

Betsie River State Game Area

Master Plan



MICHIGAN DEPARTMENT OF NATURAL RESOURCES

**WILDLIFE DIVISION
STEVE GRIFFITH
AUGUST 2018**

Intended Purpose and General Management Direction

The Betsie River State Game Area (BRSGA) was dedicated in the early 1950s. The BRSGA was managed primarily as a waterfowl area and was a location for the reintroduction of Canada geese in the 1950s through the 1970s. The west half (section 35) was designated a State Wildlife Sanctuary for multiple decades, which is no longer a recognized designation. Aquatic furbearers have been an important resource found in the BRSGA, and deer hunting has been a popular activity. The Betsie River runs through the length of the BRSGA.

The majority of the BRSGA was purchased with federal Pittman-Robertson (P-R) Funds, but some land was acquired through land swaps and recreation bond monies. P-R funds are a source of federal aid generated from taxes on sporting arms and ammunition and are apportioned to states for wildlife population and habitat management, and wildlife-based recreation. Multiple-use of areas supported by P-R funding is encouraged, provided it does not interfere with the primary purpose of wildlife management and habitat restoration.

The BRSGA is in the Northern Lower Peninsula Region in Benzie County (Figure 1). At the west end of the BRSGA the Betsie River empties into Betsie Lake, which in turn empties into Lake Michigan. Betsie Lake is flanked to the north by the village of Frankfort, and by the village of Elberta to the south.

Long-term, the Department of Natural Resources (DNR) Wildlife Division wants the area to continue to contribute to sustainable populations of important wildlife, such as white-tail deer, waterfowl, and least bittern, to provide valuable hunting and trapping recreation, and to work with the villages of Frankfort and Elberta to enhance the quality of life for the area residents.

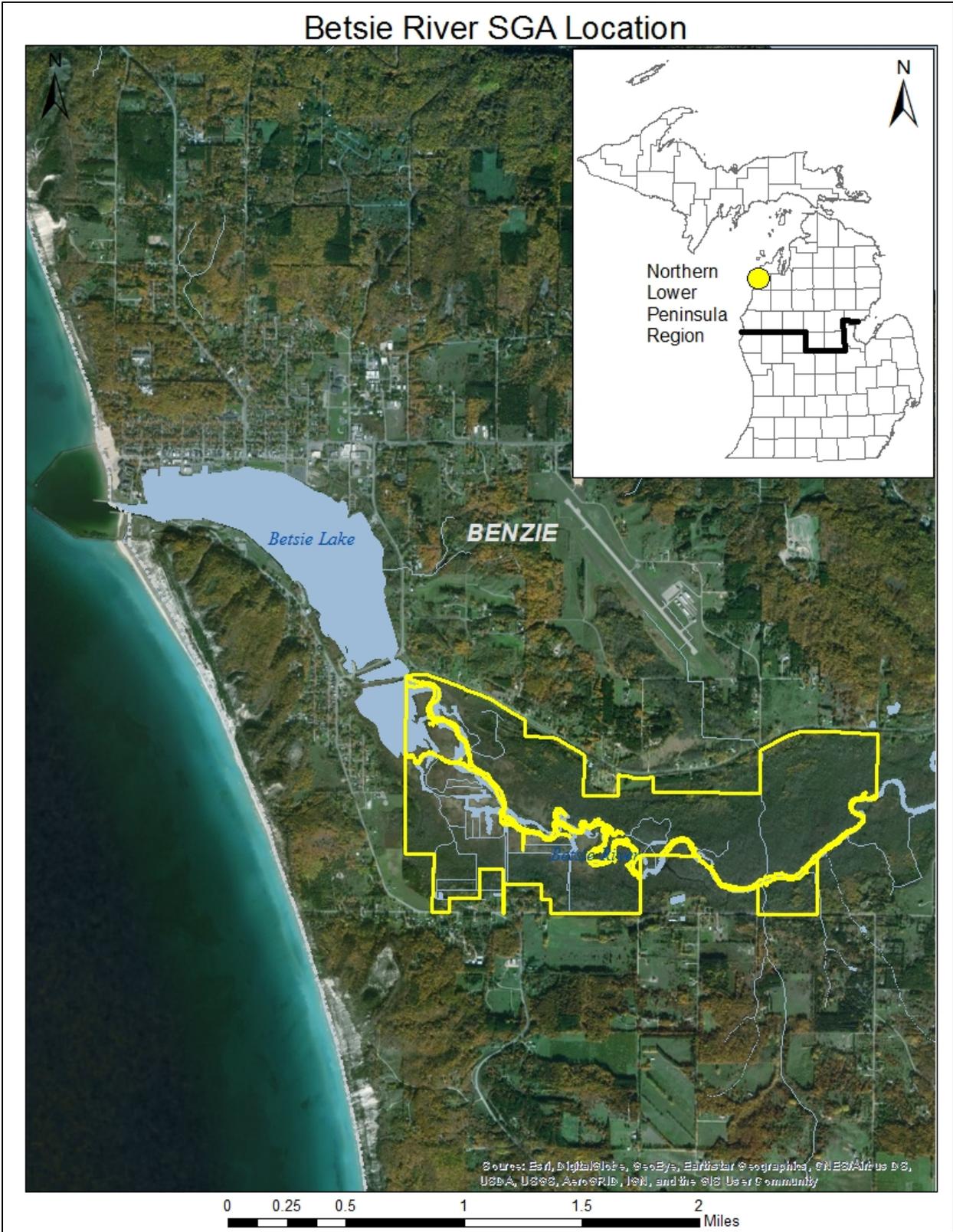


Figure 1. Location of the Betsie River State Game Area.

Background

This plan incorporates, by reference, the Upper Mississippi River Great Lakes Region Joint Venture Implementation Plan, the DNR Northern Lower Peninsula Regional State Forest Management Plan, and the DNR Wildlife Action Plan by maintaining wetland and young forest habitat for game and non-game species of conservation concern.

At a local level, this plan helps fulfill goals and objectives of other higher-level Department and Wildlife Division plans and initiatives. The Department goals (protect natural resources, sustainable recreation, strong natural resource-based economies, and strong relationships and partnerships), the Wildlife Division's Guiding Principles and Strategies (GPS), More Bang for Your Buck concepts, and the Division's NLP Regional Operational Plan are all reflected in this master plan.

Additionally, the BRSGA is considered "in-scope" for forest certification, meaning the area is included within the scope of evaluation under DNR's Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI) forest management certificates. As such, the area is categorized as a Special Conservation Area (SCA), indicating wildlife management and associated recreation are the leading conservation objectives/values guiding management. Activities will follow procedures outlined in the DNR's Forest Certification Work Instructions to ensure compliance with forest certification standards.

Wildlife Species

True to the intended purpose of the BRSGA, when it was dedicated in the 1950s, we will continue to focus our efforts on species and habitats that help meet our goals to provide quality hunting opportunities and meet our other public trust responsibilities (Table 1).

Several species of conservation concern are associated with the BRSGA. These include marsh wren (state threatened), least bittern (state threatened), bald eagle (state special concern), and wood turtle (state threatened). Goal 1 of the Wildlife Division's GPS is to manage for healthy and sustainable populations of wildlife.

A variety of game species can be found at the BRSGA. Many species use this area as part of a riparian travel corridor. Black bear and bobcat utilize this area, predominantly in the eastern half where lowland forests are found. Deer, grouse, and woodcock make use of the various food and cover vegetation found growing on the moist soils of the river's floodplain. Mallards, wood ducks, Canada geese, and aquatic furbearers make use of the river proper, extensive riverbank and various oxbows, sloughs, and drainages.

Table 1. A list of species or projects to be worked on during this planning period, reflecting opportunities for habitat or recreational management.

Common Name	Featured Species	T&E, Special Concern Species	Climate Change Vulnerable	Remarks
Cottontail Rabbit	Yes	No	No	Brush piles
Least Bittern	No	Yes	Yes	Invasive species control in marsh
Marsh Wren	No	Yes	No	Invasive species control in marsh
Wood Turtle	No	Yes	Yes	Maintain riparian habitat
Bald Eagle	No	Yes	No	Minimize disturbance
Ruffed Grouse	Yes	No	Yes	Young forests, aspen
White-tailed Deer	Yes	No	No	Openings, food plots, mast trees
Woodcock	Yes	No	No	Young forests, openings
Wood Duck	Yes	No	No	Wooded floodings, nest box maintenance
Mallard	Yes	No	No	Nest tubes

Ongoing shifts in climate are increasing the risk of extremes in hot and dry weather that impact aspen clones, and ruffed grouse are vulnerable to changes in weather that affects nesting and snow roosts. These changes are likely to decrease the cycles and overall population of ruffed grouse in the future. Long term, this may impact our ability to effectively meet our desired future conditions outlined in Goal 2 (see below) on the BRSGA. Over the course of this 10-year planning period, we will monitor aspen regeneration as part of routine forest inventory. In general, a variety of age classes and cover types are used by grouse which may help buffer against climate change vulnerability and stressors. Because climate impacts to aspen and grouse are not yet evident on the BRSGA, monitoring and maintaining habitat diversity are our best adaptation strategies.

Wood turtle and least bittern may be somewhat vulnerable to climate change impacts depending on the stability of water levels and frequency of flooding events. Decreases in water levels can restrict breeding habitat for least bittern, and increased flooding events can reduce hibernacula and nest success for turtles and increase runoff, siltation, and chemical contaminants in wetlands.

Existing Conditions

The BRSGA is a unique and highly valued area of Michigan. Distinctive for the wooded wetlands and the Betsie River that runs through the game area, it is a place that offers a variety of opportunities for public use and enjoyment. The Betsie River is a designated Natural River, from the mouth at Betsie Lake, upstream to the Grass Lake Dam in northeast Colfax Township, Benzie County.

Betsie River SGA Cover Types

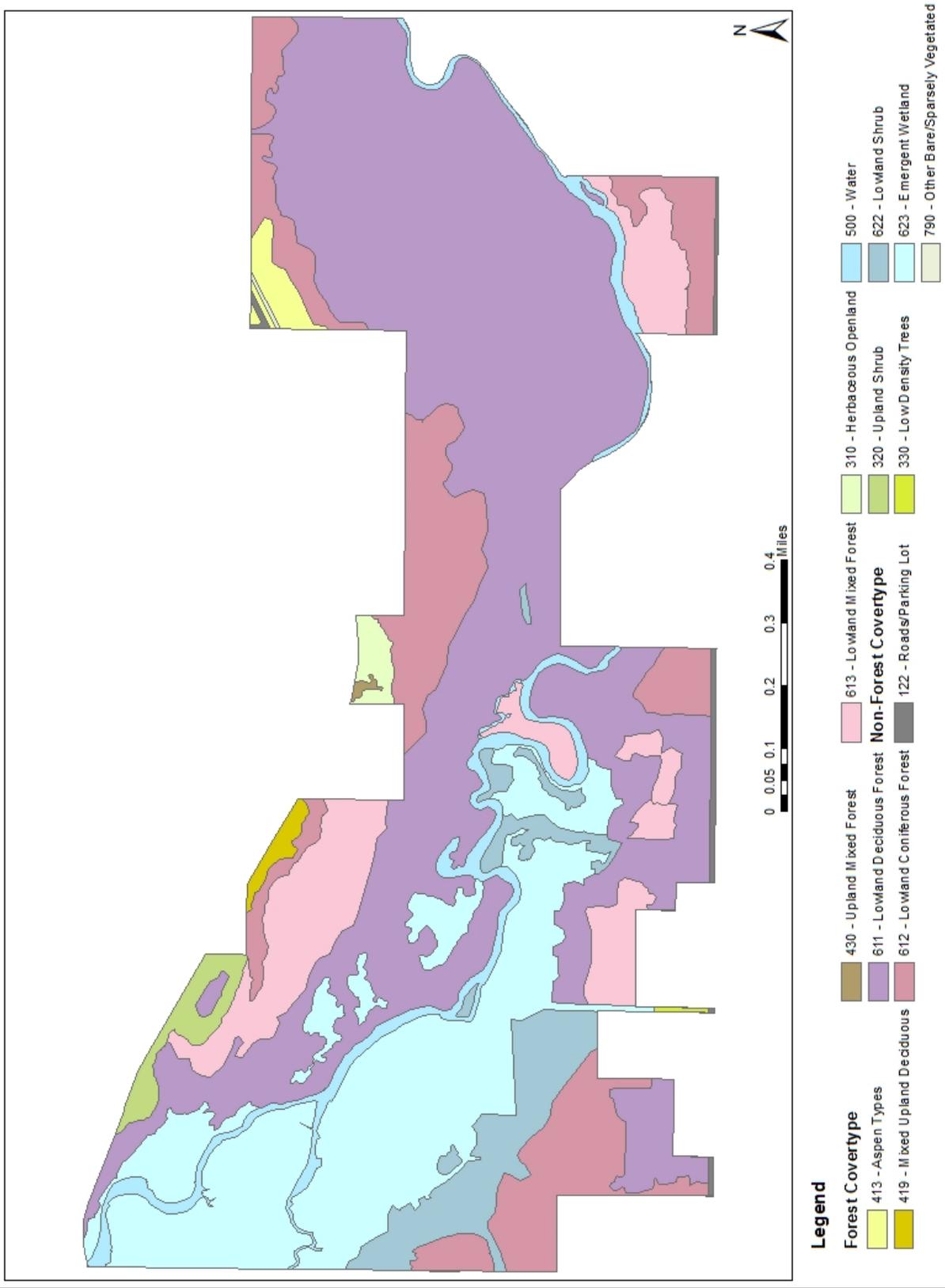


Figure 2. Betsie River SGA Cover Types.

The soils within the game area are very poorly drained Houghton-Adrian mucks. Nearly the entire BRSGA is classified as wetland (Figure 2, Table 2), which includes emergent marshes, open water, lowland shrubs, and various lowland forest types. Pre-settlement forested wetlands were dominated by conifers. Under current conditions most of these coniferous wetlands have been converted to lowland hardwoods or shrub swamp. Aspen can be found in various locations in the game area that are slightly higher in elevation, primarily as a component of other forested stands.

Table 2. Current cover types on the Betsie River SGA based on state forest inventory surveys from 2011.

Cover Type	Acres	Percent of Game Area
Lowland Deciduous Forest	331	45.9
Mixed Emergent Wetland	135	18.8
Lowland Coniferous Forest	99	13.8
Lowland Mixed Forest	62	8.6
Mixed Lowland Shrub	38	5.3
Water	29	4.0
Upland Shrub	9	1.3
Aspen	6	<1.0
Mixed Upland Herbaceous	4	<1.0
Roads/Parking lot	3	<1.0
Other Mixed Upland Deciduous	3	<1.0
Mixed Upland Forest	<1	<1.0
Bog	<1	<1.0
Low Density Trees	<1	<1.0
Other Bare/Sparsely Vegetated	<1	<1.0
Total	720	100

Invasive phragmites and potentially reed canary grass in the emergent marsh and other locations is a concern and can impact the ecological integrity of the marsh. This affects habitat quality and diversity which has effects on opportunities for waterfowl hunting, furbearer trapping, and wildlife viewing. Monitoring for invasive species in these wetland communities will be an important activity.

Recreational Use

The BRSGA provides a host of recreational opportunities for residents and visitors alike, including hunting, trapping, bird watching and nature viewing. The Betsie River has a quality fishery. Many people enjoy canoeing and kayaking the river as well. State game areas in Michigan are under continual pressure for other uses, and those uses will be evaluated on a case-by-case basis for their compliance with State and Federal regulations, their compatibility with the establishing purpose of the SGA, and management endeavors that uphold that purpose.

Impacts on the Local Economy

Contributions to the local economy resulting from activities on the game area include year-round wildlife viewing, and waterfowl, deer, grouse and cottontail rabbit hunting. Fishing is another popular activity along the Betsie River within the game area. Trapping has declined, but the BRSGA is still utilized by a few trappers. These recreational activities may provide a direct boost to local restaurants, sporting goods stores, convenience stores and gas stations. Occasional timber sales that meet habitat management goals with local logging operators also may occur.

Management Direction

The desired future condition for the BRSGA is outlined in Table 3. Conifer components of lowland forests need to be protected and opportunities to expand lowland conifers explored. Much of the tag alder within the game area is old and becoming decadent. Regeneration cuts will be planned to rejuvenate tag alder and other lowland shrubs. Most of the aspen is becoming decadent and some needs to be regenerated to retain a component of young forest on drier sites.

Table 3. Desired future condition of cover types and habitat issue direction on the BRSGA.

Cover type and Habitat Issues	Desired Future Condition
Upland Hardwoods	Maintain
Natural Pines	Maintain
Lowland Hardwoods	Decrease
Lowland Conifers	Increase
Lowland Shrub	Maintain
Emergent Wetland	Increase
Aspen	Increase
Herbaceous Open lands (Grass)	Maintain
Cool Season Grass	Maintain
Mature Forest	Decrease
Unfragmented Forest	Maintain
Riparian Corridor	Maintain
Unmanaged Wetlands	Maintain

Goals, Objectives, and Management Actions

The following strategic direction for the BRSGA will be implemented during this planning cycle. This plan describes the goals or desired future condition for the area, the objectives under each goal, and the actions associated with each objective. Goals come primarily from the featured species and habitat issues identified previously.

Goal I. Manage wetlands to provide habitat for waterfowl, furbearers, and other wetland species.

Rationale: Waterfowl and furbearers are popular game species and protecting and maintaining lowland habitats will provide hunting, trapping, and viewing opportunities. Maintaining wetland communities provides important habitat for a variety of wildlife species, including those of conservation concern, and protects water quality.

Metrics: Number or acres of invasive species treatments, number nesting structures installed or maintained; acres of lowland habitat types within the state forest inventory system.

Objective A. Maintain wetland habitat for breeding waterfowl, furbearer production, and for species of conservation concern such as wood turtle, marsh wren and least bittern.

Action 1. Monitor riparian habitat for invasive plant species such as phragmites, purple loosestrife, buckthorn, and climbing nightshade, that degrade wetland habitats. Treat and remove invasive species as necessary.

Action 2. Install wood duck nesting boxes and mallard nesting platforms.

Action 3. Maintain riparian habitat for wood turtles using turtle Best Management Practices for any management conducted in these areas.

Action 4. Enact mute swan control as needed.

Goal II. Promote early successional management to provide habitat for American woodcock, ruffed grouse, cottontail rabbit, and white-tailed deer.

Rationale: Grouse and woodcock are highly desirable game species and managing habitat for them also benefits white-tailed deer, cottontail rabbits, and numerous other wildlife species.

Metrics: Aspen acres and/or percent aspen component and age class distributions based on forest inventory data, number of forest openings, number of brush piles maintained, and acres of suitable forage created (food plots or native grass/forb mix).

Objective A. Increase the aspen component where possible.

Action 1. Implement clearcut treatments to regenerate declining aspen stands.

Action 2. Increase aspen when possible in mixed deciduous stands using standard silvicultural practices.

Objective B. Maintain or increase acres of alder or component of alder in mixed lowland shrub stands on the SGA.

Action 1. Conduct winter hand cutting; explore opportunities to partner with Michigan United Conservation Clubs (MUCC) and Ruffed Grouse Society (RGS) for volunteer days and/or grants to contract work.

Action 2. Explore possibility to utilize a mulching-head tractor for managing large alder cuts.

Objective C. Maintain the current extent of openings and shrublands.

Action 1. Seek opportunities to remove woody encroachment and replace with native grass and forb planting or approved pasture mixes.

Action 2. Seek opportunities to create or restore openings and/or semi-open habitats appropriate to the landscape.

Objective D. Promote cottontail rabbit habitat through early successional habitat management and brush pile creation.

Action 1. Opportunistically improve cover by creating brush piles and/or hedge rows within and along openings.

Action 2. Explore opportunities to enhance natural woody browse and herbaceous forage with shrub plantings and herbaceous plantings.

Action 3. Promote patches of early succession habitat using prescribed burning, mowing, plantings, and other silvicultural treatments.

Goal III. Provide public access for recreation opportunities.

Rationale: Among the requirements of P-R is to provide suitable access to state game area lands and infrastructure. Access will also need to be monitored to prevent or mitigate environmental damage and to ensure the land is used for its legally mandated purposes.

Metrics: Roadside and parking area car counts, number of erosion and trespass issues addressed, and number of infrastructure repairs completed.

Objective A. Evaluate opportunities for public access and clearly mark boundaries.

Action 1. Establish two parking areas and informational kiosks.

Action 2. Conduct routine maintenance in parking areas, roads, and trails as needed.

Action 3. Ensure boundary is signed and replace signage as needed.

Action 4. Mitigate any negative impacts from public use or access to sensitive areas as needed.

Objective B. Evaluate opportunities to increase the size of and access to public land through parcel acquisition.

Action 1. As adjacent land becomes available, assess opportunities for acquisition.

Objective C. Ensure recreational activity within the BRSGA does not negatively impact nesting bald eagles.

Action 1. Monitor for the presence of bald eagle nests and consult with DNR Threatened and Endangered Species coordinator and/or the U.S. Fish and Wildlife Service for guidance on permitted activities and management recommendations.

Acquisition and Disposal of Land

This is an important game area that provides a host of recreational opportunities for local resident and visitors. Our overall goal is to continue to provide these opportunities. Since the BRSGA is in northern Michigan and within relatively close distance to Traverse City and Manistee, the land acquisition strategy for the BRSGA is to fill in state ownership by acquiring available blocks located within and among current state ownership. Parcels will be evaluated as they become available and will be acquired on a willing seller basis only.

Plan Review

This plan was available for tribal and internal DNR review between April 5 and April 19, 2018. Two DNR comments were received to include Canada goose in the species table and to include mute swan control in the strategic section. The latter was included; however, the former was not. This is because no specific management for Canada goose will occur in the next 10 years. Instead, this species will benefit from general wetland management and best management practices at the SGA. This plan was also available for public review and comment between June 10 and July 31, 2018. No comments were received. This plan will be reviewed within 10 years of the approved date.

Approvals

	8/10/18
Dale Rabe, Field Operations Manager	Date
	08/13/2018
Rex Ainslie, Regional Supervisor	Date