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Barry State Game Area Master Plan



MICHIGAN DEPARTMENT OF NATURAL RESOURCES
WILDLIFE DIVISION

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Barry SGA Master Plan version 04/25/2015
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Introduction

The primary purpose of this plan is to set strategic direction and guide future management activities used to achieve desired conditions for BSGA. Obligations to the funding sources used to acquire and manage this area require that it be maintained for the purpose of managing wildlife, wildlife habitat and associated recreation including hunting and trapping. Other activities and uses of the area that complement or do not conflict with wildlife management have been considered and incorporated where appropriate. This plan also describes an adaptive approach to management, in which biologists assess the effectiveness of their management efforts.

This plan describes management on BSGA that is expected to take approximately ten years to complete. However in developing this plan, time frames beyond the decade-long interval and land outside the boundaries of the area were taken into consideration. Progress on the plan will be reported annually. The management planned in this document was a good faith effort considering the conditions, anticipated resources, and state of knowledge at the time the plan was written. It is not guaranteed that the management activities will be accomplished as planned.

When setting the desired future conditions, it is necessary to consider the purpose for which the property was acquired by the state, current land cover conditions, and future social and economic forces that could influence management strategies. The intended purpose for Barry SGA was and still is aimed at wildlife restoration while providing hunting and trapping recreation. This focus will remain as a part of this plan and subsequent goals and objectives.

In addition, Barry SGA offers some unique opportunities for managing special wildlife species and natural communities. However, in some cases enhancing and conserving these special features may be in conflict with management for species that provide hunting and trapping opportunity. As this plan is fully implemented these conflicts will be addressed and a mutually beneficial outcome will be sought to move forward. The purpose of this plan is to simply detail a more strategic approach.

In developing this plan a simple prioritization process was followed. First, wildlife species important to fulfilling the intended purpose of the SGA or with special legal designation were listed and compared to the Wildlife Division's "Featured Species" list for consideration in the plan. Habitat requirements were assessed and compared to the current condition of the SGA. Goals, objectives and actions were developed to address species needs. Second, opportunities to manage unique plant communities were considered. Looking at current condition, threats, and future opportunity the goals and objectives were developed in order to maintain or enhance these features. Finally, other management implications were considered including public use, special uses, and infrastructure maintenance for inclusion in the plan.

The Wildlife Division's GPS clearly identifies several strategies incorporated into the desired future condition of the Barry SGA. In addition, this plan addresses the Director's desire to see a reversal in the trend of decreasing hunter and trapper license purchases through the enhancement of habitat aimed at providing huntable game. This plan also addresses the Departments Evergreen Goals, specifically, Resource Protection, World-class Recreational Opportunities and Partnerships.

The BSGA is located in Barry County, which is in the Wildlife Division's Southwest Region (Figure 1). The area totals approximately 16,614 acres (IFMAP). Immediately to the west of the game area lies the Yankee Spring Recreation Area, covering approximately 4,700 acres. The land surrounding the Barry State Game Area and the adjacent recreation area is largely agricultural, mixed with some privately owned forest land.

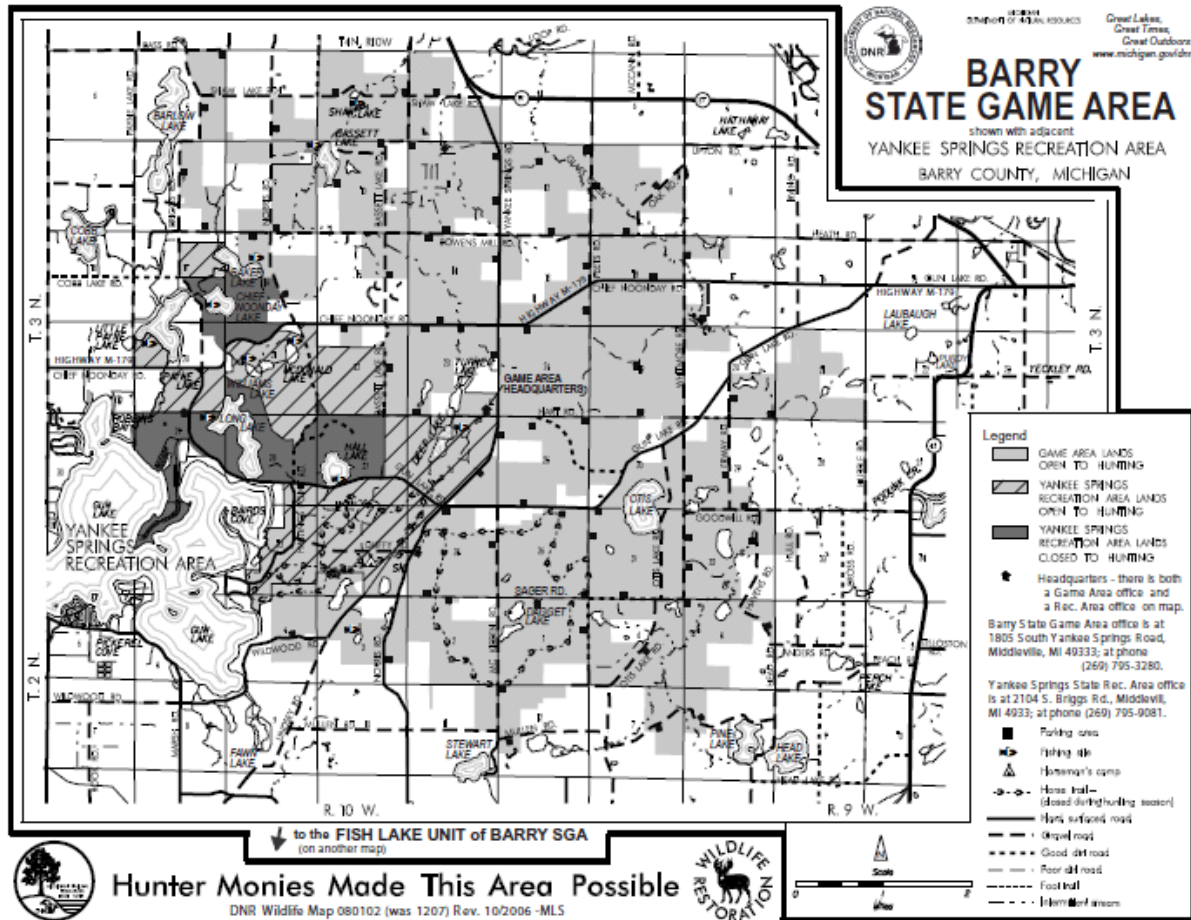


Figure 1. Barry State Game Area and Yankee Springs Recreation Area Map.

Table 1 shows the current cover types found on the game are and the associated IFMAP acres with each.

Table 1. Current Land Cover Type Barry SGA

Cover Type	Acres
Aspen Types	557
Lowland Coniferous Forest	24
Lowland Deciduous Forest	560
Lowland Mixed Forest	12
Mixed Upland Conifers	80
Mixed Upland Deciduous	2901
Natural Pines	56
Planted Pines	1885
Northern Hardwood	540
Oak Types	5888
Other Upland Deciduous	24
Upland Mixed Forest	216
Cropland	607
Emergent Wetland	658
Floating Aquatic	10
Herbaceous Open-land	667
Low Density Trees	213
Lowland Shrub	952
Mixed non-forested wetland	17
Other bare sparsely vegetated	19
Road, parking lot	33
Upland shrub	293
Open water	587
Low Intensity Urban	17

Table 2 and Figure 2 shows the current age distribution of planted pine cover-type on the game area.

Table 2. Current Planted Pine Age Distribution

Age (years)	Acres
< 40	9
40-49	219
50-59	757
60-69	832
70-79	34
80-89	34
TOTAL	1885

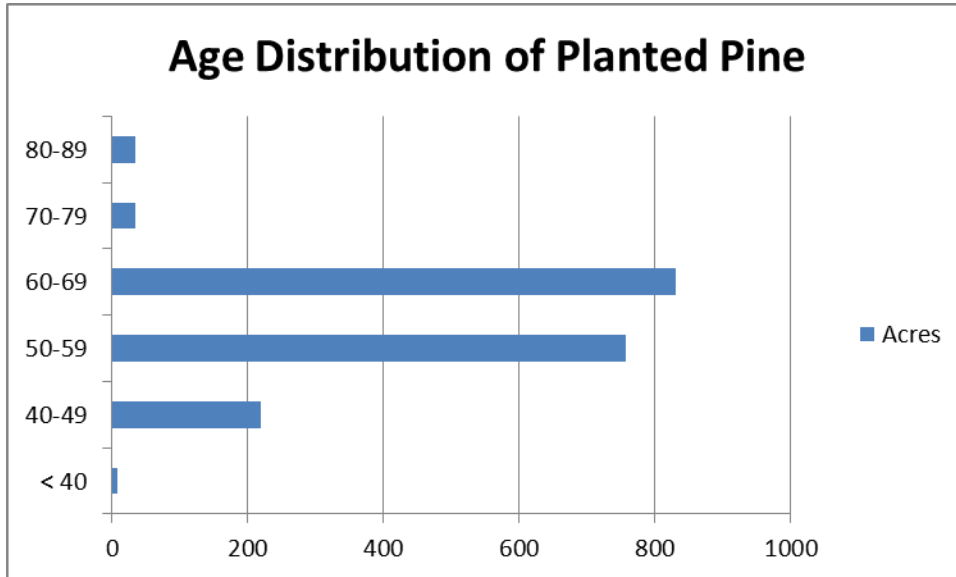


Figure 2. Age Distribution of Planted Pine on Barry SGA.

Table 3 and Figure 3 shows the current age distribution of Oak cover-type on the game area.

Table 3. Current Oak Age Distribution

Age (years)	Acres
< 50	148
50-69	1281
70-89	1557
90-109	1253
110-129	1375
130-149	234
150-169	40
TOTAL	5888

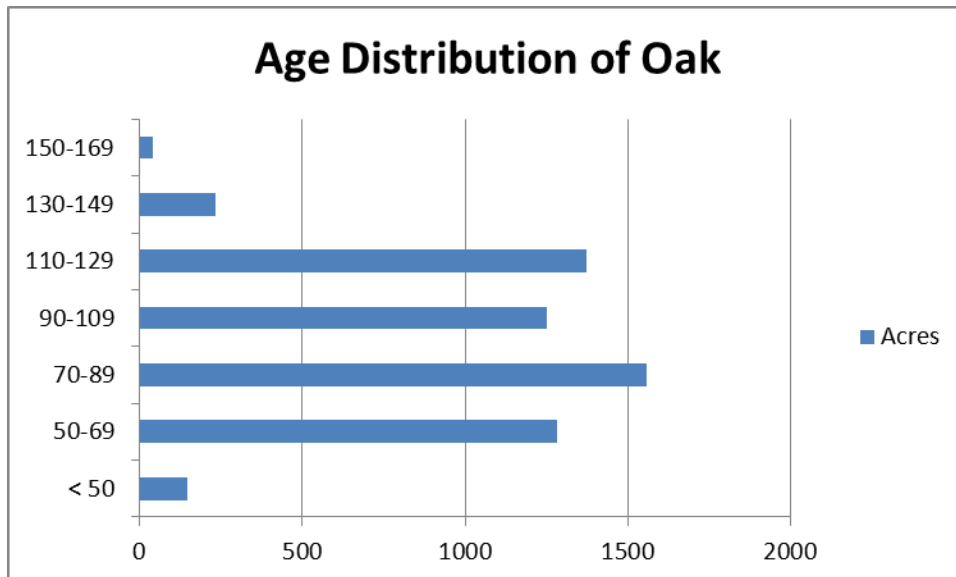


Figure 3. Age Distribution of Oak on Barry SGA.

Future Desired Condition Goals will address the obvious skewed age distribution of both the Oak and Planted Pine cover types.

What follows is the strategic direction for Barry SGA. This plan describes the **goals** or desired future condition for the area, the **objectives** under each goal, and the **actions** associated with each objective. For the purposes of this master plan, the following definitions will be used:

Goal – A desired future condition of the area.

Objective – A management approach or strategy that the best science suggests can be used to move the area toward the Goal. An objective is a quantifiable input to be completed within a defined timeframe that contributes towards accomplishing the goal.

Action – An operational means to accomplish an objective. An action is a step needed to complete an objective and is described in sufficient detail to inform planning. An action is a quantifiable input to be completed within a defined timeframe that contributes towards accomplishing the objective.

Desired Future Condition

Goal I is to maintain abundant populations of white-tailed deer, wild turkeys, cottontail rabbits, squirrels, woodcock and ruffed grouse to provide quality hunting experiences.

Rationale: 1) This area was dedicated to provide hunting recreation for Michigan citizens; 2) each of the species listed above are listed as Featured Species; 3) one of the DNR's priorities is to reverse the trending loss of hunters and trappers, this goal will help ensure hunting opportunity remains in Barry County; 4) one of the objectives in the Wildlife Division's GPS is related to small game hunting opportunity; 5) there are good populations of white-tailed deer, wild turkeys, cottontail rabbits and squirrels on the SGA; 6) there is a desire for larger populations of woodcock and ruffed grouse on the SGA.

Metrics: 1) conversations with hunters and users on the SGA will be used to assess relative abundance of these species.

Objective A is to maintain 400 acres of agricultural openings through sharecropping and local staff planting of various agricultural food products to maintain openings, provide edge cover for rabbits, and food for deer and turkeys.

Action 1 Identify and maintain fields suitable for share cropping in sharecrop contracts.

Action 2 Work with local farmers to establish 5 year agreements aimed at securing dependable share crop agreements.

Action 3 Annually review, monitor, and revise as needed sharecrop agreements with farmers.

Action 4 Annually monitor the success of share crop agreements.

Action 5 Annually review and identify fields to be planted by SGA staff to supplement plantings in sharecrop agreements.

Objective B is to identify, establish and maintain 100 acres of cool season grass plantings as a food and nesting resource for rabbits, deer, and turkeys.

Action 1 Identify fields where cool season grasses can be easily maintained and establish cool season grass plantings.

Action 2 Identify cool season grass fields that can be maintained through sharecropping contracts and establish 5 year contracts.

Action 3 Develop annual work plans to schedule SGA staff to mow cool season grass fields that are not feasible for sharecrop agreements.

Action 4 Develop cool season grass planting plans on rotation to maintain vigor in these openings.

Objective C is to increase diversity in the size of upland openings in appropriate locations to between 5 and 25 acres in order to provide feeding, hiding, nesting, and loafing cover for rabbits, deer, and turkeys.

Action 1 Remove all autumn olive hedgerows between adjacent upland openings.

Action 2 In combined upland openings where hedgerows were recently removed, establish grassy cover or maintain natural vegetation so it is free of woody growth.

Objective D is to establish one savanna complex of approximately 150 acres within the SGA or in partnership with adjacent landowners for nesting and hiding cover for rabbits, turkeys, and deer.

Action 1: Continue and expand grassland restoration efforts adjacent to the land owned by Southwest Michigan Land Conservancy (T2N R9W section 6).

Action 2 Within five years, develop a plan to achieve approximately 150 acres of contiguous savanna north of M-179.

Objective E is to harvest forested stands throughout the SGA over the next 10 years to increase early successional forest cover type to provide key habitat requirements for ruffed grouse and woodcock.

Action 1 Use current forest inventory to identify forested stands suitable for harvest.

Action 2 Establish a rotation of harvest on the landscape to ensure sustainable distribution of early successional forest cover.

Action 3 Identify islands of aspen clones within other forested cover types and manage these islands for aspen to add additional acres of early successional cover on the landscape.

Objective F is to establish a system for achieving an even mix of age classes of oak and oak/hickory forest within 20 year age class categories to ensure mast product availability is sustainable for deer and turkeys.

Action 1 Use current forest inventory to identify planted pine stands with oak regeneration in the understory.

Action 2 Identify the status of oak regeneration under planted pine stands and determine prescription to maximize success of oak regeneration.

Action 3 Initiate thinning or final harvest on approximately 800 acres of planted pine in which advanced regeneration of oak is present over the

next 10 years. Removing the pine will help advance oak regeneration and add additional acres of the 0-20 year age class of oak type forest to the landscape.

Action 3 Establish an appropriate harvest schedule to diversify age class within the current oak and oak hickory forests in the Barry SGA.

Goal II: Provide quality hunting, trapping and target shooting recreational opportunities at the Barry SGA.

Rationale: 1) the area provides recreational opportunities related to wildlife; 2) the DNR-Wildlife Division supports wildlife related recreational activities that promote our state's wildlife heritage; 3) sufficient roads, trails, parking lots, gates and signs are required for users to take advantage of recreational opportunities. 4) Discussions with users indicate hunters and trappers value having a large public area where risks of overcrowding and disturbance are minimized. 5) Requests are high for an area to practice shooting and site in firearms. 6) Requests are high for additional hunting opportunities for people with disabilities. 7) Public land users value accurate maps and signage to avoid accidental trespass or confrontation with private landowners.

Metrics: Conversations with recreationists in the SGA will be used to assess quantity and quality of recreation opportunities.

Objective A is to increase the quality of walk in hunting opportunities by monitoring and aggressively controlling unwanted vehicle and Off Road Vehicle (ORV) traffic with gates and barriers.

Action 1 Annually assess the presence of unwanted vehicle traffic or ORV use on the game area.

Action 2 Annually block unauthorized vehicle trails or ORV use areas.

Action 3 If unauthorized vehicle trails become a maintenance burden then initiate a road closure plan to prohibit vehicle access to these areas.

Objective B is to continue monitoring and management of the "shooting area" off of Yankee Springs Road to accommodate game area users while minimizing conflict with local residents. Additional management and regulatory activities are not currently planned, but may be initiated as use of the area changes.

Action 1 Monthly evaluate the safety of the shooting area and repost safety related signs as needed.

Action 2 Monthly clean-up trash from the shooting area to keep it in a useable condition for shooters.

Action 3 Timely address complaints by local residents of conflicts with shooters that pose a potential safety risk.

Objective C is to maintain signs and maps that identify SGA boundaries and rules.

Action 1 Perform annual inspections of signage along roadways and replace signs as needed.

Action 2 Develop a boundary inspection plan in the next 3 years that will ensure all boundaries will be inspected on a rotational basis every 5 years.

Action 3 Implement the boundary inspection plan.

Action 4 Ensure SGA maps are updated timely and available to the public through various mediums.

Objective D is to maintain road access and parking for appropriate numbers of users.

Action 1 Annually inspect County owned roads and work with the County to maintain these roads on the game area.

Action 2 Annually inspect and maintain DNR owned roads on the game area.

Action 3 Monitor hunter use of parking areas and adjust parking area size and location as needed to accommodate user volume.

Objective E is to develop a special access area for hunters with disabilities.

Action 1 Design the area, and obtain funding for the development of the special access area.

Action 2 Create the special access area and maintain the area in good working condition into the future.

Action 3 Monitor the use of the special access area and discuss the area with users to identify potential improvements for the area.

The vast majority of staff time and operational budget will be spent on Goal I and Goal II because adequate funding is currently available for Actions listed under Goal I and Goal II. Special consideration will be given for the remaining goals in an attempt to avoid moving the current condition further away from Future Desired Condition. However, currently inadequate funding is available to fund work for Actions listed under the remaining Goals. Without future changes in funding mechanisms within the Wildlife Division, it remains unlikely that significant progress will be made toward reaching the remaining Goals.

Goal III: Improve the functioning of natural processes and increase the number, extent, and quality of prairie fen complexes and associated uplands inside and adjacent to BSGA; create sufficient habitat for multiple populations of Mitchell's Satyr Butterfly

Rationale: 1) Prairie Fens occupy a small proportion of the SLP landscape, yet contain a disproportionate share of unique plant and animal species. Fens face significant threats from agricultural and urban development, hydrologic alterations, invasive species, and the effective removal of fire from the landscape. BSGA and surrounding lands represent one of the most significant areas in the state for prairie fen restoration on state land. 2) Great potential for Prairie Fen habitat restoration occurs within and adjacent to BSGA. 3) 17 populations of Mitchell's satyr remain globally, and only three

of these occur within or partially on state lands. One of these three is Turner Creek Fen. 4) Mitchell's satyr butterfly is: listed as Endangered both at the Federal and State levels, a SGCN, and a SLP Eco-region Featured Species.

Metrics: Develop and implement adaptive management framework that includes pre and post habitat restoration surveys for both Satyr and Prairie Fen community quality (i.e. EO Rank) to be conducted by MNFI.

Objective A: Implement site plan developed by MNFI for Turner Creek Fen complex and restore 28 acres of the Turner Creek Fen over the next 10 years.

Action 1: Work with planner/ ecologist and MSB recovery team to better assess threats to Prairie Fen and MSB.

1a: Collaborate with Shu-Guang Li of MSUs hydrology lab to assess hydrologic alteration (e.g culvert and local drains) impact on Turner Creek fen.

1b: Working with Wildlife Invasive Species Coordinator, develop list of priority "featured" invasive species, map their occurrences, and develop prioritized invasive species treatment plan for fen and adjacent uplands at Turner Creek Fen (within 3 years).

Action 2: Prioritize threats identified in plan and those mapped or assessed in action 1.

Action 3: As necessary and appropriate, manage/ mitigate priority threats and restore ecosystem processes (hydrological and fire regime) over the next three years,

Action 4: Where appropriate, use fire to restore fen and adjacent upland composition and structure that historically surrounded fen (e.g. mesic and wet prairie, oak savanna or woodlands).

Action 5: Work with partner organizations to encourage similar stewardship and protection efforts along private portions of the Turner Creek fen complex.

Objective B: identify and prioritize other fens within BSGA or in holdings worthy of restoration and or protection by 2015.

Action 1: use current forest inventory, MNFI community EO database, and local partner knowledge to identify and prioritize potential prairie fen communities for restoration

Action 2: work with MNFI and MSB recovery team to determine feasibility and value of site(s) for MSB

Action 3: develop an operational plan aimed at improving or enhancing habitat for MSB

Action 4: For priority fens, identify and prioritize key threats and develop strategy to address threats

Action 5: Work with partner organizations to encourage similar stewardship efforts along with acquisition or protection, as necessary, on priority private fen complexes

Goal IV Maintain a population of cerulean warblers throughout the Barry SGA.

Rationale: 1) Cerulean warblers currently use the large blocks of timber for nesting; 2) These birds can represent other species utilizing mature forest cover type; 3) there is a strong interest in the local birding community to monitor and observe cerulean warblers.

Metrics: Annual presence/absence monitoring

Objective A Identify existing tracts of mature forest to be managed for species that benefit from closed canopy, mature forests; specifically for cerulean warbler

Action 1 use current forest inventory tools to analyze and determine where these tracts exist.

Objective B Manage the riparian floodplain and associated forests of the Glass Creek as a forested wetland corridor.

Action 1 Allow hydrology and water levels to be influenced by beaver activity in the Glass Creek watershed.

Action 2 Utilize burning to reduce shrub cover and promote forest regeneration throughout the Glass Creek Watershed.

Action 3 Initiate appropriate methods to control invasive wetland species such as reed canary grass and purple loosestrife wherever observed in the Glass Creek watershed.

Objective C Identify artificial openings bordered by mature forest and facilitate succession of those openings towards closed canopy forest.

Action 1 Plant red pine in identified sites as an intermediate cover type to discourage autumn olive invasion and to provide shade for oak seedlings.

Goal V: Increase the number, size, quality, and functionality of known Dry-mesic Southern Forest Community (DMSF) element occurrences (EO) within and adjacent to Barry SGA.

Rationale: 1) Habitat fragmentation and removal of fire are some of the most significant global, statewide, and ecoregional threats to wildlife habitat and biodiversity; 2) DMSF historically occurred as a dominant matrix community across much of southern Michigan's non-lake plain subsections, but today only exists in small isolated patches. DMSF on Barry SGA is fragmented by ownership boundaries and past management (e.g. aspen, warm season grass stands, and agricultural fields on state land); 3) Barry SGA and adjacent Yankee Springs Recreation Area (RA) together represent one of the largest blocks of conserved land in the SLP ecoregions and are perhaps the best opportunity for restoring a contiguous matrix example of Dry-mesic Southern Forest (DMSF) within Michigan; 4) Ten percent of all remaining Michigan known element occurrences of DMSF occur within Barry SGA; 5) A unique opportunity exists to increase

the extent of DMSF in and around Barry SGA because of the numerous known element occurrences; the size and spatial arrangement of Barry SGA and adjacent Yankee Springs RA boundary; interest and resources available for expanding the SGA; 6) The Southwest Michigan Land Conservancy is currently addressing fragmentation through protection (acquisition and easements) and stewardship of private lands within and adjacent to the game area.

Metrics: Objective A: Evaluate whether effective and achievable short, medium, and long-term goals have been developed? Objective B: Evaluate change in DMSF EOs' quality ranking via pre and post restoration surveys for Dry-mesic Southern Forest (Ecologist planner or MNFI). Objective C: Evaluate the change in number (EOs), acres and level of fragmentation of DMSF over time (Ecologist planner). Evaluate partner engagement and satisfaction and whether partnerships and collaborations are accomplishing desired objectives (local biologist and ask partners).

Objective A: Develop and implement short (annual) medium-term (five and ten year), goals for this community based on Objectives B and C.

Objective B: Improve EO quality ranking (i.e. condition and landscape context) of all existing DMSF element occurrences to A or B rankings within 10 years.

Action 1: Identify and prioritize threats to the quality of known DMSF element occurrences and adjacent lands within one.

Action 2: Prioritize management and restoration efforts (using a low, medium, and high priority classification) based on identified threats, opportunity for success, and adjacency to other fire-dependent communities (especially savanna) within one year.

Action 3: Address medium and high priority threats to the quality of known DMSF element occurrences within five years.

Objective C: Increase acres of DMSF element occurrences by 25% (10 years).

Action 1: Identify spatially explicit DMSF opportunity areas for EO expansion within Barry SGA (3 years).

Action 2: Reduce habitat fragmentation in DMSF opportunity areas by allowing small patches of grassland to succeed to forest, feathering forest transitions by thinning trees to remove hard edges, by harvesting red pine in plantations to promote oak regeneration and DMSF restoration, and by prohibiting future fragmentation in DMSF opportunity areas.

Action 3: Develop basic restoration plan for opportunity areas (within 5 years). Work with partners, as necessary to implement this plan.

Goal VI: Manage non-hunting and non-trapping recreational uses of the Barry SGA in a manner that is consistent with other game area goals and objectives.

Rationale: While the majority of the funding applied to the game area is designated for management that supports wildlife recreational activities, the game area offers benefits to a wide array of users. Maintaining existing opportunities for additional users that does

not conflict with wildlife related objectives will fulfill the mission of the DNR in addition to that of Wildlife Division.

Metrics: Discussions with additional users and observations of use.

Objective A is to maintain the equestrian trail to accommodate current levels of use, utilizing the local trail users to accomplish the majority of trail maintenance and monitoring.

Objective B is to establish a long term lease between the Michigan DNR and the North Country Trail Association for the perpetual management and maintenance of the North Country Trail.

Recreational and Commercial Uses

Recreational and commercial uses on the area that are not incidental to our management for the purposes described above are generally not allowed. These uses can be allowed, however, under the following circumstances:

1. The uses must not interfere or conflict with the wildlife conservation purposes of the area described above.
2. The DNR has no obligations to determine if requested uses would conflict or interfere, the burden of determining must remain with those requesting the uses.
3. The requested uses cannot be exclusive of other allowable uses and must not result in the DNR losing management control of any portion of the area.
4. A lack of a specific prohibition in rules and regulations for the area does not constitute approval of the activity.
5. The DNR always reserves the ability to disallow activities previously allowed as wildlife conservation needs dictate.

Additionally, the DNR will continue to monitor any existing commercial and recreational uses for interference with the intended purposes of the area as described in this plan.

Review and Approval

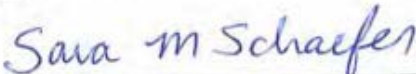
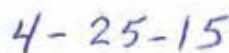
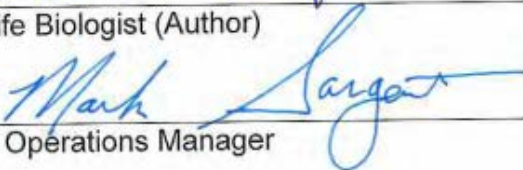



A public meeting was held on March 28, 2012 to present the draft version of the Barry SGA Master Plan. Multiple questions about this plan were addressed at this meeting. Four comments were received at this meeting. One comment suggested adding woodcock as a species to Goal I and woodcock were added to the next version of the plan. One representative from Michigan Audubon Society and one from Southwest Michigan Land Conservancy spoke of their support the plan and in particular of the habitat and natural community restoration portions outlined in the plan. The final comment was from a citizen who proposed having an annual meeting providing updates to management at the Barry SGA.

The draft plan was placed at the Hastings Public Library and DNR Plainwell Operation Services Center for the public to review. Written comments were accepted for 30 days. Written letters of support were provided by Southwest Michigan Land Conservancy and Michigan Audubon Society. Both groups were supportive of the plan, especially the portions related to protection

and enhancement of natural communities. Two citizens wrote letters for suggestions and clarifications and these were reviewed and implemented in the plan as appropriate.

The final plan was approved on April 25, 2015 and will be reviewed within 10 years of the approved date.

Approvals

 Wildlife Biologist (Author)	 Date
 Field Operations Manager	 Date
 Regional Supervisor	 Date