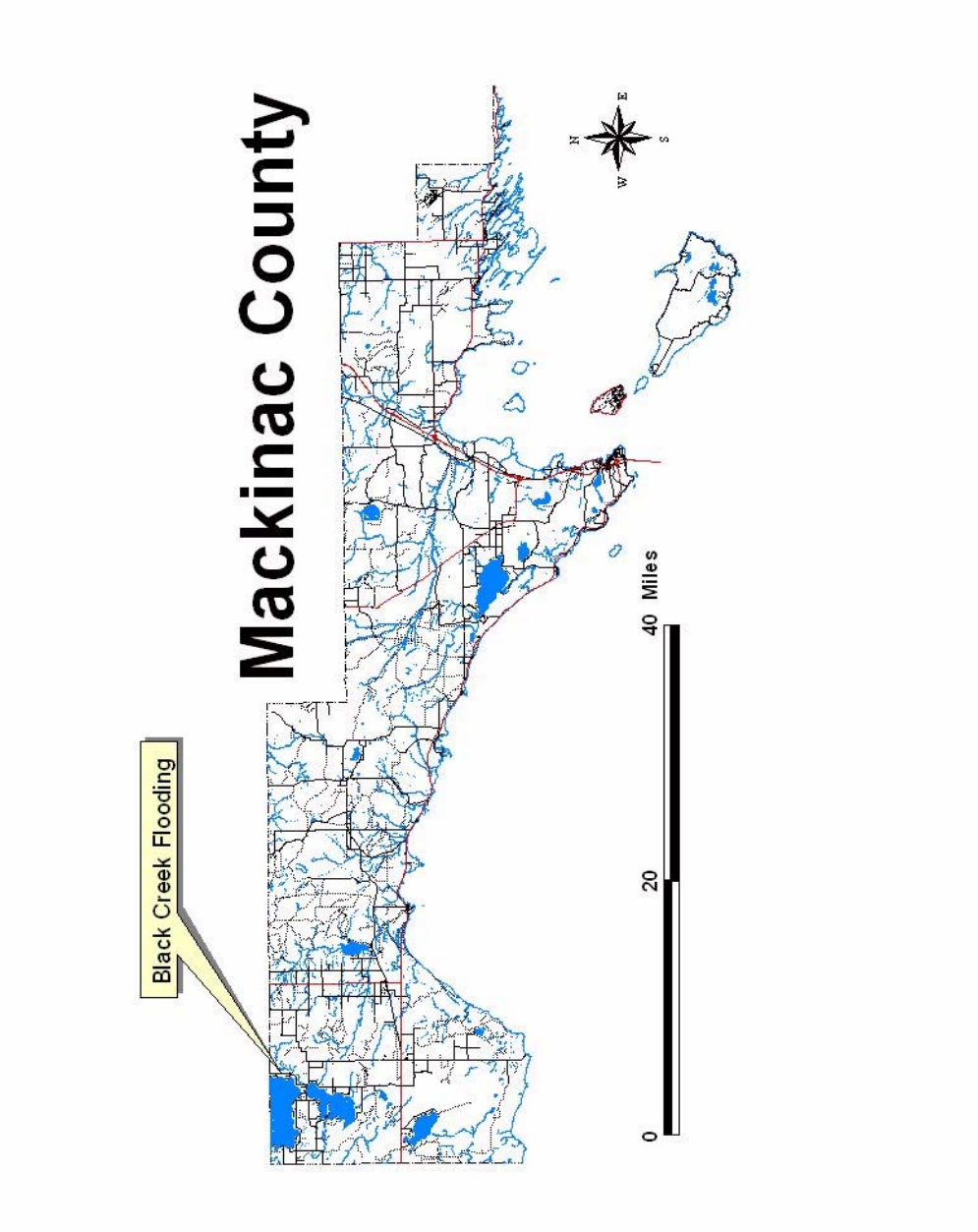

Figure 2. Black Creek Flooding vegetation, circa 1800. Road and trails have been added to this for comparison purposes with present map.

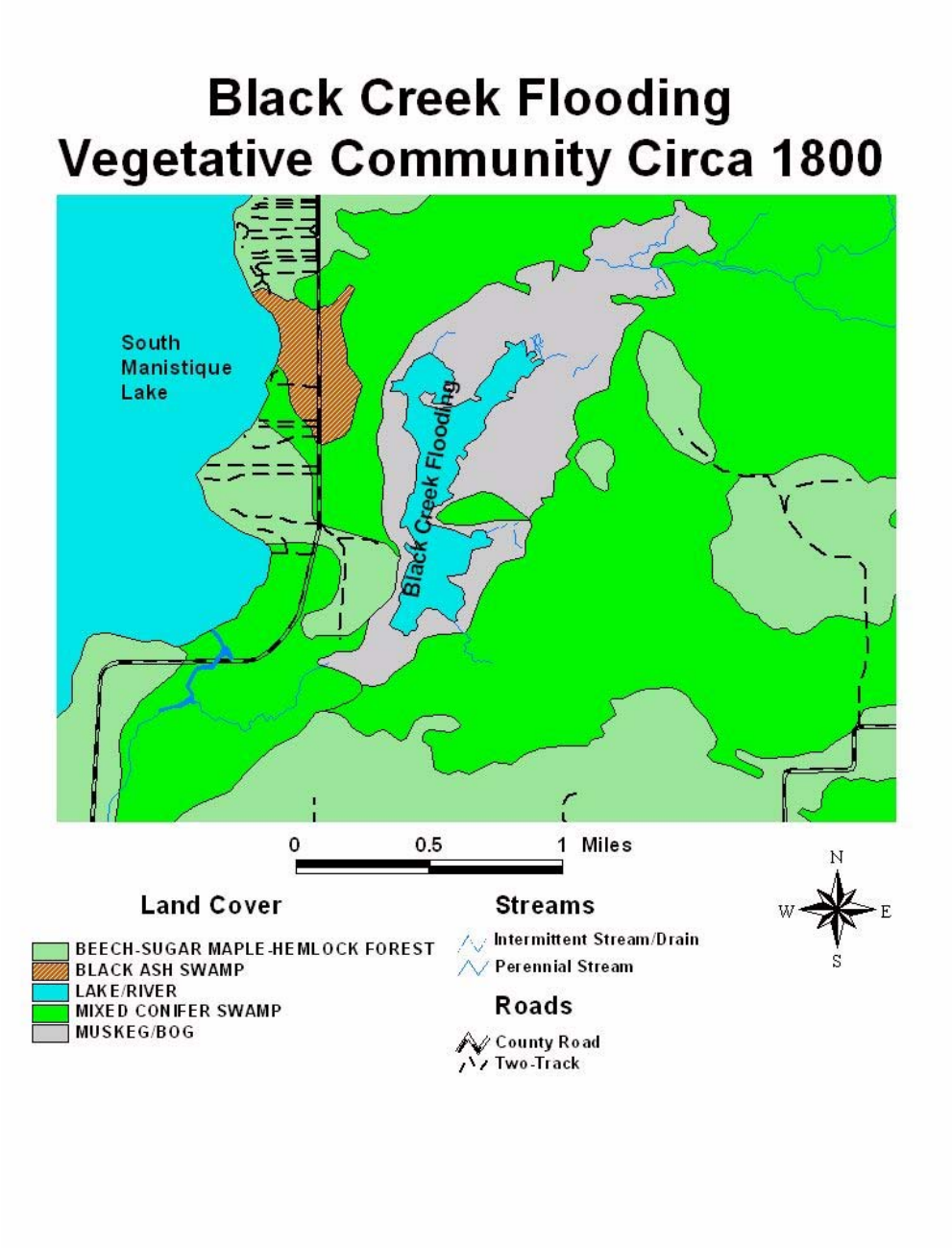

Figure 3. Black Creek Flooding present land cover,2003.