



Lost Nation State Game Area Master Plan

[Michigan Department of Natural Resources Website](http://www.michigan.gov/dnr)



Michigan Department of Natural Resources

**WILDLIFE DIVISION
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Intended Purpose and General Management Direction

The Lost Nation State Game Area (SGA) is located in south central Hillsdale County in southern Michigan, approximately ten miles north of the Ohio border (Appendix A).

On January 18, 1951, the Conservation Commission approved the purchase of 14 parcels, comprising 1,092 acres in Hillsdale County to be designated as the Pittsford SGA. The remaining 1,379 acres were purchased in small parcels between 1951 and present. Fees from the sale of state hunting and fishing licenses were used to purchase most of the parcels that make up the area. Additionally, 802 acres were purchased with

Federal funds from the Pittman-Robertson Wildlife Restoration Act, and 70 acres were purchased using Michigan Natural Resources Trust Fund monies. The purpose and intended uses of this area were established in the official dedication of the area by the Department of Natural Resources (DNR) and in the Pittman-Robertson Wildlife Restoration Act grant used to acquire and maintain lands in the area. This area is designed to provide, protect, and enhance wildlife habitat, provide for the management of wildlife populations, and provide for the associated recreation of hunting and trapping.

The area has an interesting history, as it was the hideaway of a famed horse thief, Sile Doty, it was thought to be the "last retreat" of Chief Baw Beese and his Pottawattamie tribe prior to being relocated to reservations in 1840, and the area is said to be speckled with the burial mounds of an unknown civilization of native peoples. Possibly for some, or all, of these reasons, the area was known locally as the "Lost Nation". In honor of this local history, the Conservation Commission changed the name of the state game area from Pittsford to Lost Nation SGA on February 21, 1966. The SGA is currently 2,471 acres (Appendix B).

The 1977 plan written by Jeff Greene was the last master plan written and approved for Lost Nation SGA. During the following decades, the area and what is known about it has changed a great deal.

In 1986, a ruffed grouse translocation project was conducted in which 57 grouse were trapped from three other sites in Michigan and released at Lost Nation SGA. Although trapping, handling, and the actual release of birds was considered successful, the conclusion from post-release surveys and observations over time was that the population did not prosper.

In 1997, segments of the North Country National Scenic Trail were certified for development through the Lost Nation SGA. The 2011 memorandum of understanding between the United States Department of Interior National Park Service and the Michigan Department of Natural Resources concerning the North Country Scenic Trail in Michigan defines authorities and roles that pertain to this relationship. No horses or wheeled vehicles of any type are permitted on the trail segments passing through the SGA; only foot traffic is permitted (Appendix C). Trail maintenance involving vegetation manipulation or infrastructure manipulation requires issuance of Land Use Permit to North Country Trail Association volunteers.

In May 2010, the Lake No. 5 dam blew out after Hillsdale received an unprecedented amount of rainfall. The structure was compromised by beaver activity (crews removed materials from the water control structure weekly and the area was actively trapped), seepage, poor construction materials, and placement of the dam on natural spring. After careful evaluation of the recreational use of the area, evaluation of the potential for wetland management and structure replacement, and specialist review of the expected benefits to waterfowl through water level management; it was decided that replacement of the dam was not feasible. This was a point of contention for area users as Lake No. 5 was never drawn down and managed for waterfowl per its intended use; the lake was

kept deep and was very popular for fishing. In its current state, it supports a greater diversity of wildlife species.

In 2011, the Department conducted a review of the restrictions on access by pack and saddle animals as required by Public Act 45 of 2010. The review found that the current restrictions on allowable uses at the Lost Nation State Game Area are adequate and appropriate and in keeping with the intended purpose and funding source for the land.

In 2013, the Hillsdale Road Commission gained an easement from the DNR to repair the bridge on Tripp Road. Funds were transferred from a grant they had received to repair the Way Road bridge. Way Road was then closed from the bridge (at the shooting range) west to Tripp Road with the consent and support of the DNR.

In 2015, Michigan Natural Features Inventory (MNFI), under contract with the DNR Wildlife Division, completed a comprehensive vegetation, natural community, and rare species inventory for Lost Nation SGA. The resultant spatial data and report, by Cohen et al. (2015), are the best resources for describing the current composition and ecological value and significance of the SGA.

Within the predominately agricultural setting of Hillsdale County, the Lost Nation SGA features uniquely contiguous tracts of mature forest, steep, rolling topography, high quality vegetation communities, vernal pools, and the only documented cave in the lower peninsula. During the last decade or so, DNR land managers have recognized that Lost Nation is unique and important for many rare wildlife species, but the MNFI inventory verifies and underscores that conclusion.

In the future (50-100 years from now) we want the area to continue to contribute to sustainable populations of important wildlife species (game and non-game); provide wildlife habitats that are limited elsewhere in the landscape, wildlife related recreation opportunities with an emphasis on upland game hunting and bird watching, shooting opportunities at the Lost Nation Shooting Range, and maintain ecological integrity of the unique natural communities and features associated with the area.

Background

At a local level, this plan helps fulfill goals and objectives of other higher level Department and Wildlife Division plans and initiatives including:

- [Michigan Department of Natural Resources \(DNR\)](#) goals to 1) Protect natural and cultural resources, 2) Ensure sustainable recreation use and enjoyment, 3) Enable strong natural resource-based economies, and 4) Improve and build strong relationships and partnerships;
- [Michigan's Wildlife Action Plan \(WAP\)](#) goals to implement conservation actions that address key habitat issues 1) [Fens](#) and 2) [Floodplain Forests](#);
- [Wildlife Division's Guiding Principles and Strategies \(GPS\)](#) Goal 2) Manage habitat for sustainable wildlife populations and wildlife-based recreation, Goal 3) Administer and promote effective stewardship of lands for wildlife habitats and

wildlife-based recreation, and Goal 4) Enhance sustainable wildlife-based recreation use and enjoyment;

- [More Bang For Your Buck \(BFYB\)](#) goals 5) Expanding the challenge of small game hunting for squirrel, rabbit and hare and 6) Expanding recreational shooting opportunities on public and private lands.

In future years, the Lost Nation SGA will also align with a Wildlife Division Southeast Region Land Management Plan, which is currently in early stages of development.

Wildlife Species

The Lost Nation SGA will be managed for its intended purpose of providing wildlife habitat and wildlife-related recreation opportunities for current and future generations. The primary focus of the area will be for upland game and [Species of Greatest Conservation Need \(SGCN\)](#). Historically, this area has been popular for rabbit and deer hunting and furbearer trapping. Squirrel hunting opportunities were also recognized and you can still spot many of the rubber-tire nest structures that were placed throughout the area. Waterfowl hunting on the area has historically been considered unproductive, even when Lake No. 5 still existed.

Lost Nation SGA is still popular for deer and rabbit hunting; however, we can now add turkey to the list of quarry pursued on the area. Additionally, the SGA is now popular for non-consumptive recreation; mainly birdwatching and hiking. The fact that the SGA supports rare bird species has not gone unnoticed by the ever-expanding birding community. The North Country Trail helps to facilitate the exploration of the area by such non-consumptive users.

The importance of Lost Nation SGA to wildlife populations requiring mature and closed canopy deciduous forest is undeniable. We will work to address key habitat issues identified in the WAP. Habitat needs for SGCN will be considered and will help direct management decisions and selected techniques for implementation. We will also be using the Wildlife Division's [Featured Species Approach](#) to habitat management. See Table 1 for a list of these species that occur on the Lost Nation SGA for which habitat will be managed and conserved.

Taxa	Common Name	Scientific Name	Featured Species	Species of Greatest Conservation Need (SGCN)	State Conservation Status ¹	Federal Conservation Status ²	Climate Change Vulnerability ³	Habitat Remarks
Amphibians	Blanchard's Cricket Frog	<i>Acris blanchardi</i>	No	Yes	Threatened	No	Highly Vulnerable	Maintain water quality & hydrology
Birds	Cerulean Warbler	<i>Setophaga cerulea</i>	No	Yes	Threatened	No	Moderately Vulnerable	Mature mesic to wet deciduous forest, mature forest patch size 1,729 - 9,880 acres
Birds	Eastern Wild Turkey	<i>Meleagris gallopavo</i>	Yes	No	No	No	Increase Likely	Oak/mast tree conservation/regeneration, food plots, openings
Birds	Hooded Warbler	<i>Setophaga citrina</i>	No	Yes	Special Concern	No	Presumed Stable	Mature mesic or wet deciduous forest, understories with dens shrubs/small trees, large blocks
Birds	Louisiana Waterthrush	<i>Seiurus motacilla</i>	No	Yes	Threatened	No	Presumed Stable	Streams within mature deciduous forest
Birds	Pileated Woodpecker	<i>Dryocopus pileatus</i>	Yes	No	No	No	Presumed Stable	Stands with greatest basal area, most canopy closure, and highest crown canopy; retain ≥3 trees with ≥12 in DBH/acre
Birds	Wood Thrush	<i>Hylocichla mustelina</i>	Yes	No	No	No	Increase Likely	Maintain contiguous forest patch size ≥250 acres
Birds	Wood Duck	<i>Aix sponsa</i>	Yes	No	No	No	Presumed Stable	Maintain "forested wetlands"
Crayfish	Big Water Crayfish	<i>Cambarus robustus</i>	No	Yes	No	No	No	Consideration
Insects	Swamp Metalmark	<i>Calephelis mutica</i>	No	Yes	Special Concern	No	Highly Vulnerable	Avoid changing wetland hydrology, remove invasive vegetation
Insects	Tamarack Tree Cricket	<i>Oecanthus laricis</i>	No	Yes	Special Concern	No	Extremely Vulnerable	Avoid changing wetland hydrology, remove invasive vegetation
Mammals	American Beaver	<i>Castor Canadensis</i>	Yes	No	No	No	Presumed Stable	Maintain forested streams & wetlands
Mammals	Eastern Cottontail Rabbit	<i>Sylvilagus floridanus</i>	Yes	No	No	No	Presumed Stable	Brush piles, food plots, openings
Mammals	Indiana Bat	<i>Myotis sodalis</i>	No	Yes	Endangered	Listed Endangered	Moderately Vulnerable	Conserve roost trees
Mammals	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	No	Yes	Special Concern	Listed Threatened	Presumed Stable	Conserve roost trees
Mammals	White-tailed Deer	<i>Odocoileus virginianus</i>	Yes	No	No	No	Presumed Stable	Oak/mast tree conservation/regeneration, food plots, openings
Mussels	Creek Heelsplitter	<i>Lasmigona compressa</i>	No	Yes	No	No	Highly Vulnerable	Maintain water quality & hydrology
Mussels	Elktoe	<i>Alasmidonta marginata</i>	No	Yes	Special Concern	No	Highly Vulnerable	Maintain water quality & hydrology
Mussels	Ellipse	<i>Venustaconcha ellipsiformis</i>	No	Yes	Special Concern	No	Extremely Vulnerable	Maintain forested stream systems, water quality & hydrology
Mussels	Lilliput	<i>Toxolasma parvus</i>	No	Yes	Endangered	No	No	Maintain water quality & hydrology
Mussels	Rainbow	<i>Villosa iris</i>	No	Yes	Special Concern	No	No	Maintain forested stream systems, water quality & hydrology
Mussels	Round Pigtoe	<i>Pleurobema sintoxia</i>	No	Yes	Special Concern	No	Highly Vulnerable	Maintain forested stream systems, water quality & hydrology
Mussels	Slippershell	<i>Alasmidonta viridis</i>	No	Yes	Threatened	No	Extremely Vulnerable	Maintain forested stream systems, water quality & hydrology
Reptiles	Blanding's Turtle	<i>Emydoidea blandingii</i>	No	Yes	No	No	Highly Vulnerable	Maintain water quality & hydrology
Reptiles	Copperbelly Water Snake	<i>Nerodia erythrogaster neglecta</i>	No	Yes	Endangered	Listed Threatened	Extremely Vulnerable	Shallow wetland & forest habitat complex ≥500 ac, no fragmentation

Table 1: (previous page) A list of wildlife species for which projects will support during this planning period, reflecting opportunities for habitat or recreational management.

Existing Conditions

Glacial recession is evidenced in the Lost Nation SGA by steep ridges and hills that slope down to the St. Joseph of the Maumee River and boulders strewn about the area. The area is marginal for farming and the steep slopes cause erosion concerns and make access with equipment difficult.

Lost Nation SGA is 80 percent upland, 18 percent lowland, and two percent water. Much of the upland habitat types occur on hilly to steeply sloping terrain. Most of the SGA (60 percent) is in mixed upland deciduous vegetation type (Figure 1). Seventy-eight percent of the area is forested. The most common upland forest types are mixed upland deciduous, northern hardwoods, and oaks; making up 33 percent of the SGA. Of the forested acres at Lost Nation, 35 percent of stands are younger than 50 years old, 53 percent of the stands are aged between 50 and 100 years old, and 9 percent are greater than 100 years (Figure 2). The majority of forest stands on the SGA are relatively young, aged between 40 and 70 years old (Figure 2). Of the three most common upland forest types on the area, most oak stands are older than 70 years, while mixed upland deciduous and northern hardwoods are generally younger than 70 years of age (Figure 3). Historically (circa 1800), beech-sugar maple forest and oak-hickory forest were the most dominant cover types on the area. Conservation and enhancement of mature forest, closed canopy conditions, and regeneration of oaks and other mast producing trees on this area will be important for future wildlife management. See Appendix D for a current vegetation cover map of the area.

The East Branch of the St. Joseph of the Maumee River flows through the SGA, connecting much of the wetland habitat types found on the area. This designated trout stream is one of the very few coldwater streams in southeast Michigan and it receives special protection for environmental issues from the Department of Environmental Quality (Jeff Braunscheidel, e-mail communication). This unique riparian habitat supports several rare aquatic species. The DNR Fisheries Division annually stocks brown trout at this site as part of a program that began in 1952 (Appendix E). The river also provides a riparian corridor that facilitates the movement and habitat use of a great diversity of wildlife species, game and non-game alike, throughout the area. Maintaining riparian vegetation cover is important to keep water temperatures cool in summer to support trout survival, although overwinter survival is low (Sara Tomas, e-mail communication), and maintain conditions suitable for rare mussel species.

Dr. Robert B. Gillespie, Associate Professor and Director of the Indiana University-Purdue University Fort Wayne (IPFW) Crooked Lake Biological Station, has been receiving a land use permit since 2008 to conduct sampling at Lost Nation SGA. His work looks at habitat degradation and integrity of aquatic communities over time. Although his work at Lost Nation is part of a much larger question, he has shared aquatic community compositional results over the years. This provides us with the rare luxury of having additional and updated information about the aquatic resource on the SGA.

Lost Nation SGA also supports several rare natural communities. These include three prairie fens, three dry-mesic southern forests, two mesic southern forests, one southern hardwood swamp, one submergent marsh, one inundated shrub swamp, one bog, and one cave (Table 2). The mesic southern forests at Lost Nation account for 33 percent of the occurrences of this vegetation community on state lands in the southeast region. It is also notable that although it is just a C/D level [element occurrence rank](#), the cave found at Lost Nation is the only record for lower Michigan and is classified as critically imperiled due to its rarity within the state (Table 2). In addition to these rare features, 20 vernal pools were surveyed and verified of 81 potential pools identified via aerial photo. All management activities implemented on the SGA will be done in a way that is sensitive to the conservation needs of these unique natural communities and maintains/improves their ecological integrity.

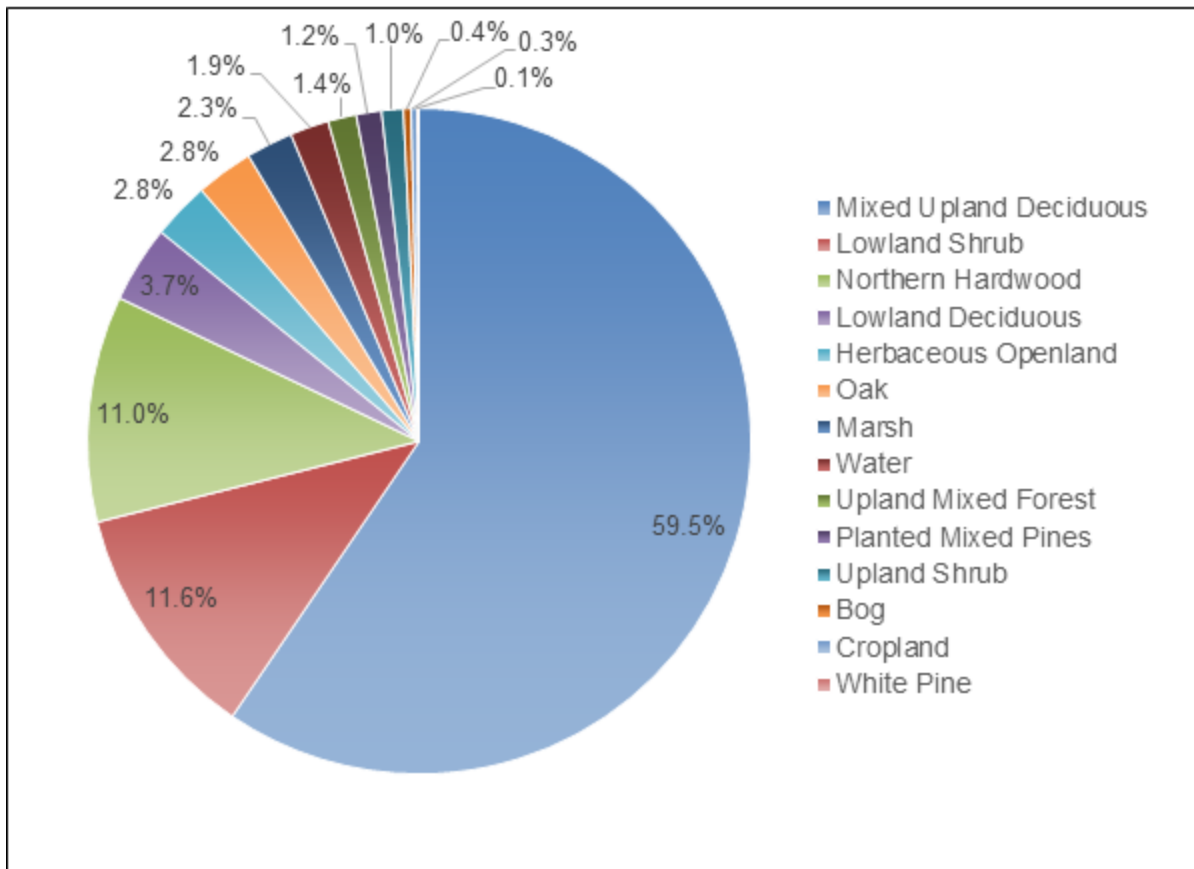


Figure 1: Current proportions of vegetation cover types for the Lost Nation State Game Area based vegetation surveys completed by Michigan Natural Features Inventory (2013).

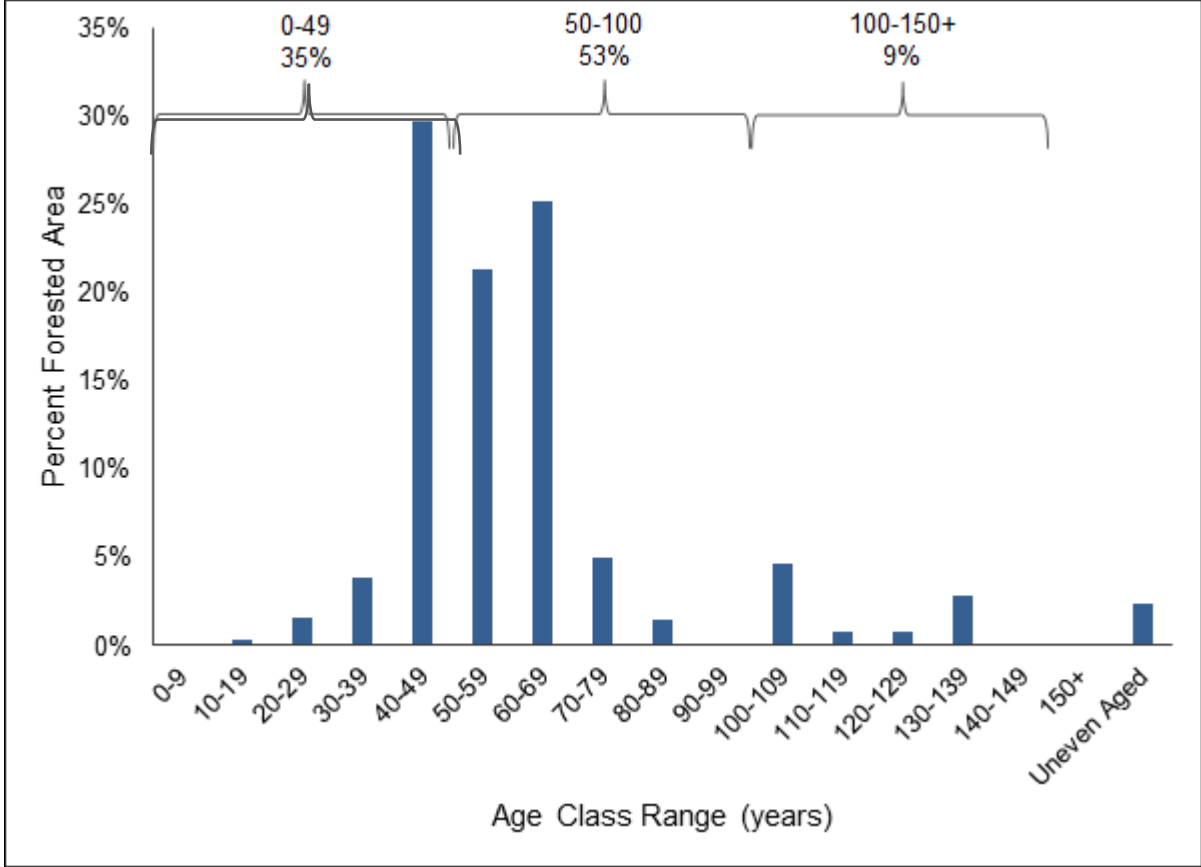


Figure 2: Percent forested area at Lost Nation State Game Area in age class ranges by ten years on x-axis, by fifty years in brackets.

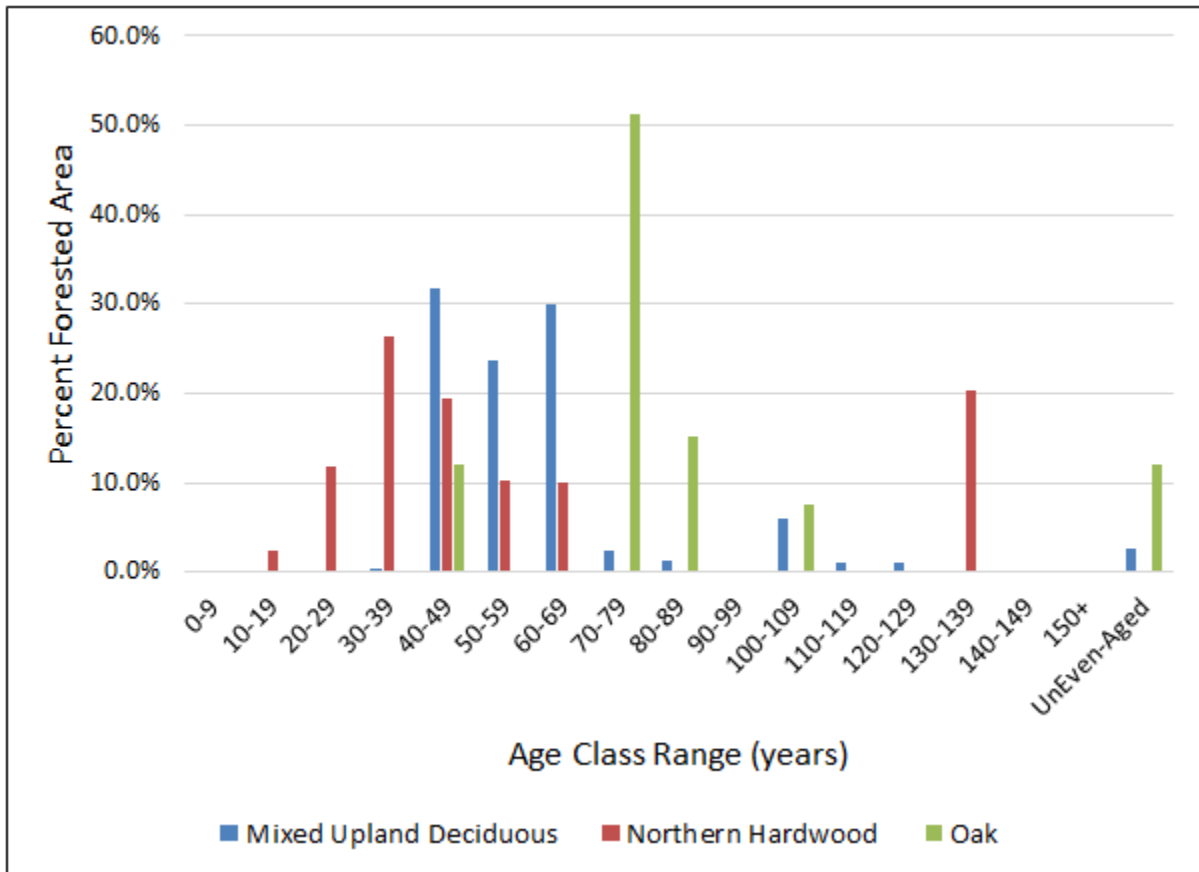


Figure 3: Percent mixed upland deciduous, northern hardwood, and oak forested area at Lost Nation State Game Area in age class ranges by ten years.

Natural Community	Number in State Game Area	Number Known in State	Number Known in Region	Rarity (G Rank & S Rank) ¹
Bog	1	116	15	G3G5/ S4
Cave	1	4	1	G4?/ S1
Dry-Mesic Southern Forest	3	70	28	G4/S3
Inundated Shrub Swamp	1	7	6	G4/ S3
Mesic Southern Forest	2	46	18	G2 G3/ S3
Prairie Fen	3	156	85	G3/ S3
Southern Hardwood Swamp	1	19	12	G3/ S3
Submergent Marsh	1	18	4	GU/ S4

¹G1 = critically imperiled globally because of extreme rarity (5 or fewer occurrences range-wide or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 = imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 = either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g. a single western state, a physiographic region in the East) or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.

G4 = apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.

G5 = demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.

GU = possibly in peril range-wide, but status uncertain; need more information.

S1 = Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 = Imperiled in the state because of rarity due to very restricted range, very few occurrences (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.

S3 = Vulnerable in the state due to a restricted range, relatively few occurrences (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 = Uncommon but not rare; some cause for long-term concern due to declines or other factors.

Table 2: Michigan's natural community occurrences documented for the Lost Nation State Game Area.

Recreational Use

Lost Nation SGA provides recreational opportunities that include hunting, trapping, bird watching, berry picking, mushroom picking, hiking, fishing, and shooting. Lost Nation is a popular SGA for deer, rabbit, and other small game hunting, trapping, and bird watching. The SGA provides the most “wilderness” experience in the region and is not designed for faint-of-heart recreationists (this may be why the area had a history of problems with horse use and off-road-vehicle trespass).

The North Country Trail gets use from hikers mainly during the summer months. The trail is open to foot traffic only, where it passes through the SGA. Occasionally, we receive inquiries regarding dispersed camping in the area; however, we opportunistically educate recreationists about SGA camping rules, we post the rules on the area, and ask Law Enforcement Division to enforce them.

The unmanned shooting range on Way Road is very popular. It receives regular use by locals, as well as use by travelers from Ohio and the more populated parts of southeast Michigan. The shooting range is maintained at least weekly, and is much appreciated by users. It is important to provide these shooting opportunities, as much of our funding for wildlife habitat conservation come from the excise taxes on firearms, ammunition, and archery equipment. There is one problem that has been identified with the shooting range: the trap range overlooks a wetland associated with the East Branch of the St. Joseph of Maumee River. The importance of water quality and ecological integrity of wetland habitat for wildlife is too important to turn a blind eye. During the life of this plan, we will work with the Department of Environmental Quality to find the best solution for minimizing, eliminating, and possibly remediating any potential harm from lead shot and debris that makes its way into the wetland system.

Fishing has been a popular pastime at Lost Nation. Prior to failure of the dam, easy access made Lake No. 5 a popular local fishing destination. Other lakes still receive some attention for fishing in the area; however, we have no data on what these fisheries look like or the density of use by anglers. The St. Joseph of the Maumee River has been a valued trout fishery in the region for decades. In fact, a very dedicated group of trout anglers has sent the DNR Fisheries Division a detailed report every year for almost 20 years (Sara Thomas, e-mail communication). Anglers have been quite pleased with the resource at Lost Nation and managers with the Fisheries Division recommend the continued stocking of brown trout in the St. Joseph of Maumee River (Appendix E).

Many people, especially locals, are specifically interested in the Lost Nation SGA for its history and folklore. The State Historical Preservation Office (SHPO) has identified the SGA as having high potential for containing artifacts of historical and cultural significance. Since the archeological value of this area is clearly culturally and socially important to local citizens, we will work to be sensitive to such resources when conducting management in the area.

State game areas in southern Michigan are under continual pressure for other uses, however under Federal and State regulations, recreational and commercial uses on the area that are not incidental to our management for the purposes described above are generally not allowed. Some of these uses can be allowed, under the following circumstances:

1. The uses do not interfere or conflict with the wildlife conservation purposes of the area described above.
2. The Department 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 Department 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 Department always reserves the ability to disallow activities previously allowed as wildlife conservation needs dictate.

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

Impacts on the Local Economy

The unmanned shooting range on Way Road attracts people from all over to the Pittsford and Osseo area. Hikers throughout the summer and hunters and trappers throughout the seasons make their way to Lost Nation SGA, frequenting the few businesses nearby and often heading to Hillsdale or Hudson. When I talk to folks who want to visit Lost Nation, they are always interested in a wilderness experience; they want to feel like they're in the middle of nowhere. That feeling is hard to come by in southern Michigan, but it is achievable at Lost Nation with its low road and traffic densities, expansive forests, ridges, valleys, and lowlands. The nature of the SGA attracts people to Osseo and Pittsford.

The Lost Nation SGA does not have any current sharecrop agreements. In 2008, we advertised fields for sharecropping; however, there was no interest. The ground is marginal and the cost of moving equipment was not worthwhile to the farmers who examined the site. The wildlife on this area are better served with strategic food plot plantings and openings.

When opportunities arose in the past to sell fuelwood along the road, we were not able to move forward because topography made removal within the road right-of-way unsafe. There may be opportunities for selective timber management in the future. Timber sales don't always benefit the local economy, as the sales go to the highest bidder, not the local bidder, necessarily. Forest management direction and selected methods will

strictly follow the best interest of wildlife conservation, habitat quality, ecological integrity, and wildlife-related recreation opportunities.

Management Direction

The desired future condition for the SGA for the Lost Nation SGA follows:

- Maintain and enhance high quality natural communities
- Maintain water quality and hydrology of wetlands and streams throughout the area
- Avoid and decrease habitat fragmentation of mature, closed canopy, forest complexes by development and land management practices
- Maintain and enhance prairie fen
- Maintain lowland shrub
- Maintain lowland deciduous
- Maintain marsh
- Maintain and enhance bog
- Maintain mixed upland deciduous
- Maintain northern hardwood
- Maintain herbaceous openland
- Maintain and enhance oak
- Maintain upland mixed forest
- Maintain/decrease planted mixed pines (may create brush piles)
- Maintain/decrease upland shrub (may allow succession and may create brush piles)
- Maintain cropland (as food plots)
- Maintain white pine
- Maintain water

Goals, Objectives, and Management Actions

What follows is the strategic direction for the Lost Nation SGA to 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 for the Lost Nation SGA are set using the featured species approach and align with goals of the DNR, WAP, GPS, and BFYB.

Goal I. Provide habitat for sustainable populations of White-tailed Deer and Eastern Wild Turkey.

Rationale: White-tailed deer are a cultural keystone species and are the most highly valued game species in Michigan. Habitat is generally not limiting in the southern Lower Peninsula, where a milder climate and better year-round nutrition support more abundant and productive deer (MDNR 2016). White-tailed deer browse has been identified as a potential threat to some of the natural

communities on the SGA. This often indicates that the area can likely support increased harvest; and, that these vegetation types, which are limited on the landscape, are attractive to deer.

The wild turkey is a highly valued game bird in Michigan (MDNR 2016). There are three well-established stakeholder groups that support and partner on turkey restoration projects. The Lost Nation SGA is frequented by turkey hunters.

The practices proposed below are expected to benefit other game and nongame species, such as eastern cottontail rabbit, fox and gray squirrel, wood duck, Indiana and long-eared bats, and songbirds.

Metrics: We will consider the observations of hunters, birders, and staff as anecdotal information. Acres of food plots and maintained or created openings will also be tracked and reported. Point-count survey routes for turkeys may be established by our staff and conducted by partners, volunteers, and/or staff as resources allow.

Objective A. Promote natural food source and cover.

Action 1. Conserve the oak component in forest stands; promote oak regeneration and acorn production.

- a. Follow guidelines to minimize risk of spreading [Oak Wilt](#) (avoid conducting management that may result in injuring trees between April 15 and July 1).
- b. Use prescribed burning when possible to manage oak systems.
- c. Allow gap phase dynamics to occur naturally, potentially emulate these dynamics with designed forest management treatments. This provides opportunities for natural regeneration.
- d. Develop and implement an adaptive oak management strategy using varying forest management treatments based upon present oak regeneration, competing vegetation, forest health, stand composition, site conditions, the surrounding landscape, and available resources.

Action 2. Improve diversity of available natural food and cover

- a. Use current invasive species strategy (Higman and Campbell 2009) to address any invasive vegetation that threatens structural and compositional diversity.

Objective B. Maintain turkey brood-rearing openings.

Action 1. Restore/create vegetation stands with open spaces between plants.

- a. Manage for native prairie/forb stands with diverse species mixes.

Action 2: Provide vegetation that is 16-28 inches tall.

- a. Use native grass plantings to provide cover structure.

Action 3. Follow [pollinator-friendly best management practices](#) to maintain ecological diversity and improve forage diversity and quality for poult.

Objective C: Maintain quality turkey and deer hunting on public accessible lands.

Action 1. Plant food plots designed to support turkeys and deer throughout the seasons.

Action 2. Improve parking lots, signage, and access trails for hunters on the SGA.

Goal II. Provide habitat for sustainable populations of Eastern Cottontail Rabbit.

Rationale: The eastern cottontail is a valued small game species. The cottontail is a “gateway” species that frequently introduces individuals to hunting (MDNR 2016). It is a primary prey species for many raptors and mammalian carnivores.

Metrics: We will consider the observations of hunters/ wildlife-recreation participants and staff as anecdotal information. Number of brush piles constructed will be tracked and reported.

Objective A. Provide suitable nesting, resting, and escape cover where low growing vegetation is not suitable.

Action 1. When creating or enhancing openings, plant diverse mixes that will benefit rabbits, as well as deer and turkey (Follow Actions for Objective B and C for Goal I).

Action 2. When clearing woody species from stands to meet openings objectives, construct brush piles.

- a. Place brush piles along the edge of the habitat type. Every 200 to 300 feet to provide adequate cover and travel lanes between food sources (NRCS 2016).
- b. In fields and other early successional habitat, create at least two piles per acre (NRCS 2016).

Objective B. Provide suitable winter cover where needed.

Action 1. Where existing natural vegetation is insufficient, create large (at least 10-15 feet in diameter and 5-8 feet in height) brush piles with a foundation (NRCS 2016).

- a. Place approximately 2 brush piles per acre.

Goal III. Provide suitable habitat conditions for American Beaver and Wood Duck.

Rationale: The North American beaver is a valued furbearer species. Beavers are ecosystem engineers which frequently create ponds. The progression from pond creation, to senescence, abandonment, and eventual revegetation is a unique cyclic disturbance regime. Beaver ponds and abandoned pond meadows provide essential conditions for many wildlife species (MDNR 2016).

The wood duck is a valued game species. It is the second-most harvested duck in Michigan, representing 14-18% of those harvested each year (MDNR 2016).

Metrics: We will consider the observations of hunters, trappers, and wildlife-recreation participants and staff as anecdotal information. Staff may look at evidence/sign of beaver activity and may conduct spring visual surveys for wood ducks and other waterfowl and birds as resources allow.

Objective A. Provide nest and brood cover suitable for wood ducks.

Action 1. retain non-invasive emergent woody vegetation species in lowland shrub vegetation type

Action 2. Retain snags and cavity trees within forested vegetation types. This will benefit the pileated woodpecker and rare bat species within the area, as well.

Objective B. Maintain suitable forested stands adjacent to quality wetlands and waterbodies for beaver food and habitat manipulation.

Action 1. Allow forested stands along stream, lake, pond, and wetland shores to be manipulated by natural events and beaver activity.

Action 2. Do not compromise water quality, hydrology, or composition of these systems with intense management practices that can create erosion issues, facilitate invasive species introduction, and influence water flow.

Action 3. Use current invasive species strategy (Higman and Campbell 2009) to address invasive vegetation species that threaten wetland systems.

Goal IV. Provide suitable habitat conditions for Pileated Woodpecker and Wood Thrush.

Rationale: The pileated woodpecker is an ecosystem engineer which excavates large nest cavities used for raising their brood. Once the young fledge, these holes are abandoned, providing nest sites for those secondary cavity-nesting animals, which cannot excavate their own cavities. Dozens of Michigan wildlife species depend upon abandoned pileated woodpecker cavities (MDNR 2016).

The wood thrush is a Partners in Flight priority species and an Upper Mississippi River and Great Lakes Region Joint Venture focal species (MDNR 2016). Populations have experienced significant long term decline nationally, within the Midwest, and in Michigan, specifically. The literature suggests fragmentation of forests is the primary cause of population declines.

Metrics: We will consider the observations of hunters, trappers, and wildlife-recreation participants and staff as anecdotal information. We may continue volunteer point-count surveys with experienced birders as resources allow.

Objective A. Provide nest and brood cover suitable for pileated woodpeckers.

Action 1. Avoid logging mature forested stands and maintain stands with greatest basal area, most canopy closure, and highest crown canopy

Action 2. Maintain a minimum of 3 large diameter trees (greater than 12 inches DBH) per acre as within-stand retention

Action 3. Maintain forests greater than 40 years old for foraging and greater than 70 years old for nesting and roosting

Objective B. Maintain forested complexes suitable for edge-sensitive breeding and nesting wood thrush.

Action 1. Avoid and decrease habitat fragmentation of mature, closed canopy, forest complexes by development and land management practices.

Action 2. Maintain blocks of contiguous forest at least 250 acres in size.

Literature Cited

Cohen J.G., P.J. Badra, H.D. Enander, Y. Lee, J.M. Lincoln, and M.J. Monfils. 2015. Natural Features Inventory and Management Recommendations for Lost Nation State Game Area. Michigan Natural Features Inventory Report Number 2015-05, Lansing, MI. 118 pp.

E-mail from Jeff Braunscheidel, Senior Fisheries Biologist, Michigan Department of Natural Resources, to Kristin Bissell, Wildlife Biologist, Michigan Department of Natural Resources, *RE: Lost Nation SGA Master Plan Draft* (Dec. 16, 2016) (copy on file with Kristin Bissell).

E-mail from Sara Thomas, Lake Erie Management Unit Fisheries Supervisor, Michigan Department of Natural Resources, to Kristin Bissell, Wildlife Biologist, Michigan Department of Natural Resources, *FW: Lost Nation SGA Master Plan Draft* (Dec. 27, 2016) (copy on file with Kristin Bissell).

[Higman, P. and S. Campbell. 2009.](#) Meeting the challenge of invasive plants: A framework for action. Michigan Natural Features Inventory Report 2009-11, Lansing, Michigan, USA.

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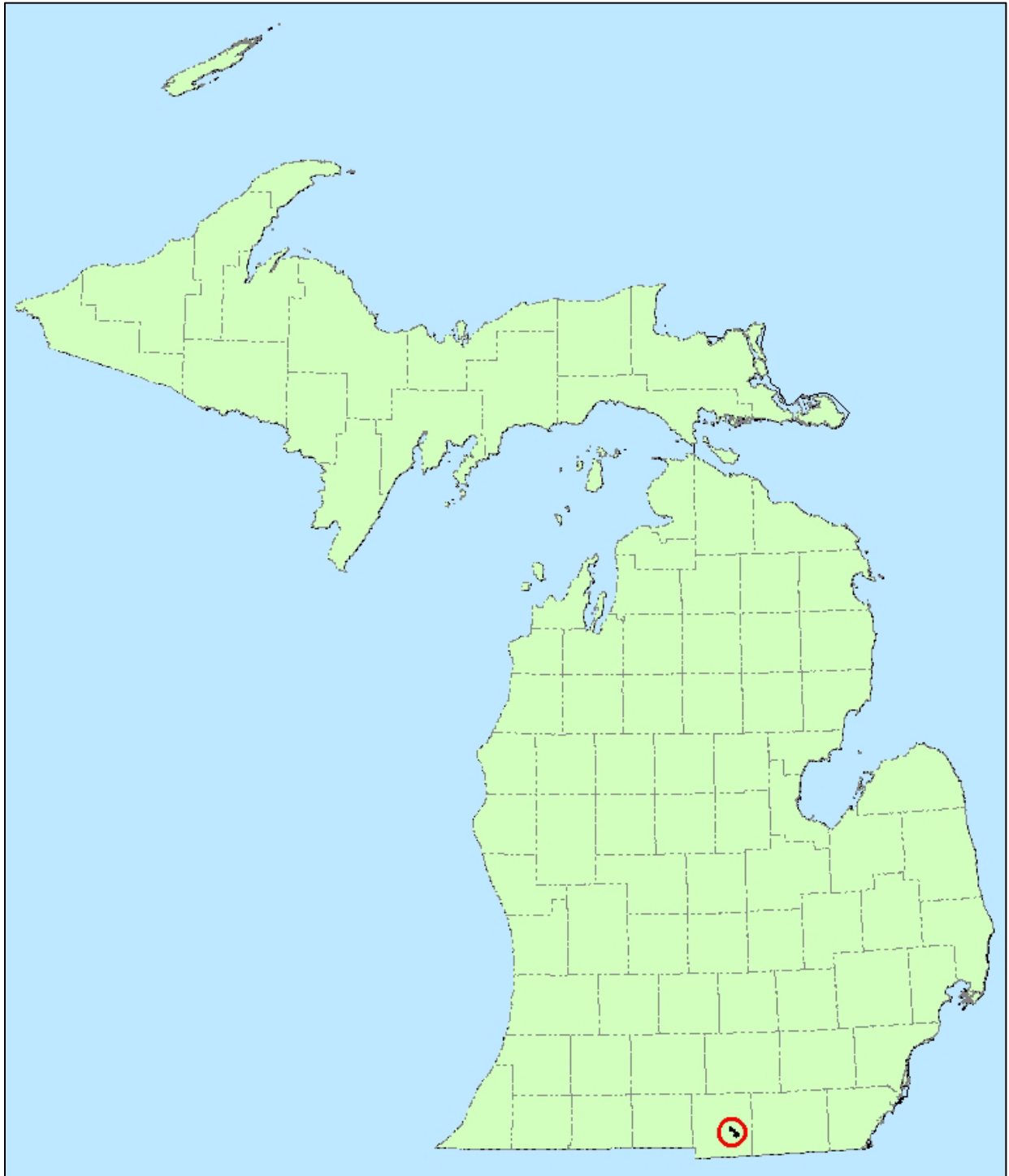
Acquisition and Disposal of Land

The Lost Nation SGA is an important area that provides uniquely valuable wildlife habitat and wildlife-related outdoor recreation opportunities. The Lost Nation SGA is located in southern Michigan and is frequented by recreationists from southeast Michigan urban centers. Therefore, the land acquisition strategy for the SGA is to fill in state ownership by acquiring available blocks located within and among current state ownership and to expand the area by obtaining appropriate parcels that are outside the current ownership but within the acquisition boundary. Parcels will be evaluated as they become available and will be acquired on a willing seller basis only.

Appendices

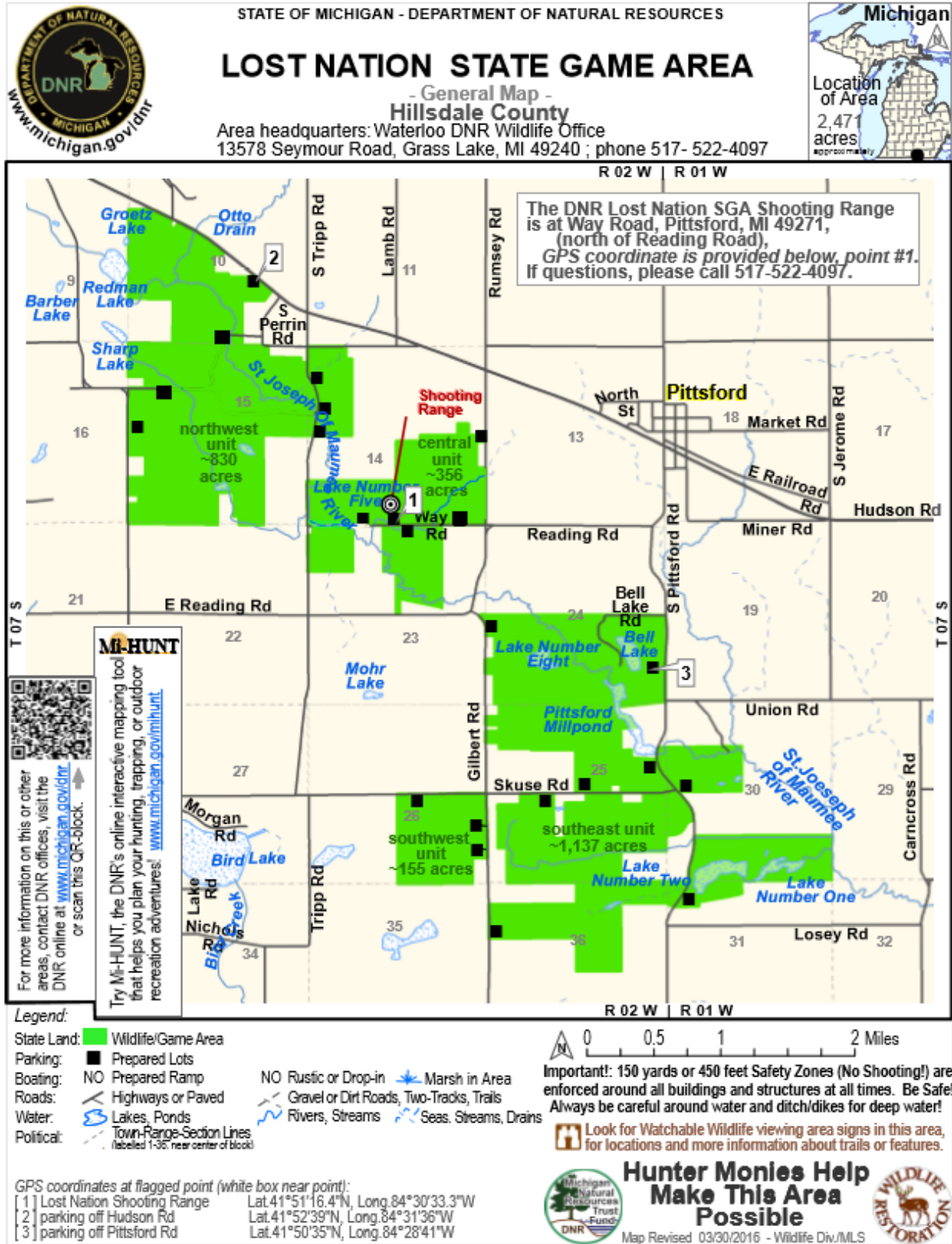
Appendix A

Location of the Lost Nation State Game Area within the state of Michigan.



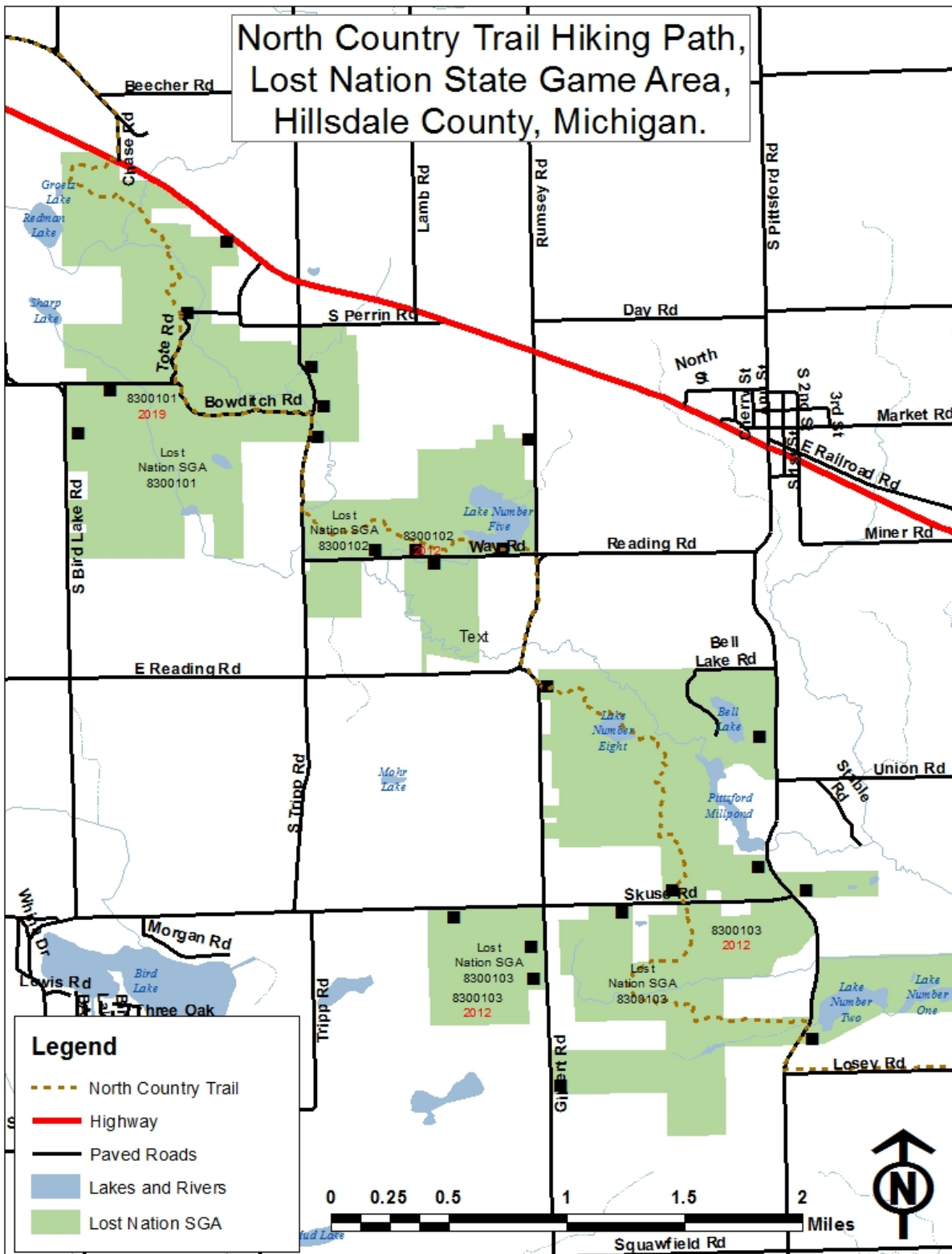
Appendix B

Michigan Department of Natural Resources state game area map for the Lost Nation State Game Area.



Appendix C

Map of the location of the North Country Scenic Trail within the Lost Nation State Game Area.



Appendix D

Map of the major vegetation cover types classified at Lost Nation State Game Area based on vegetation surveys completed and Michigan Natural Features Inventory (2013).



Appendix E

DNR Fisheries Division St. Joseph of the Maumee River 2002 Report.



Description:

The East Branch of the St. Joseph River (Maumee River Drainage) arises in central Hillsdale County. It flows in a south-easterly direction until it leaves Pittsford Township and then changes course to a south-westerly direction. Shortly thereafter it crosses the state line into Ohio. The stream flows through several small lakes and impoundments.

The area of interest is about a 5-mile section in Jefferson and Pittsford Townships; from the outlet of Loon Lake down to Pittsford Dam. Most of the river in this area is encompassed in the Lost Nation State Game Area. The stream is small with an average width ranging from 8-15 feet and average depth less than one foot. The upstream area near Perrin Rd. and Tripp Rd. is narrow, mostly gravel substrate, and the banks are overgrown. The area downstream near Way Rd. is a little wider and less overgrown, and the substrate is almost exclusively sand. The old mill dam under Pittsford Rd. still partially exists, but allows free flow of water. The Pittsford Mill Pond that was an impoundment upriver of the dam no longer exists. A main river channel is present, but the rest of the area has grown in. Upstream of the dam the substrate is mainly sand with a smaller amount of silt, whereas downstream of the dam there are higher amounts of gravel and some cobble. Most of the river is characterized as "run", but there are a few areas of small "pools" and a few sections of "riffles."

History:

Water temperature data in 1951 indicated a consistent 70°F even during hot weather in mid-August. Several small feeder springs were identified that ranged in temperature from 50°F to 60°F. Because of suitable water temperatures and the public accessibility (from being in the state game area), trout have been stocked regularly since 1952. From 1952 to 1959 the stream was stocked annually with legal-sized brown trout (200-800) and some legal sized rainbow trout. A report from the biologist in 1956 indicated that this area was popular with trout fishermen and they were "fishing the area hard". A survey in 1963 found mostly shiners and suckers, but no trout. A survey of one of the mill ponds in 1964 found some trout, but mostly suckers, whereas a 1971 survey found no trout, but mostly rough fishes. In 1971 a chemical reclamation was conducted. Mostly carp and suckers were found, but some trout were recovered. Following the renovation, 10,000 fingerling brown trout were stocked. A survey in 1972 found the renovation to be successful in eliminating rough fishes and a 1980 survey found fair numbers of trout in the upper reaches, with an average length of about 11 inches. However, the 1980 survey also found that shiners and suckers were again becoming common. In 1983, sixty stream improvement structures (stream deflectors and fish shelters) were placed in the stream to improve trout habitat. A survey in 2000 found that none of the habitat structures were functional. Posts were found, but the deflectors were gone in most cases, or buried. In 1984 the stream was again chemically treated to eliminate rough fishes. A sediment trap was proposed, but was never constructed. A survey in 1988 again documented high numbers of rough fishes and a chemical reclamation was done the following year. The most recent survey in 1994 did not find many trout. However, a survey of trout anglers on opening day of trout season in 1991 and 1993 found anglers very positive on the stocking program.

Over the past twenty years, the size of brown trout stocked has typically ranged from 5 to 6.5 inches. From 1999 to 2002, the fish were raised at lower densities in the hatchery raceways in order to get a larger trout at the time of stocking (referred to as accelerated-growth). The objective was to stock near-legal sized brown trout to support this fishery. The St. Joe of the Maumee was a good candidate for this program because there is not significant over-winter survival and there were concerns regarding hooking mortality of sub-legal sized trout. Stocking larger fish resulted in lower numbers of fish stocked, but approximately the same poundage; less fish but bigger sized. In 2002, the brown trout stocked averaged 7.9 inches long.



Summary of recent brown trout stockings.

Year	Strain	Number Stocked	Avg. Length (inches)
1985	Harrietta	3,160	7.4
1986	Wild Rose	2,210	7.0
1987	Soda Lake	2,320	5.7
1988	Plymouth Rock	2,400	5.4
1989	Soda Lake	14,000	5.8
1990	Soda Lake	3,394	5.6
1991	Plymouth Rock	3,370	6.5
1992	Plymouth Rock	3,350	6.1
1993	Wild Rose	3,400	8.0
1994	Wild Rose	3,400	8.8
1995	Wild Rose	2,600	6.5
1996	Wild Rose	2,587	6.3
1997	Wild Rose	2,600	6.1
1998	Wild Rose	2,570	6.1/12.0
1999	Wild Rose	1,300	7.8
2000	Wild Rose	1,635	7.8
2001	Wild Rose	1,850	8.2
2002	Wild Rose	2,000	7.9

Fish Analysis:

The objective of this survey was to evaluate the stocking of accelerated-growth brown trout. Fish surveys were conducted from 1999 to 2002. During the most recent effort, sampling was conducted using a stream electro-fishing unit during mid-July 2002. Two sites were sampled (see map). Three brown trout were caught at the upstream site and 24 at the downstream site. Catch rates at the more upstream site are consistent with those caught in 2000 and 2001. But catch rates at the downstream location were much higher in this survey than those found in 1999-2001. The trout averaged 9.4 inches long, although 1/3 of the catch was smaller than the minimum size limit of 8 inches. The trout caught ranged in age from 1-3, with about 20% of the catch age 2 and older. Growth rates for all three year classes represented were growing much better than the state average. This is consistent with earlier surveys.

Summary:

A number of surveys have been conducted since trout stocking began in 1952. Although sample sites and effort varied among surveys, the number of trout caught in the 2002 survey was slightly higher than that in 1999 to 2001, which were pretty good catches compared to earlier surveys. This is significant given the fact that reduced numbers of trout were stocked. It would be beneficial to conduct a creel survey as well, to quantify angler effort and harvest.

Opening day 2002 fishing reports from a group of anglers indicated that success varied, but overall good numbers of trout were found. An angler that has fished this area for over thirty years observed that although trout fishing is still good, in general it has declined from what it was. They are catching fewer trout, as well as seeing less "holdover fish" (larger fish that survived at least one winter).



While the accelerated growth fish survived well their first summer, they did not improve the abundance of large, holdover trout. However, while anglers reported that the abundance of holdover fish has declined, fish surveys over the years have not found many holdover fish even prior to this stocking experiment.

Management Recommendations:

- 1) The St. Joe of the Maumee has a long history of providing good trout fishing opportunities. Good numbers of trout were caught in the surveys from 1999-2002. Anglers continue to report good success fishing for trout. This is a successful trout fishery and there is angler interest in continuing this program. The importance of this fishery is even more significant given the lack of trout fishing opportunities in southeast Michigan. The brown trout stocking program should continue.
- 2) The accelerated growth brown trout program was a trial program that ended in 2004. Although the program allowed larger fish to be stocked, the trade-off was a reduction in the total number of trout stocked. From 2005 onward, the stocking plan for this river calls for 2,600 yearling brown trout to be planted annually.
- 3) An angler recalls catching more holdover trout in years past, with a trend towards reduced numbers of holdover trout caught more recently. Habitat improvement structures could promote better trout survival by providing cover. While there would likely be benefits to doing a habitat project, this is not a priority given personnel constraints. This would be a good project for a local club or organization to undertake, with the guidance of Fisheries Division.



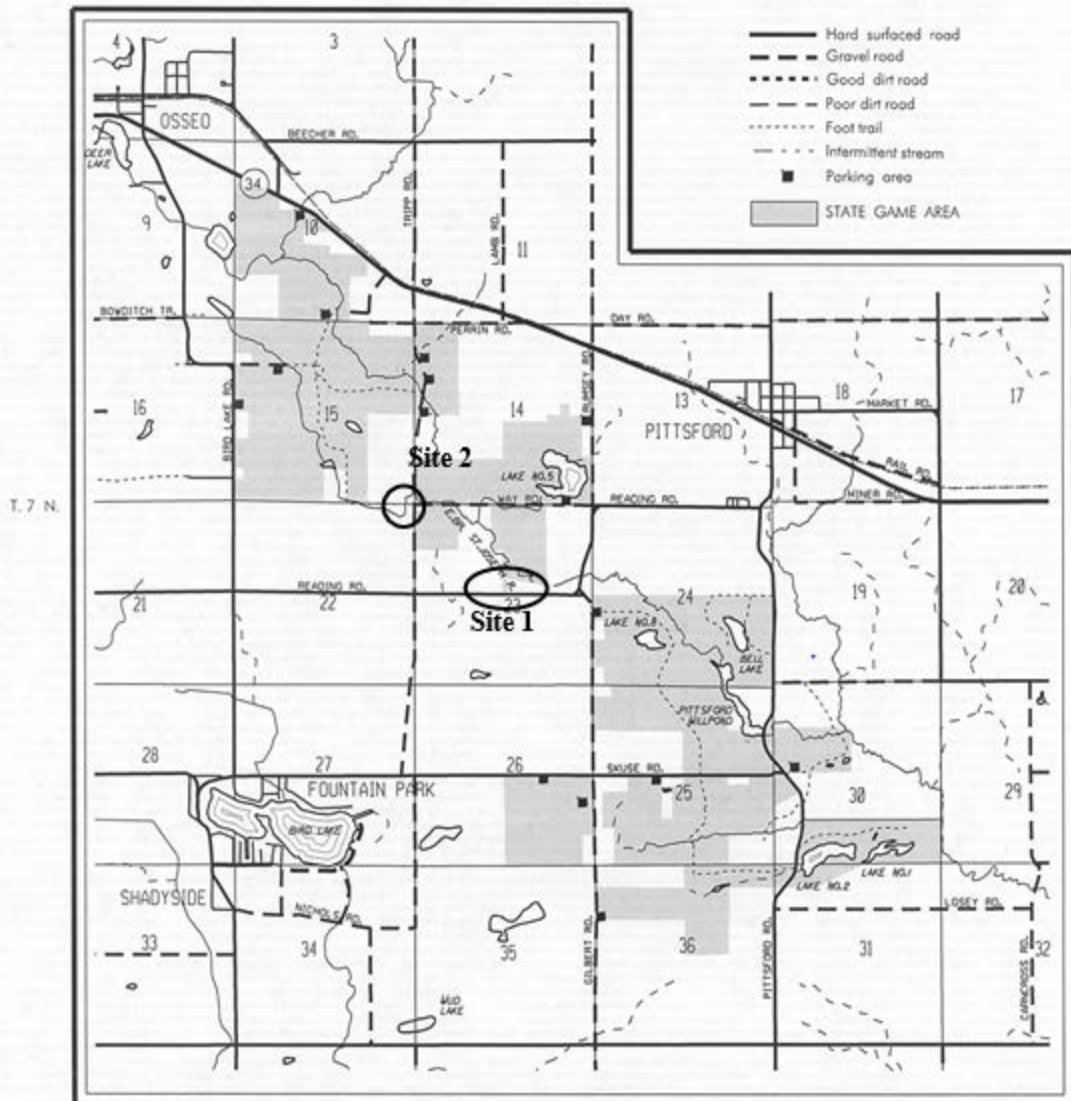
MICHIGAN
DEPARTMENT OF NATURAL RESOURCES

LOST NATION STATE GAME AREA

HILLSDALE COUNTY, MICHIGAN



R. 2 W.



T. 7 N.

T. 10 N.

Fish

R. 2 W.

DL

Appendix F

Comments received via e-mail during the public review period.

Plan Review

This plan will be available for public review and comment on the DNR website between March 13, 2017 and April 10, 2017. Changes will be made, as necessary, based on public feedback. Once the plan is approved, it will be placed on the DNR website and will be reviewed again within 10 years of the approved date. Send comments to Kristin Bissell: bissellk@michigan.gov

Approvals

Joseph Robison, Field Operations Manager

Date

Timothy Payne, Regional Supervisor

Date