Townline Creek Swamp ERA Plan

Michigan Department of Natural Resources
Forest Resources Division
Roscommon Forest Management Unit

Townline Creek Swamp ERA Plan

Administrative Information:

- Townline Creek Swamp ERA
- Roscommon Forest Management Unit; Upper Muskegon Management Area (MA), Compartment 20, Stand 52
- Roscommon County; T21N R03W Section 29 and 32
- Contact information
    - Plan Writer: Dale Ekdom, Forester, Roscommon FMU
    - Local Foresters & Biologists: Steve Anderson, Roscommon FMU, Unit Manager; Mark Boersen, Roscommon FMU, Wildlife Biologist
- Entirely on State of Michigan owned lands
- Existing infrastructure/facilities: Two shut-in well sites and related access roads in the north end of the ERA
- Other documents related to this ERA: None

Conservation Values

- Townline Creek Swamp ERA includes the following natural communities:
    - Rich Conifer Swamp, EO_ID 18801, EO RANK C (Fair estimated viability), last observed 9-2-2011
    - Townline Creek Swamp ERA is recognized for being a representative example of this State ranked S3 and Globally ranked G4 natural community

- Rich conifer swamp is a groundwater-influenced, minerotrophic forested wetland dominated by northern white cedar that occurs on organic soils (e.g., peat) primarily north of the climatic tension zone. The community is often referred to as a cedar swamp. Refer to the MNFI Community Abstract for more details. http://mnfi.anr.msu.edu/abstracts/ecology/Rich_conifer_swamp.pdf
  The forest should be mature and be all aged (exhibiting natural wind throw disturbance and vegetative layering), or older (>120 yrs) even-aged stands, with large diameter tree species. Natural regeneration and recruitment of the northern white-cedar, and minor components such as hemlock, are occurring and hydrology is intact. Optimally, rich conifer swamp ERA's will be inclusive of unfragmented, large wetland complexes including minerotrophic communities, such as northern fen, northern shrub thicket, northern wet meadow, and hardwood-conifer swamp and acidic communities such as poor conifer swamp where groundwater seepage dissipates. The upland area which feeds groundwater into the rich conifer swamps and maintains quality of groundwater (chemicals, nutrient levels, etc.) is intact, and if possible consists of high quality or

restorable upland communities such as mesic northern forest, dry-mesic northern forest, and dry northern forest.

- Description from the Element Occurrence Record for Townline Creek Swamp ERA: The rich conifer swamp is characterized by a continuous carpet of sphagnum moss, a species-rich herbaceous layer, a patchy low shrub layer, and a patchy to dense coniferous canopy (80-90% canopy closure). The rich conifer swamp is floristically diverse. The canopy is dominated by Northern white cedar with canopy associates including Red maple, Balsam fir, White pine, Tamarack, Paper birch, Balsam poplar, and Black spruce, which range from 20-40 cm DBH with some scattered 40-50 cm White pine. Northern white cedar regeneration is absent in the understory due to high deer browse pressure. Characteristic understory species include Balsam fir, Speckled alder, Common winterberry holly, and Balsam poplar. The understory ranges from sparse to dense. The patchy low shrub layer is characterized by alder-leafed buckthorn, Labrador tea, red-osier dogwood, blueberry species, honeysuckle species, and current species. Characteristic species of the diverse herbaceous layer include Carex species (sedges), dwarf raspberry, oak fern, goldthread, cinnamon fern, northern bugle weed, wild sarsaparilla, Canada mayflower, naked miterwort, starflower, creeping snowberry, twinflower, gay-wings, purple avens, Violet species, Blue-bead lily, small enchanter's-nightshade, bunchberry, and fowl manna grass. The soils are characterized by saturated alkaline (pH 7.2-7.5) peats. Peat depth is variable ranging from 20cm to > 100cm and peats overlie wet sands. Well-developed sphagnum hummocks and hollows provide microsite diversity by creating small-scale gradients in soil moisture and soil chemistry.

- Townline Creek Swamp ERA includes ***attributes of regional (Great Lakes) importance***, including:
    - Old forests/mixed age stands that include trees >120 years old
    - ERA includes potential for Type 1 or Type 2 old growth if left alone with no commercial treatments for the next few inventory cycles
    - Currently, the stand making up the ERA has a 2G: Too Wet – primary site condition placed on it making it "Unavailable" for commercial treatments, other secondary site conditions on the stand are 5A: unable to obtain desired regeneration and 3G: other influence zones – see comments.

- Other values in the area include:
    - Recreation
    - Aesthetics/visual management

- Timber products

Threats Assessment

- Primary threats include:
  - Placement of new roads within the ERA and increased use of existing roads, cumulative threat with ORV use and oil and gas development
  - Limited cedar recruitment due to heavy deer browsing, this is the most serious long-term threat as it is dependent on controlling high deer numbers, without cedar recruitment the natural community may disappear or develop into a different natural community
  - Invasive species, especially where existing and new roads occur due to overland spread of seeds, etc.
  - ORV intrusions from adjacent uplands, especially with seasonal forest roads now being open to ORV use.
  - New/expanded oil and gas development in and adjacent to the ERA, this is the second most serious long-term threat as there is already oil and gas development on the adjacent uplands

Management Goals

- Management goals include:
  - Reduction of all threats to the ERA where feasible
  - Maintain an intact and functioning hydrology
  - Maintain a representation of native plants, indicator species, and rare species within the ERA and an absence of invasive species
  - Manage for an un-fragmented forest with a closed canopy and large, old (>120 years) trees

Management Objectives

- Allow natural processes such as wind-throw, flooding, and fire to occur as much as possible
- Restoration/Reduction of infra-structure in the ERA as much as possible
- Maintain hydrology in the area by closing/rehabilitating unused roads and allowing no new roads, ditches, or culverts
- Limit timber harvest within the ERA itself and limit silvicultural activities on the perimeter of the ERA to ones which maintain the hydrology of the area
- Monitor for and address invasive species

Management Actions

- Follow BMP Riparian Zone Management (RMZ) guidelines related to open water wetlands, fens, bogs, and other rare wetland types which require a minimum

zone width of 100 feet. Activity within the RMZ is acceptable where there is little chance of significant soil disturbance, no chance of water sedimentation, and only select trees are being removed. Timber harvests should be avoided along slopes immediately above and leading into a rare wetland.

- Write a MOU between all divisions to agree to let natural processes to take place (i.e. no timber salvage, fire suppression to be confined to adjacent uplands, etc.)
- Write an access/hydrology plan limiting new roads, ditches, culverts and then rehabilitate existing roads, especially if they are no longer used for oil and gas development
- Write and approve harvest prescriptions for stands in the 2020 YOE compartment (71020) which preserve the areas hydrology. The rest of the stands in adjacent compartments will be handled during their YOE compartment review process
- Assess ERA for invasive species as needed

Monitoring

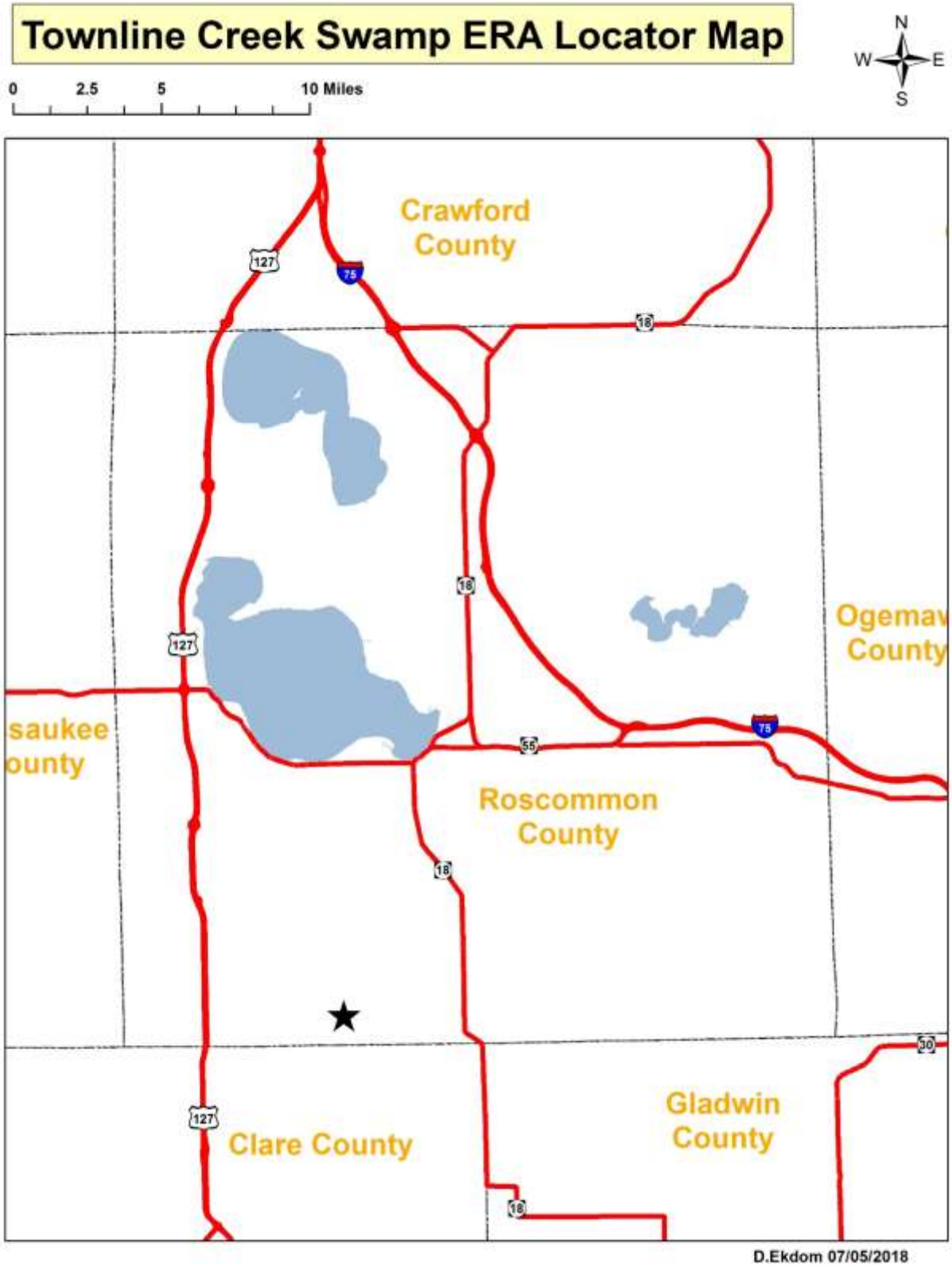
- Natural Processes MOU written and approved
- Access/Hydrology plan written and approved
- Existing roads physically closed and rehabilitated
- Prescriptions written and approved
- Assess area for invasive species as needed

Indicator	Current Status	Desired Future Status	Summary Assessment
Natural Processes MOU	None	Approved Plan	TBD
Access Plan	None	Approved Plan	TBD
Close Roads	Use PA-288 process	Roads Closed and Rehabbed	TBD
Treatment Rx's	None	Approved at 2020 YOE C.R.	09/27/2018

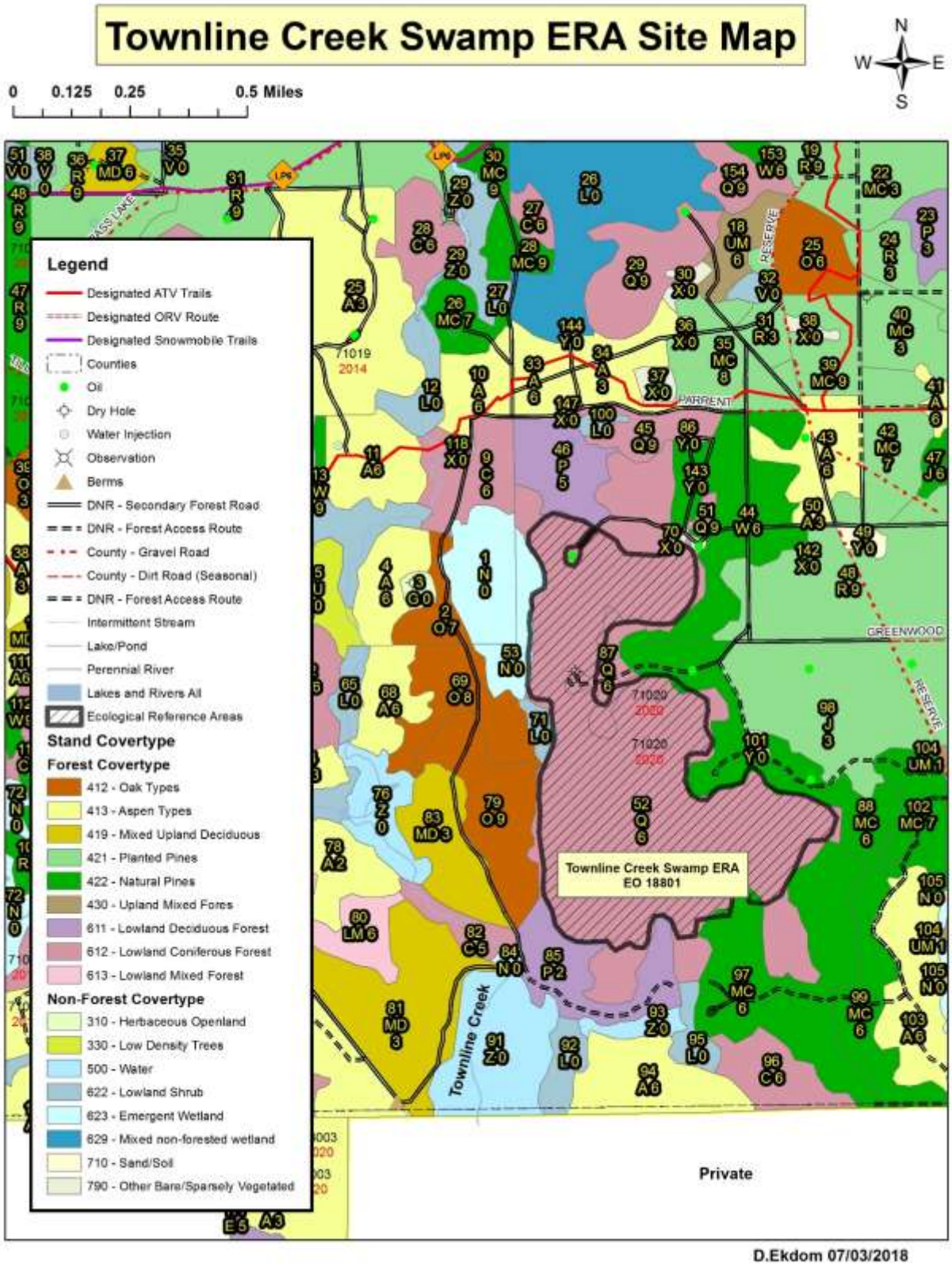
Imagery:

- **NOTE: ERA boundaries are derived from the underlying Natural Community EO boundary which are mapped using NatureServe standards. EO Boundaries are informed by vegetation and other site characteristics including soils, landform, and/or historic aerial imagery. As a result, it is not uncommon for EO/ERA boundaries to differ from forest inventory stand boundaries. If these difference result in potential conflicts with proposed forest activities, consult with the Forest Conservation and Certification Specialist to request a boundary evaluation by Michigan Natural Features Inventory.**

- Site Location Map



- Site Map


Townline Creek Swamp ERA Site Map
N
W
E
S
0 0.125 0.25 0.5 Miles
Legend
Designated ATV Trails
Designated ORV Route
Designated Snowmobile Trails
Counties
Oil
Dry Hole
Water Injection
Observation
Berms
DNR - Secondary Forest Road
DNR - Forest Access Route
County - Gravel Road
County - Dirt Road (Seasonal)
DNR - Forest Access Route
Intermittent Stream
Lake/Pond
Perennial River
Lakes and Rivers All
Ecological Reference Areas
Stand Covertype
Forest Covertype
412 - Oak Types
413 - Aspen Types
419 - Mixed Upland Deciduous
421 - Planted Pines
422 - Natural Pines
430 - Upland Mixed Forcs
611 - Lowland Deciduous Forest
612 - Lowland Coniferous Forest
613 - Lowland Mixed Forest
Non-Forest Covertype
310 - Herbaceous Openland
330 - Low Density Trees
500 - Water
622 - Lowland Shrub
623 - Emergent Wetland
629 - Mixed non-forested wetland
710 - Sand/Soil
790 - Other Bare/Sparsely Vegetated
Townline Creek Swamp ERA
EO 18801
Townline Creek
Private
GREENWOOD
D.Ekdom 07/03/2018

Representative Pictures

Signatures & Approval Date:

- Each plan will require formal approval from all relevant resource divisions

- Date of final approval

Attachment: Resources for Plan Writers

- Not part of the template itself
- List of internal and external content experts
- List of other individuals who can help to interpret more technical written resources