

Michigan Department of Natural Resources, Forest, Mineral & Fire Management Division
**HIGH CONSERVATION VALUE AREA (HCVA) AND ECOLOGICAL REFERENCE AREA (ERA)
MANAGEMENT AND MONITORING FORMS PACKET**

Portions of this information are exempt from Michigan's Freedom of Information Act, 1976 PA 442, MCL 15.243



BACKGROUND AND INSTRUCTIONS

Prior to using this packet material and forms please refer to Work Instruction 1.4 Biodiversity Management on State Forestlands and the Conservation Area Management Guidelines available on line at:

http://www.michigan.gov/dnr/0,1607,7-153-30301_33360-144865--,00.html.

Identified HCVA's and ERAs will be managed to conserve, protect, maintain, and/or enhance their defined conservation objectives or values. The management methods used will vary depending on the objective and type of designation. On DNR-managed lands, Ecological Reference Areas may be protected through a variety of mechanisms (refer to Conservation Area Management Guidance). Management activities or prescriptions in Ecological Reference Areas are highly restricted to those that maintain or enhance the defined attributes and values and protect the immediate natural resource values or human health and safety.

This packet is for each High Conservation Value Area (HCVA) without an existing management plan and all Legally Dedicated State Natural Areas, Ecological Reference Areas (ERA), Critical Dunes and Coastal Environmental Areas on state forest land. Its purpose is to: 1.) document baseline information on each area and its conservation values, threats, management goals and objectives, and 2.) to track changes in threats, when management activities are carried out, monitor if they are effective, and capture needed changes in management determined not to be effective.

Keep the original copies of these forms in the Compartment/Stand File within each FMU and send copies to respective DEQ and DNR program managers and the DNR, FMFM Forest Resource Management Section, Monitoring Specialist.

PART I: HCVA BASELINE INFORMATION, GOALS AND OBJECTIVES

COMPLETE FOR EACH HCVA WITHOUT AN EXISTING MANAGEMENT PLAN

PART I TO ACCOMPANY PART II

SECTION 1: SITE INFORMATION

- A. HCVA TYPE
- B. SITE, CONTACT AND ADMINISTRATIVE INFORMATION
- C. OWNERSHIP INFORMATION
- D. CONSERVATION PARTNERS
- E. OTHER DOCUMENTS RELATED TO THIS HCVA

SECTION 2: CONSERVATION VALUES (TARGETS)

- A. BIODIVERSITY VALUES
- B. SOCIAL/ECONOMIC VALUES
- C. INFRASTRUCTURE/FACILITIES VALUES

SECTION 3: CURRENT CONDITIONS (THREATS)

- A. VALUE OR TARGET VIABILITY (POOR, FAIR, GOOD, VERY GOOD)
- B. CURRENT PRIMARY THREATS

SECTION 4: MANAGEMENT GOALS AND OBJECTIVES

PART II: HCVA MONITORING

SECTION 5: COMPLIANCE MONITORING (WERE TASKS COMPLETED?)

SECTION 6: EFFECTIVENESS MONITORING AND RECOMMENDATIONS (HOW WELL DID MANAGEMENT WORK OR WERE OBJECTIVES ACHIEVED? WHAT ARE NEXT THE STEPS?)

SECTION 7: THREATS MONITORING FIELD FORM – STAND ALONE FORM (WHAT IS THE STATUS OF VALUES OR TARGETS?)

MAY BE COMPLETED BY ANYONE FOR ANY HCVA

OR PART OF MONITORING PACKET TO ACCOMPANY PART I AND PARTS II, SECTIONS 6, 7 AND PART III.

Helpful References:

Marqoluis, R. and N. Salafsky. 1998. Measures of Success. Island Press, Washington, DC. 362 pp.

The Nature Conservancy. 2005. CAP (Conservation Action Planning) Toolkit - version 08-23-05.

See 2007 overview at <http://sites-conserveonline.org/dcs/projects/art10152.html> and the workbook at http://www.conserveonline.org/2003/07/s/ConPrjMgmt_v4

PART I: HCVA BASELINE INFORMATION , GOALS AND OBJECTIVES

SECTION 1: SITE INFORMATION
A: HCVA TYPE – CHECK ALL THAT APPLY

- | | |
|---|---|
| <input type="checkbox"/> Critical Dune as defined by DEQ | <input type="checkbox"/> Environmental Area as defined by DEQ |
| <input type="checkbox"/> Legally Dedicated State Natural Area | <input type="checkbox"/> State Natural or Scenic River |
| <input checked="" type="checkbox"/> Ecological Reference Area: Bryan Creek dry-mesic northern forest | <input type="checkbox"/> Quiet Area: |
| <input type="checkbox"/> Endangered Species Management Area | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Kirtland Warbler | |
| <input type="checkbox"/> Piping Plover | |
| <input type="checkbox"/> Other: | |

SPECIAL CONSERVATION AREA - LIST OTHER CATEGORIES BELOW

SCA Bryan Creek Trout Stream –Type I
SCA in surrounding stands for wildlife-fisheries corridor (Alder) along Bryan Creek

B: SITE, CONTACT AND ADMINISTRATIVE INFORMATION

Site Name: Bryan Creek Dry Northern Forest ERA		Other Names	
ReportDate 10/23/07	Forest Mgt Unit Gwinn Forest Management Unit	Compartment Number(s) Stand Number(s) 55 2009 YOE Stand 8, 44 56 2003 YOE Stand 2	<input type="checkbox"/> Map Attached <input type="checkbox"/> Shape File in OI/IFMAP GDSE File Location/Name
County(ies) Marquette		Township(s) Range(s) Section(s) ¼ Sec. Optional if mapped T44N, R26W, Section 7	
Name of individual completing this form (first and last) <input checked="" type="checkbox"/> Check if DNR Employee Kim Herman, Monitoring Specialist, Forest, Mineral, Fire Management Division (FMFMD) John Koski, Forester, FMFMD Terry MacFadden, Wildlife Biologist, Wildlife Division Brian Gunderman, Fisheries Biologist, Fisheries Division		Telephone (906) 786-2351, Escanaba (906) 346-9201 Gwinn (906) 228-6561 Gwinn/Marquette (906)353-6651 Baraga	Email Address hermank@michigan.gov koskij@michigan.gov mcfaddet@michigan.gov gunderb@michigan.gov
Additional contact information Name of individual providing information (first and last), if applicable William Brondyke, Gwinn FMU Manager, FMFM Gerald Mohlman Mike Koss, Wildlife Ecologist Rob Atkinson, Wildlife Technician		Telephone (906) 346-9201 (906) 346-9201 (906) 346-9201 (906) 228-6561	Email Address brondykw@michigan.gov mohlmang@michigan.gov kossm@michigan.gov
Name of DNR/DEQ Program Contact if Applicable Ron Yesney, Recreation Specialist, FMFMD		Telephone (906) 228-6561	Email Address yesneyr@michigan.gov
<input type="checkbox"/> Volunteer (s) Number of Volunteers: Name of Group: Contact Name:		Telephone ()	Email Address

C: OWNERSHIP INFORMATION - CHECK ALL THAT APPLY AND INCLUDE NAME OF THE UNIT:

- | | |
|--|--|
| <input checked="" type="checkbox"/> State Forest Land: Gwinn Forest Management Unit | <input type="checkbox"/> State Game Area: |
| <input type="checkbox"/> State Park/Recreation Area: | <input type="checkbox"/> Other or Private Land (describe): |

D: CONSERVATION PARTNERS – FILL IN ALL KNOWN PARTNERS

Name of Organization Contact Name: Email Address Telephone ()	Name of Organization Contact Name: Email Address Telephone ()
Name of Organization Contact Name: Email Address Telephone ()	Name of Organization Contact Name: Email Address Telephone ()

E: OTHER DOCUMENTS RELATED TO THIS HCVA – CITATION AND LOCATION WHERE STORED

- Cohen, J.G. 2002. Natural community abstract for dry mesic northern forest. Michigan Natural Features Inventory, Lansing, MI.12 pp.**
- Michigan Natural Features Inventory Element Occurrence Record Dry Northern Forest EO Num 10.**
- Slaughter, B. 2007. Site Summary for Bryan Creek Dry Northern Forest Element Occurrence (EO NUM) 10 (now known as Dry Mesic Northern Forest EO Num 43) Surveyed August 7, 2007. Michigan Natural Features Inventory, Michigan State University 2 pages.**
- Slaughtter B. 2007. Dry northern forest\Bryan Creek EO-10-993 Plant Species Lists 08/07/07**

DRAFT

SECTION 2: CONSERVATION VALUES/TARGETS - CHECK ALL THAT APPLY

A: BIODIVERSITY VALUES

here are a number of ways to describe biodiversity values - check all that apply.

• **Natural Communities** – Based on Michigan Natural Features Inventory Community Classification.

GO to: http://web4.msue.msu.edu/mnfi/data/MNFI_Natural_Communities.pdf; <http://web4.msue.msu.edu/mnfi/pub/abstracts.cfm>

Quality Rank comes from specific MNFI Element Occurrence Records (EOR) in the FMFM IFMAP Biodiversity Data Layer.

Chk Box	Community Name	State Rank	Global Rank	Quality Rank A,B,C,D	Chk Box	Community Name	State Rank	Global Rank	Quality Rank A,B,C,D
<input type="checkbox"/>	Alvar [Alvar grassland]	S1	G2?		<input type="checkbox"/>	Lakeshore cliff			
<input type="checkbox"/>	Bedrock glade				<input type="checkbox"/>	Basalt lakeshore cliff	S1	G3?	
<input type="checkbox"/>	Basalt bedrock glade	S2	G3		<input type="checkbox"/>	Sandstone lakeshore cliff	S2	G3	
<input type="checkbox"/>	Igneous bedrock glade	S2	G3G4		<input type="checkbox"/>	Volcanic conglomerate lakeshore cliff	S1	G3?	
<input type="checkbox"/>	Limestone bedrock glade [Alvar glade]	S2	G2?		<input type="checkbox"/>	Mesic northern forest [Northern hardwood forest; Hemlock-hardwood forest]	S3	G4	
<input type="checkbox"/>	Sandstone bedrock glade	S2?	G3G4		<input type="checkbox"/>	Mesic prairie	S1	G2	
<input type="checkbox"/>	Volcanic conglomerate bedrock glade	S2	G3		<input type="checkbox"/>	Mesic sand prairie	S1	G1?	
<input type="checkbox"/>	Bedrock lakeshore				<input type="checkbox"/>	Mesic southern forest [Southern hardwood forest]	S3	G3?	
<input type="checkbox"/>	Basalt bedrock lakeshore	S2	G3		<input type="checkbox"/>	Muskeg	S3	G4	
<input type="checkbox"/>	Igneous bedrock lakeshore	S2	G?		<input type="checkbox"/>	Northern bald [Krummholz ridgetop]	S1	GU	
<input type="checkbox"/>	Limestone pavement lakeshore [Alvar pavement]	S2	G3		<input type="checkbox"/>	Northern fen	S3	G3	
<input type="checkbox"/>	Volcanic conglomerate bedrock lakeshore	S2	G3		<input type="checkbox"/>	Northern shrub thicket	S5	G4	
<input type="checkbox"/>	Bog	S4	G3		<input type="checkbox"/>	Northern swamp	S3?	G4	
<input type="checkbox"/>	Boreal forest	S3	GU		<input type="checkbox"/>	Northern wet meadow	S4	G4	
<input type="checkbox"/>	Bur oak plains	SX	G1		<input type="checkbox"/>	Northern wet-mesic prairie	S1	GNR	
<input type="checkbox"/>	Cave	S1	G4?		<input type="checkbox"/>	Oak barrens	S1	G2?	
<input type="checkbox"/>	Cliff				<input type="checkbox"/>	Oak openings	S1	G1	
<input type="checkbox"/>	Dry acid cliff	S2?	G4		<input type="checkbox"/>	Oak-pine barrens	S2	G3	
<input type="checkbox"/>	Dry non-acid cliff	S2	G4		<input type="checkbox"/>	Open dunes	S3	G3	
<input type="checkbox"/>	Moist acid cliff	S2	G4		<input type="checkbox"/>	Patterned fen	S2	GU	
<input type="checkbox"/>	Moist non-acid cliff	S2	G4		<input type="checkbox"/>	Pine barrens	S2	G3	
<input type="checkbox"/>	Coastal plain marsh	S2	G2		<input type="checkbox"/>	Poor conifer swamp	S4	G4	
<input type="checkbox"/>	Cobble beach [Cobble shore]	S3	G3?		<input type="checkbox"/>	Poor fen	S3	G3	
<input type="checkbox"/>	Dry northern forest [Pine forest]	S3	G3?		<input type="checkbox"/>	Prairie fen	S3	G3	
<input type="checkbox"/>	Dry sand prairie	S2	G3		<input type="checkbox"/>	Relict conifer swamp	S3	G3	
<input type="checkbox"/>	Dry southern forest [Oak forest]	S3	G4		<input type="checkbox"/>	Rich conifer swamp	S3	G4	
<input checked="" type="checkbox"/>	Dry-mesic northern forest [Pine-hardwood forest]	S3	G4	B	<input type="checkbox"/>	Sand/gravel beach	S3	G3?	
<input type="checkbox"/>	Dry-mesic southern forest [Oak-hardwood forest]	S3	G4		<input type="checkbox"/>	Sinkhole	S2	G3G5	
<input type="checkbox"/>	Emergent marsh	S4	GU		<input type="checkbox"/>	Southern floodplain forest	S3	G3?	
<input type="checkbox"/>	Great Lakes barrens	S2	G3		<input type="checkbox"/>	Southern shrub-carr	S5	GU	
<input type="checkbox"/>	Great Lakes marsh	S3	G2		<input type="checkbox"/>	Southern swamp	S3	G3	
<input type="checkbox"/>	Hardwood-conifer swamp	S3	G4		<input type="checkbox"/>	Southern wet meadow	S3	G3?	
<input type="checkbox"/>	Hillside prairie	S1	G3		<input type="checkbox"/>	Submergent marsh	S4	GU	
<input type="checkbox"/>	Inland salt marsh	S1	G1		<input type="checkbox"/>	Wet prairie	S2	G3	
<input type="checkbox"/>	Interdunal wetland	S2	G2?		<input type="checkbox"/>	Wet-mesic prairie	S2	G2	
<input type="checkbox"/>	Intermittent wetland [Boggy seepage wetland]	S3	G2		<input type="checkbox"/>	Wooded dune and swale complex	S3	G3	
<input type="checkbox"/>	Inundated shrub swamp	S3	GU		<input type="checkbox"/>	Woodland prairie	S2	G3	
<input type="checkbox"/>	Lakeplain mesic sand prairie	S1	G1						

Other information if known.

2. **Ecological Systems** .Check Applicable Regional Landscape Ecosystem (Section), Subsection, and Sub-subsection from Albert, Dennis A. 1995. Regional landscape ecosystems of Michigan, Minnesota, and Wisconsin: a working map and classification. Gen. Tech. Rep. NC-178. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 250 pp

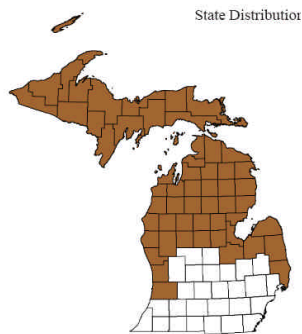
Check all that apply	Name	Section Number	Subsection Number	Sub-subsection Number
<input checked="" type="checkbox"/>	Section VIII. Northern Lacustrine-Influenced Upper Michigan and Wisconsin	8		
<input type="checkbox"/>	Subsection VIII.1. Niagaran Escarpment and Lake Plain	8	1	
<input type="checkbox"/>	Sub-subsection VIII.1.1. St. Ignace	8	1	8.1.1.
<input type="checkbox"/>	Sub-subsection VIII.1.2. Rudyard	8	1	8.1.2.
<input type="checkbox"/>	Sub-subsection VIII.1.3. Escanaba/Door Peninsula	8	1	8.1.3.
<input type="checkbox"/>	Subsection VIII.2. Luce	8	2	
<input type="checkbox"/>	Sub-subsection VIII.2.1. Seney Sand Lake Plain	8	2	8.2.1.
<input type="checkbox"/>	Sub-subsection VIII.2.2. Grand Marais Sandy End Moraine and Outwash	8	2	8.2.2.
<input checked="" type="checkbox"/>	Subsection VIII.3. Dickinson	8	3	
<input type="checkbox"/>	Sub-subsection VIII.3.1. Northern lake Michigan (Hermanville) Till Plain	8	3	8.3.1.
<input checked="" type="checkbox"/>	Sub-subsection VIII.3.2. Gwinn	8	3	8.3.2.
<input type="checkbox"/>	Sub-subsection VIII.3.3. Deerton	8	3	8.3.3.
<input type="checkbox"/>	Section IX. Northern Continental Michigan, Wisconsin, and Minnesota	9		
<input type="checkbox"/>	Subsection IX.1. Spread Eagle-Dunbar Barrens	9	1	
<input type="checkbox"/>	Subsection IX.2. Michigamme Highland	9	2	
<input type="checkbox"/>	Subsection IX.3. Upper Wisconsin/Michigan Moraines	9	3	
<input type="checkbox"/>	Sub-subsection IX.3.1. Brule and Paint Rivers	9	3	9.3.1.
<input type="checkbox"/>	Sub-subsection IX.3.2. Winegar Moraine	9	3	9.3.2.
<input type="checkbox"/>	Subsection IX.5. Lac Veaux Desert Outwash Plain	9	5	
<input type="checkbox"/>	Subsection IX.6. Bergland	9	6	
<input type="checkbox"/>	Sub-subsection IX.6.1. Gogebic-Penokee Iron Range	9	6	9.6.1.
<input type="checkbox"/>	Sub-subsection IX.6.2. Ewen	9	6	9.6.2.
<input type="checkbox"/>	Sub-subsection IX.6.3. Baraga	9	6	9.6.3.
<input type="checkbox"/>	Subsection IX.7. Keweenaw	9	7	
<input type="checkbox"/>	Sub-subsection IX.7.1. Gay	9	7	9.7.1.
<input type="checkbox"/>	Sub-subsection IX.7.2. Calumet	9	7	9.7.2.
<input type="checkbox"/>	Sub-subsection IX.7.3. Isle Royale	9	7	9.7.3.
<input type="checkbox"/>	Subsection IX.8. Lake Superior Lake Plain	9	8	
<input type="checkbox"/>	Section VII. Northern Lacustrine-Influenced Lower Michigan			
<input type="checkbox"/>	Subsection VII.1. Arenac	7	1	7.1
<input type="checkbox"/>	Sub-subsection VII.1.1. Standish	7	1	7.1.1
<input checked="" type="checkbox"/>	Sub-subsection VII.1.2. Wiggins Lake	7	1	7.1.2
<input type="checkbox"/>	Subsection VII.2. Highplains	7	2	7.2
<input type="checkbox"/>	Sub-subsection VII.2.1. Cadillac	7	2	7.2.1
<input type="checkbox"/>	Sub-subsection VII.2.2. Grayling Outwash Plain	7	2	7.2.2
<input type="checkbox"/>	Sub-subsection VII.2.3. Vanderbilt Moraines	7	2	7.2.3
<input type="checkbox"/>	Subsection VII.3. Newaygo Outwash Plain	7	3	7.3
<input type="checkbox"/>	Subsection VII.4. Manistee	7	4	7.4
<input type="checkbox"/>	Subsection VII.5. Leelanau and Grand Traverse Peninsula	7	5	7.5
<input type="checkbox"/>	Sub-subsection VII.5.1. Williamsburg	7	5	7.5.1
<input type="checkbox"/>	Sub-subsection VII.5.2. Traverse City	7	5	7.5.2
<input type="checkbox"/>	Subsection VII.6. Presque Isle	7	6	7.6
<input type="checkbox"/>	Sub-subsection VII.6.1. Onaway	7	6	7.6.1
<input type="checkbox"/>	Sub-subsection VII.6.2. Stutsmanville	7	6	7.6.2
<input type="checkbox"/>	Sub-subsection VII.6.3. Cheboygan	7	6	7.6.3
		7		

3. Ecological Systems

List name(s) of Ecosystems/Natural Communities (based on MNFI Community Classification):

Dry Mesic Northern Forest (previously classified as a dry northern forest)

Overview from Cohen 2002: Dry-mesic northern forests are pine- or pine/hardwood-dominated communities found on sand or loamy sand soils and occurring principally on sandy glacial outwash, sandy glacial lake plains, and less often on thin glacial drift over bedrock, inland dune ridges and coarse textured end moraines. Prior to European settlement, dry mesic northern forest typically originated in the wake of catastrophic fire and was maintained by frequent, low-intensity ground fires.



Dry mesic Northern Forest
In Michigan (Cohen 2002)



Bryan Creek Ecological Reference Area - Dry Mesic Northern Forest
Pre (left) and Post (right) treatments (photos by G. Mohlman)

Site Description from Slaughter 2007. Bryan Creek Dry Mesic Northern Forest is a good quality (B rank) dominated by red pine and white pine on sandy, droughty, rather flat ground moraine, surrounded by more degraded uplands and rather extensive acidic peatlands (muskeg and poor conifer swamp). Mature, tall canopy red pines are generally 110-130 years old. White pine dominates portions of the occurrence. Patchy sub-canopy of balsam fir, black spruce, and white spruce is locally dense. Patchy ground layer is best developed in windthrow gaps, which are widespread. Human disturbances include localized cutting and fragmentation by logging roads. Evidence of fire noted on stumps, but only a small scar 10' high, perhaps due to lightning, was noted on one living red pine trunk.

Canopy is dominated by red pine *Pinus resinosa*, grading to white pine *Pinus strobus* locally. Patchy, locally dense subcanopy includes balsam fir *Abies balsamifera* (dominant), with both black and white spruce *Picea mariana* and *P. glauca*, the former likely an influence of the poor conifer swamp that borders the occurrence. Hardwoods (red maple *Acer rubrum*, white birch *Betula papyrifera*) are generally uncommon in the canopy and subcanopy, but birch is locally common in the tall shrub layer. The ground layer ranges from absent under dense subcanopy to locally dense in gaps, characterized by blueberries *Vaccinium angisifolium*, *V. myrtiloides*, Canada dogwood *Cornus canadensis*, Canada lily *Maianthemum canadense*, star flower *Trientalis borealis*, twin flower *Linnaea borealis*, and other species indicating a mesophytic (moisture loving) influence.

- Ecological processes** – such as connectivity, hydrology, fire, wind events, flooding, pest and disease cycles;
Describe: Prior to European settlement, dry mesic northern forest typically originated in the wake of catastrophic fire and was maintained by frequent, low-intensity ground fires. (Cohen 2002). Patchy windthrow gaps (Slaughter 2007).
- Underlying environmental features** – such as soils, geology, topography, headwaters;
Describe: Bryan Creek dry mesic northern forest is on sandy, droughty, rather flat ground moraine, surrounded by more degraded (as compared to high quality reference areas) uplands and rather extensive acidic peatlands (muskeg and poor conifer swamp) (Slaughter 2007).
- Environmental gradients** – such as elevation, precipitation, temperature;
Describe:

- Species and/or community structure** – *using during migration, during different life stages, or gradual species turnover across environmental gradients.*

Describe:

- Nested large and small natural communities linked by functional or restorable ecosystems:**

Describe:

- High quality natural communities nearby:**

Describe: Extensive acidic peatlands (muskeg and poor conifer swamp) (Slaughter 2007)

- Large Block Size:**

General Shape and Acres:

4. Species Assemblages – List types of species assemblage targets.

- Major groupings of species** - share common natural processes or have similar conservation requirements (e.g., freshwater mussels, forest-interior birds, essential pollinators).

- Globally significant species aggregations (e.g. migratory shorebird aggregation).**

5. Species - List types of species by common and scientific name.:

- Focal species - keystone, wide-ranging (regional), providing linkages between ecosystems, and umbrella species.

Species:

- Globally imperiled or state endangered or threatened native species** - *Ranked G1, G2, G3 by NatureServe, and S1, S2 by MNFI, state and/or federally listed or proposed for listing as Threatened or Endangered (MI and U.S.), and on the IUCN Red List (International).*

Species:

- Species of Special Concern** - **Due to vulnerability, declining trends, disjunct distributions, or endemic status; Ranked S3 by MNFI**

Species: Moose are using and have historically used this area as part of a very large complex (square miles) which includes a diversity of cover types

- Other species of greatest conservation need** - **Identified as part of Michigan's Wildlife Action Plan due to declining populations or other characteristics that may make them vulnerable.**

Species:

B: KNOWN SOCIAL/ECONOMIC VALUES

- Archaeological
- Historical: **Camp 10 Logging Camp**
- Recreational:
 - Camping :
 - Canoeing/Kayaking
 - Fishing: **Trout Fishing in Bryan Creek**
 - Hiking/Backpacking:
 - Hunting: **deer, bear, and birds**
 - Photography
 - Scenic
 - Water (lake, river, stream) **Bryan Creek Trout Stream**
 - Wildlife Viewing: **Moose move through the area occasionally from adjacent habitats.**
 - Cross Country Skiing
 - Other : **Trail Gwinn to Republic Snowmobile Trail**
- Restorative/Spiritual
- Traditional Use/Gathering

C: EXISTING INFRASTRUCTURE/FACILITIES:

- American Disability Accessibility (ADA) Considerations
- Boat Launch(es)
- Bridge(s): **On Bryan Creek**
- Campground(s):
- Interpretive Displays :
- Marked boundaries
- Parking lot(s):
- Posted use rules
- Scenic Overviews
- Toilet(s)
- Trails/Boardwalks : **Trail Number 32 from Gwinn to Republic Snowmobile Trail**
- Other:

SECTION 3: CURRENT CONDITIONS

D. CURRENT STATUS/VIABILITY OF CONSERVATION VALUE/TARGET (FROM TNC CAP TOOL KIT)

STATUS DEFINITIONS – POOR - IMMINENT LOSS, FAIR – VULNERABLE, GOOD – MINIMUM INTEGRITY, VERY GOOD - OPTIMAL INTEGRITY

LIST CONSERVATION VALUE/TARGET FROM SECTION 2 – A, B OR C	LIST CATEGORY OF SIZE, CONDITION, OR LANDSCAPE CONTEXT	LIST KEY ATTRIBUTE	LIST INDICATOR	LIST CURRENT STATUS POOR, FAIR, GOOD, OR VERY GOOD
DRY MESIC NORTHERN FOREST	CONDITION	NATURAL PROCESSES FIRE WIND THROW	NATURALLY REGENERATING AND MATURE RED PINE & WHITE PINE	GOOD - FAIR
MOOSE	LANDSCAPE CONTEXT	LARGER COMPLEX OF WETLAND AND VARIETY OF UPLAND HABITATS	MOOSE SIGN (TRACKS)	FAIR
RECREATION	ROUTE FROM REPUBLIC TO GWINN	SNOW MOBILE TRAIL	LACK OF EROSION AND OVERUSE	GOOD

E. : INITIAL PRIMARY THREATS ASSESSMENT TO ESTABLISH BASELINE CONDITION

CHECK ALL THAT THERE IS ACTUAL EVIDENCE FOR AND DESCRIBE THE EVIDENCE BRIEFLY AND/OR ATTACH PHOTOS DO THIS INITIALLY FROM AERIAL PHOTOS, LOCAL KNOWLEDGE, AND EXISTING DATA FOLLOWED BY A SITE VISIT.

- A. Habitat Conversion & Degradation** – Complete or substantial **loss of or damage** to natural habitats .
- Altered Fire Regime -*suppression or increase in fire frequency and/or intensity outside of its natural range of variation: **Frequent stand perpetuating surface fires have been suppressed over the last 80 years (1920).***
 - Altered Hydrologic Regime Changing water flow patterns outside their natural range of variation (*surface water diversion, groundwater pumping, dam operations*)
 - Commercial & Industrial Development (*factories, stand-alone shopping centers, office parks, train yards, docks, ship yards, airports, landfills*)
 - Farms & Plantations (*Agricultural operations - commercial farms, industrial plantations, feed lots, aquaculture*)
 - Housing & Urban Development (*Expansion of cities, towns, settlements, non-housing development - urban areas, suburbs, villages, homes, shopping areas, offices, schools, hospitals*)
 - Military Activities (*Actions by formal or paramilitary forces (military bases, defoliation, munitions testing :*
 - Natural System Modifications (*Actions that convert or degrade habitat to “managing” natural systems for human welfare - dam construction, land reclamation, wetland filling, rip-rap along shoreline, levees and dikes*)
 - Recreation Areas (*Recreation sites with a substantial footprint ski areas, golf courses, resorts, county parks*)
 - Other:

B. Transportation Infrastructure – Long narrow corridors **altering, fragmenting, and disturbing** natural habitat and species, including soil erosion/sedimentation, and providing routes for invasive or problematic species.

- Flight Paths :
- Railroads :
- Roads and Trails: **DNR Camp Ten Road bisects the ERA**
- Shipping Lanes :
- Trails: **Existing snowmobile trail bisects through the ERA East/ West may increase access to ERA from ATVs.**
- Utility Lines .
- Stream Crossings - *culverts, bridges* :
- Other:

C. Energy & Mining – Production of non-biological resources **having negative impacts** to conservation values .

- Mining – *Exploring, developing, and producing.*
- Oil & Gas Drilling
- Renewable Energy – *Exploring, developing, and producing.*

D. Biological Resource Harvesting –Over or under consumption of “wild” resources **resulting in loss** of conservation values.

- Gathering – *Harvesting plants, fungi, and other non-timber/non-animal products for commercial, recreation, or subsistence purposes.*
- Grazing
- Hunting, Trapping & Fishing
- Timber Harvesting:

E. Recreation & Research – Non-consumptive uses of biological resources **resulting in damage** to natural resources .

- Human-Powered Recreation – *mountain bikes, hikers, backpackers, cross-country skiers, rock climbers, canoeists, kayakers, hang-gliders, birdwatchers, photographers*
- Motor-Powered Recreation - *Traveling outside of established transport corridors: off-road vehicles, motorcycles, motorboats, jet-skis, snowmobiles, ultra-light planes.*
Potential increased ATV use during snow free months due to access provide by snowmobile trail and opening up of understory in dry-mesic northern forest..
- Scientific Research – *Ecosystem manipulations*

F. Pollution – Introduction of exotic and/or excess materials from point and non-point sources with **evidence of resource damage.**

- Chemicals & Toxins
- Greenhouse Gasses – *CO₂, methane*
- Light Pollution
- Noise Pollution
- Nutrient Loads
- Radioactive Materials
- Salt/Brine
- Solid Waste – *garbage, litter*
- Thermal Pollution
- Waste & Residual Materials – *dredge spoil, water treatment residuals, slash, mine tailings, excess sediment loads.*

G. Invasive & Other Problematic Species & Genes – Aquatic or terrestrial non-native and native species or genetic materials that have or are predicted to have harmful effects on biodiversity following their introduction, spread and/or increase in abundance.

List species, extent of infestation and fill out Forest Health Form.

- Introduced Genetic Material
- Invasive Species :

- Problematic Native Species :
- Hybrid Species

H. Climate Change – Evidence of impacts from long-term changes linked to global warming and other climate issues.

- Climate Variability – Intensification and/or alteration of normal weather patterns - *droughts, high wind or rain event.*
- Habitat Shifting & Alteration

I. Other

SECTION 4: RECOMMENDED MANAGEMENT GOALS AND ACTIVITIES

LIST GOAL(S), FOR EACH VALUE, RELATED THREAT ABATEMENT, MAINTENANCE OR ENHANCEMENT NEED IDENTIFIED IN SECTIONS 2 AND 3

CHECK ALL GOAL CATEGORIES THAT APPLY

- NATURAL COMMUNITY MAINTENANCE OR ENHANCEMENT GOALS**
- ECOLOGICAL SYSTEMS MAINTENANCE OR ENHANCEMENT GOALS**
- SPECIES MAINTENANCE OR ENHANCEMENT GOALS**
- SPECIES RESTORATION GOALS**
- SOCIAL ECONOMIC GOALS**
- INFRASTRUCTURE/FACILITIES GOALS**
- ADMINISTRATIVE GOALS– PROTECTION STATUS; CAPACITY BUILDING; FUNDING, VOLUNTEERS**

GOAL# AND DESCRIPTION FROM SECTIONS 2 AND 3

Goal 1: Maintain and restore high quality dry-mesic northern forest

Objective 1: Restore natural pine regeneration using prescribed fire and timber harvest when appropriate.

Currently the balsam fir and white spruce understory has reached a size and density too large (they have become ladder fuels) for fire alone to meet the ecological objective.

Task 1: In Stand 2, Compartment 56 the balsam and spruce has been removed. The objective will be met by waiting for the existing seed bank to germinate, followed by low intensity prescribed fire to reduce spruce and fir and provide a seed bed for pine.

Task 2. In stand 8, Compartment 55, wait for next entry period 2019 for balsam and spruce to reach merchantable quality, harvest the balsam fir and spruce and follow up with prescribed fire.

Objective 2 : Evaluate opportunities to expand management for dry-mesic northern forest into adjacent stands.

Task 1 : In 2009 YOE this is being accomplished in Stands 9, 12, and 74 and coded into the SCA.

Objective 3 : Restrict ORV traffic to existing roads.

Task 1: Block appropriate roads.

Task 2: Establish a gate on the snowmobile trail east of the ERA in the most effective location.

Task 3: Enforce land use rules.

Task 4: Put interpretive signs along Camp Ten Road.