Interim Forest Management Plan

Property Identifiers

Property Name: Roche-A-Cri

Property Designation or Type: State Park

DNR Property Code(s): 9470

Forestry Property Code(s): 140

Property Location – County: Adams

Property Acreage: 610

Master Plan Date: 1983; variance 2002

Property Manager: Heather Wolf

Property Assessment

A. Ecological Landscape description and property context:

An extensive, nearly level expanse of lacustrine and outwash sand that originated from a huge glacial lake characterizes much of the Central Sand Plains. Sand was deposited in Glacial Lake Wisconsin by outwash derived from melting glaciers to the north. Exposures of eroded sandstone bedrock remnants as buttes, mounds and pinnacles are unique to this Ecological Landscape. Sandstone is also exposed as cliffs along the Black River and some of its tributaries. Most soils formed from deep sand deposits of glacial lacustrine or outwash origin or in materials eroded from sandstone hillslopes and sometimes with a surface of wind-deposited sand. These soils are excessively drained, with very rapid permeability, very low available water capacity, and low nutrient status. In lower-lying terrain where silty lacustrine material impedes drainage, the water table is very close to the surface. Such areas are extensive in the western part of the Ecological Landscape, where soils may be poorly drained with surfaces of peat, muck or mucky peat.

In the mid-1800s the Central Sand Plains Ecological Landscape contained a mixture of dry vegetation types (forest, savanna, and prairie) combined with wetland types (forested and non-forested). Only 6% (135,000 out of 2,189,000 acres) of the ecological landscape was covered by northern or central hardwoods. Jack pine, scrub oak, and barrens covered 26% of the area, with oak forest the next most extensive cover type at 20%.

Currently, about 50% of the ecological landscape is wooded, 25% is covered by wetland, roughly 15% is in grassland, and the remainder is in agriculture. The eastern portion of the Central Sand Plains is a mosaic of cropland, managed grasslands and scattered woodlots of pine, oak, and aspen. Many of the historic wetlands in the east were drained early in the 1900s and are now used for agricultural purposes. The western portion of this Ecological Landscape is mostly forest or wetland. Oak, pine, and aspen are the most abundant forest cover types. Plantations of red pine are common in some areas. On wet sites the forests are of two major types: tamarack and black spruce in the peatlands, and bottomland hardwoods in the floodplains of the larger rivers. Many attempts to practice

agriculture west of the Wisconsin River failed due to poor soils, poor drainage, and growing season frosts.

There are large areas of wetlands and some generally low-gradient streams that range from small coldwater streams to large warmwater rivers. Major rivers include the Wisconsin, Black, East Fork of the Black, Yellow, and Lemonweir. A number of headwaters streams originate in the extensive peatlands west of the Wisconsin River. Natural lakes are rare, and are limited to riverine floodplains and a few scattered ponds within the bed of extinct Glacial Lake Wisconsin.

Roche-A-Cri State Park is mostly in the Adams County Bluffs (222Ra10) Landtype Association (LTA) that is characterized by bluffs, erosional surfaces, and lake plain complex. Bedrock is sandstone between 5 and 50 feet of the surface. Soils are excessively drained, well drained, and moderately well drained sandy and loamy soils. Less than 30 acres along the western edge of the park are in the Glacial Lake Wisconsin Sand Dunes (222Ra06) LTA that is characterized by lake plain with dunes. Bedrock is sandstone that is more than 100 feet beneath the surface. Soils are excessively drained and moderately well drained sandy soils.

B. **General property description – management, adjacent land uses, topography, soils, etc.:**

Roche-A-Cri State Park is just north of the city of Adams and village of Friendship. The park is bounded by town roads on the north, south, and west and is bisected by STH 13 on the east. This IFMP includes that part of Roche-A-Cri Woods State Natural Area east of STH 13 owned by DNR Bureau of Natural Heritage Conservation. Other department lands within about 10 miles include Buckhorn State Park and Wildlife Area, Quincy Bluff SNA, and Colburn Wildlife Area. The park is generally level other than Roche-A-Cri Mound itself and is bisected by Carter Creek. Soils are largely sands and loamy sands with the rock outcrop complex of the mound. The park is in a landscape of woods, developments and scattered houses, and agriculture, much of which is irrigated. There is a large wetland complex about 6 miles northeast of the park. Carter Creek and other local streams drain westward into Castle Rock Lake, an impoundment of the Wisconsin River. Several other bluffs are visible from the park.

Past management at the park has included aspen and other tree harvest, invasive species control, and periodic prescribed fires for the prairie area.

C. **Current forest types, size classes and successional stages:**

Oak (40%) 247 acres; dates of origin 1916-2010; seedlings/saplings to large sawlogs; dominated by white oak and black oak with some white and red pine.
Aspen (15%) 93 acres; dates of origin 1962-2010; seedlings/saplings to hardwood poles; dominated by aspen.
Bottomland Hardwoods (12%) 76 acres; date of origin 1926; large sawlogs; dominated by basswood, red oak, red maple, ash.
Jack Pine (9%) 54 acres; dates of origin 1931-1994; softwood small sawlogs; dominated by jack pine with white oak and black oak.
White Pine (5%) 33 acres; date of origin 2007; seedlings/saplings; dominated by white pine.
Red Pine (1%) 7 acres; dates of origin 1905-1936; softwood small sawlogs to large sawlogs; dominated by red pine.
Non-forested cover types (16%) 100 acres; include developed areas, grassland, right-of-way, rock outcrops (Roche-A-Cri Mound).

D. NHI: Endangered, threatened, Special Concern species, Species of Greatest Conservation Need (SGCN):
One state endangered and two special concern animals have been documented on or near the park; two of those species are also federally endangered. Two rare plant species have been documented on or in the vicinity of the park; both are special concern species.

E. Wildlife Action Plan Conservation Opportunity Areas (COA), Important Bird Areas (IBA):
Roche-A-Cri State Park is not in a COA or IBA.

F. Significant cultural or archeological features:
Archeological sites have been identified at Roche-A-Cri State Park.

G. Invasive species:
Known species include spotted knapweed, honeysuckle, black locust, Japanese barberry, and garlic mustard.

H. Existing State Natural Areas (SNA) designations/natural community types limited in the landscape:
There are 2 SNA: Roche-A-Cri Mounds and Roche-A-Cri Woods. Roche-A-Cri Mound SNA is a late Cambrian sandstone outlier mesa of the retreating Magnesian Escarpment. Three complete erosion cycles are evident within the rock strata. The distinctly shaped mound was once a rocky island in the former Glacial Lake Wisconsin and is long and narrow with a flat-topped ridge bordered by craggy, precipitous cliffs. The summit stands about 300 feet above the Central Sands plain. Vegetation at the top of the mound consists of scattered red, black, and white oak with red, white, and jack pine. "Crow feet" petroglyphs are present at the base of the mound and protected by a fence as they have been partially destroyed by vandals. Roche-a-Cri Mound was designated a State Natural Area in 1983.

Roche-A-Cri Woods SNA features an old-growth pine-oak forest on the sandy terrain that surrounds Roche-A-Cri mound. Canopy dominants are large white pine, white oak, black oak, red pine, and red oak. The diverse groundlayer contains at least 220 species including bracken fern, elliptic shin-leaf, interrupted fern, and wild sarsaparilla. Carter Creek, a class III trout stream, meanders through the site. As the terrain drops towards the creek, the vegetation becomes more mesic with species such as ironwood, maidenhair fern, lady fern, hepatica, early meadow rue, and marsh marigold. Bordering the creek is a wet-mesic floodplain forest of silver maple, green ash, and basswood. Roche-A-Cri Woods was designated a State Natural Area in 2002.

I. Primary public uses:
Roche-A-Cri offers a variety of recreational opportunities including camping, hiking, cross country skiing, snow shoeing, nature study and hunting.

J. Biotic Inventory Status:
None

K. Deferral/consultation area designations:
None

IFMP components

Management Objectives:

Management objectives are based on the park's 1982 master plan Section I, A. Goals, Objectives, and Additional Benefits and B. Recommended Development and Management Program 2. Management a. Vegetation and the 2002 master plan variance.

1. Hazard tree management may be implemented as necessary when hazard trees are identified in use areas such as the campground, picnic areas, park office and service area, along trails and interior roads, and around prescribed burn units. Park staff and foresters will coordinate with SNA staff to minimize impacts of hazard tree management within the SNA.
2. Preserve the integrity of known archaeological and historical features by following DNR Manual Code1810.1 (Historic Preservation), the department's Burials, Earthworks, and Mounds Preservation Policy & Plan, state statutes and federal laws.
3. Conduct invasive species management where needed to ensure regeneration of adequate numbers of desirable tree species.

Property Prescriptions:

1. **Pine plantations -** Even-aged management with periodic thinning and an extended rotation age will be used in plantations to slowly convert them to a mix of tree species where pine will continue to be a component of the stand. The red pine plantation in Compartment 301 Stand 12 will be removed to facilitate prescribed fire management of the planted prairie in Compartment 301 Stand 14.
2. **Compartment 302** – Remove hazard trees bordering grassland prescribed burn units. Remove trees on access lane that connects grassland prescribed burn units to facilitate movement of equipment between burn units.
3. **All stands -** Manage hazard trees per department standards in use areas and along interior roads and trails. Hazard trees may be removed by commercial timber sales, firewood sales, contractors, and staff. Ash trees in use areas that may be affected by emerald ash borer may be managed prior to infestation.

Summary of Public Involvement and Comments Received:

No public comments were received.

Maps (Optional)

a. Locator map of Roche-A-Cri State Park
b. Cover type map for Roche-A-Cri State Park

Interim Forest Management Plan

PREPARED BY:

Property Manager — Date: 2-4-18

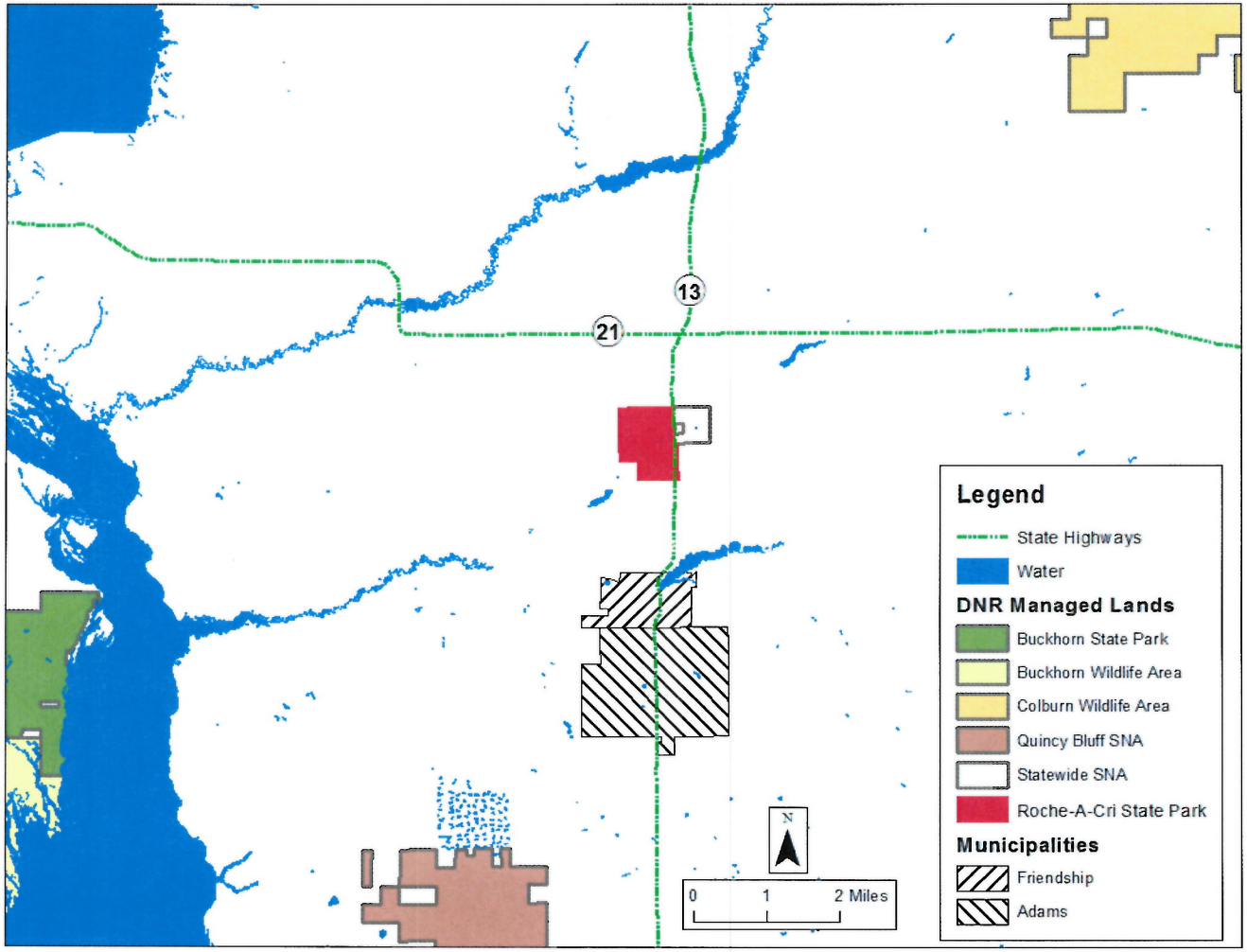
APPROVED:

Area Program Supervisor — Date: 2-7-2018

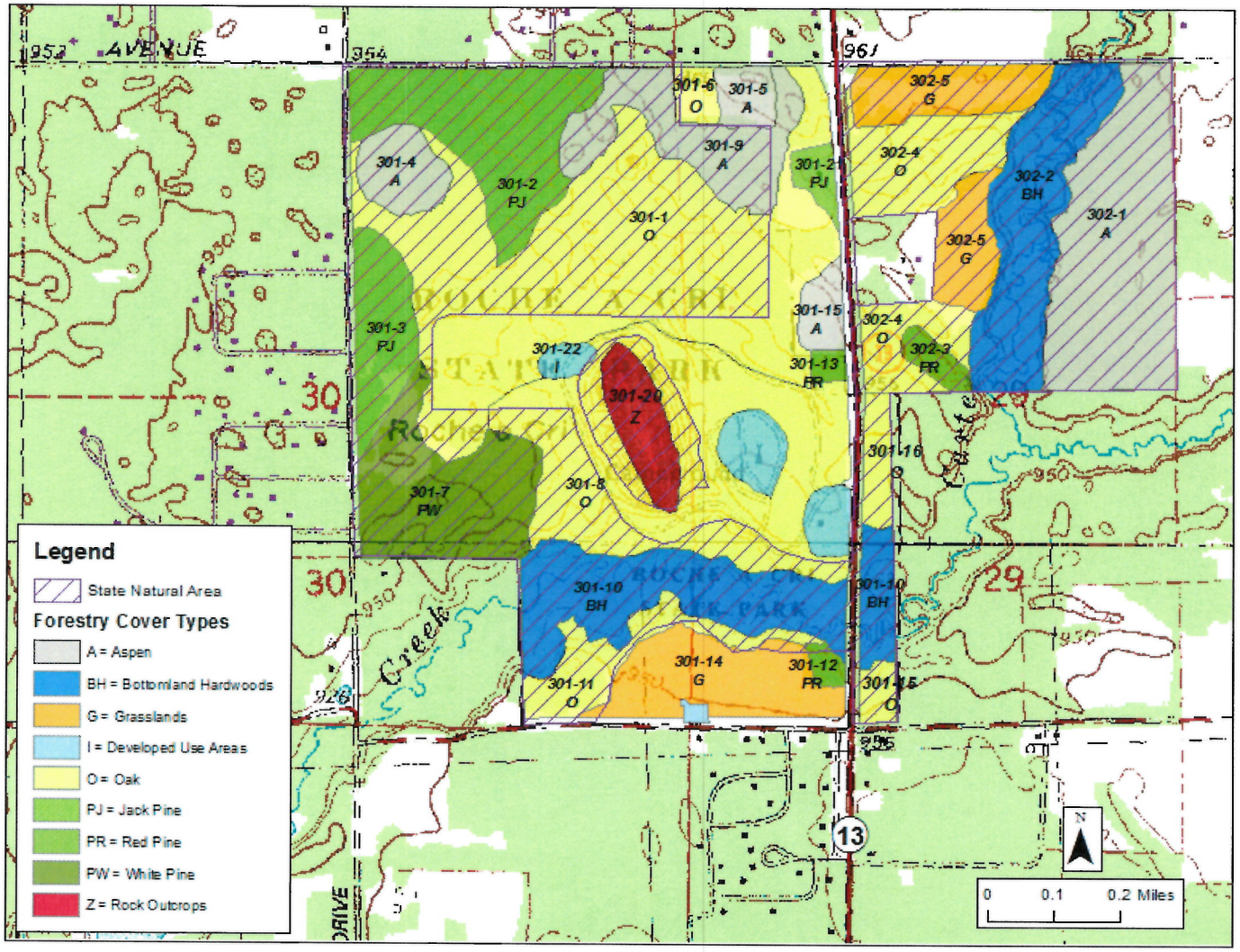
REVIEWED BY:

Forester — Date: 2-6-18

District Ecologist — Date: 2-5-18



a. Locator map for Roche-A-Cri State Park



b. Cover type map for Roche-A-Cri State Park Roche-A-Cri Woods SNA. Each stand is identified by compartment (301 or 302), stand number and primary forest type.