Natural Community Surveys for Emergency Contingency Project 2016



Prepared by: Joshua G. Cohen

Michigan Natural Features Inventory P.O. Box 13036 Lansing, MI 48901-3036

For: Michigan Department of Natural Resources Forest Resources Division

December 31, 2016

Report Number 2016-23









Point Catosh Swales wooded dune and swale complex. Photo by Joshua G. Cohen.

Suggested Citation:

Cohen, J.G. 2016. Natural Community Surveys for Emergency Contingency Project 2016. Michigan Natural Features Inventory. Report Number 2016-23, Lansing, MI. 42 pp.

Cover Photo: Sugarloaf Grove mesic northern forest, Gwinn Forest Management Unit. Photo by Joshua G. Cohen.

Copyright 2015 Michigan State University Board of Trustees. Michigan State University Extension programs and materials are open to all without regard to race, color, natural origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status, or family status.

Funding for this project was provided by the Michigan Department of Natural Resources Forest Resources Division (FRD). We express our sincere gratitude to the numerous DNR staff that helped administer and guide this project including David Price, Keith Kintigh, Debbie Begalle, and Amy Clark Eagle. In addition, the following FRD staff assisted MNFI ecologists with field surveys: Keith Kintigh (pictured above), Rick-James Hill (pictured on the cover), Rachel McDonald (pictured on the cover), and Greg Rekowski. For their support and assistance throughout this project, we thank our MNFI colleagues, especially Jesse Lincoln, Helen Enander, Rebecca Rogers, Kraig Korroch, Nancy Toben, and Brian Klatt.

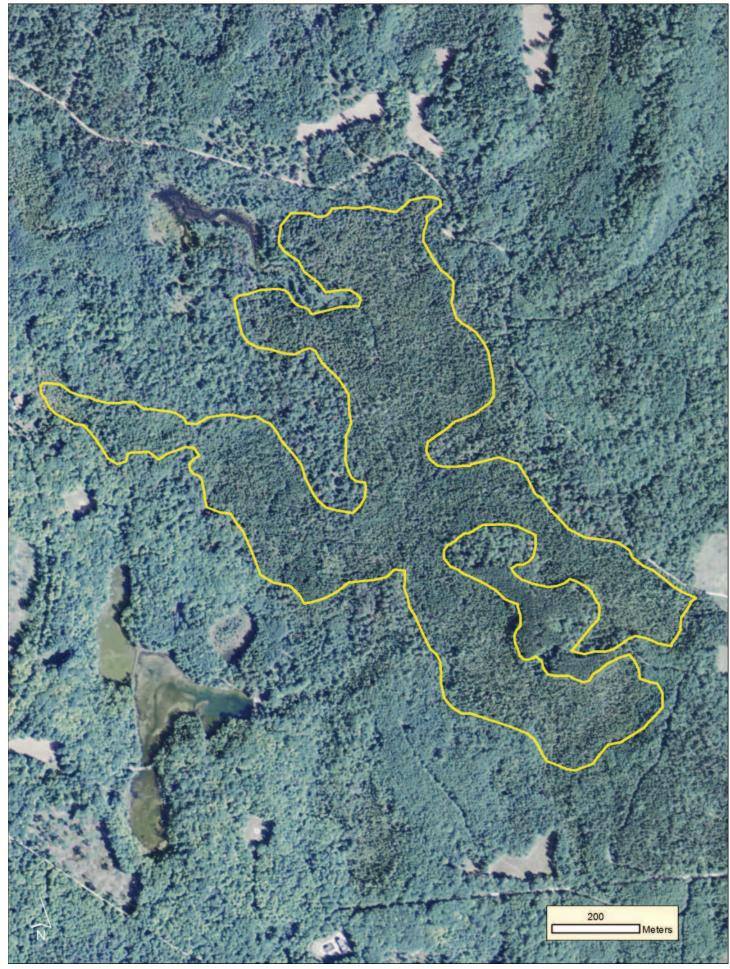
Atlanta Compartment 13 and Grayling Compartment 26

Surveyed Bushman's Swamp rich conifer swamp (EO ID 15979). Modified boundary of rich conifer swamp and confirmed Element Occurrence rank of B.



Bushman's Swamp rich conifer swamp. Photos by Joshua G. Cohen.





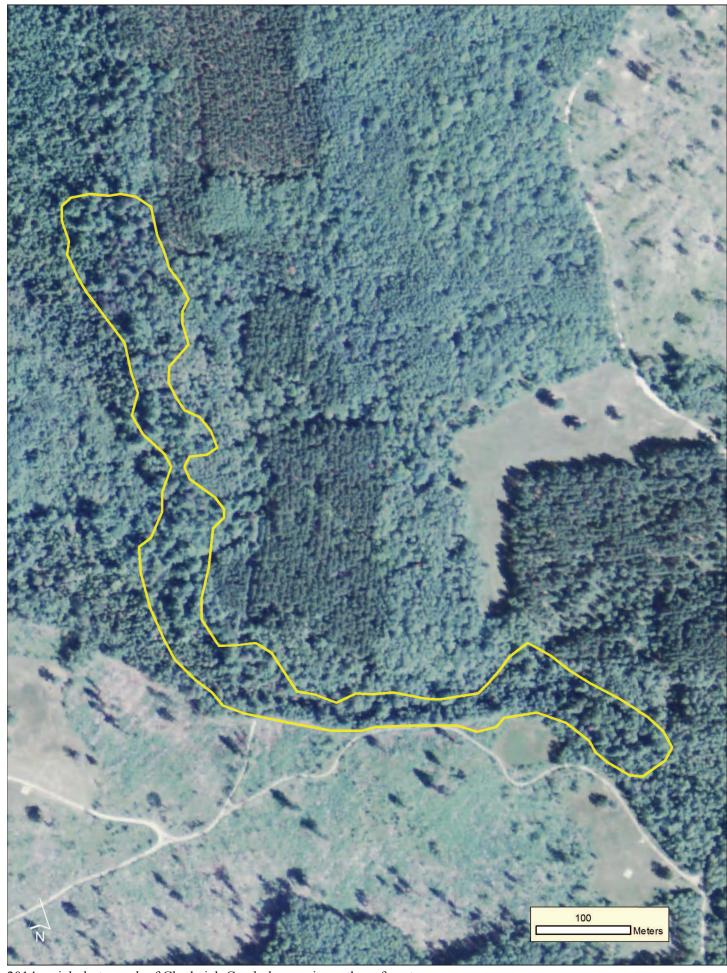
2014 aerial photograph of Bushman's Swamp rich conifer swamp.

Atlanta Compartment 24

Surveyed Chadwick Creek dry-mesic northern forest (EO ID 14561). Modified boundary of dry-mesic northern forest. Adjusted Element Occurrence rank from C to D following survey.



Chadwick Creek dry-mesic northern forest. Photo by Joshua G. Cohen.



2014 aerial photograph of Chadwick Creek dry-mesic northern forest.

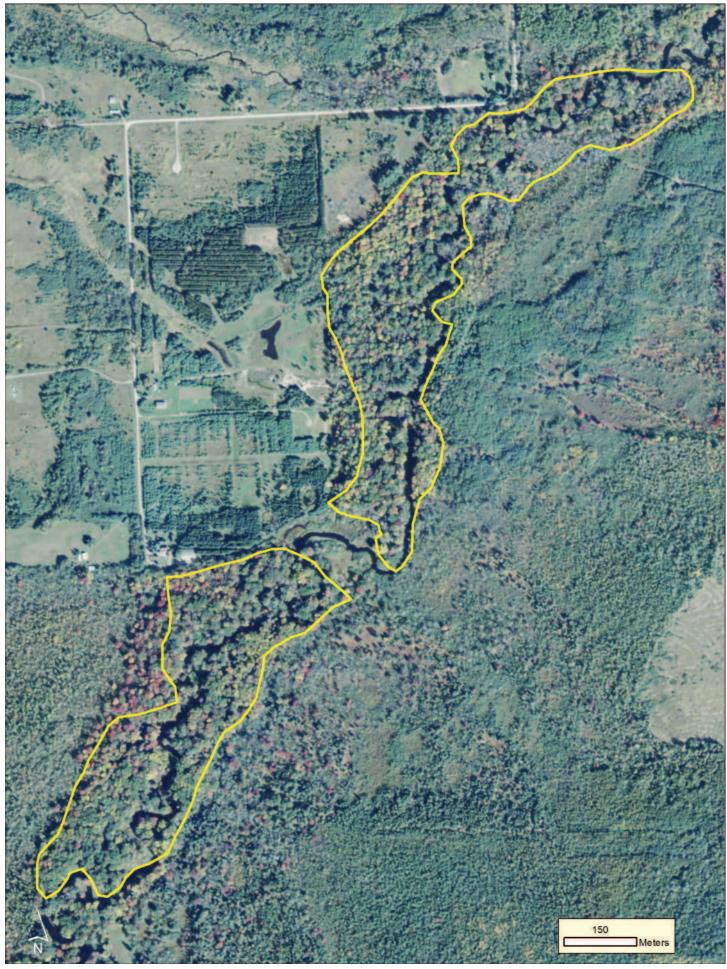
Atlanta Compartment 79

Surveyed Smokey Hollow floodplain forest (EO ID 929). Modified boundary of floodplain forest by increasing the acreage of mapped floodplain forest. Confirmed Element Occurrence rank of C.



Smokey Hollow floodplain forest. Photos by Joshua G. Cohen.





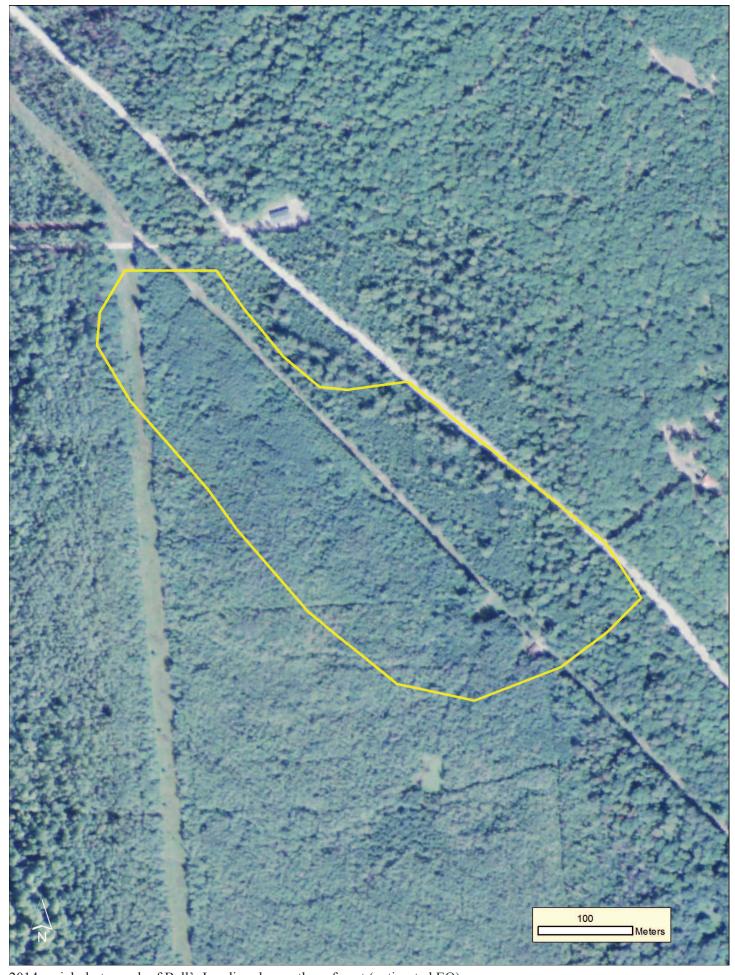
2014 aerial photograph of Smokey Hollow floodplain forest.

Atlanta Compartment 161

Surveyed Bell's Landing dry northern forest (EO ID 14557). Adjusted Element Occurrence rank from C to X (extirpated) following survey. The area no longer qualifies for classification as an element occurrence. The majority of this former element occurrence was clearcut. What remains is a narrow strip of maturing dry northern forest between the powerline corridor (to the west and south) and the road (to the east and north). This small fragment is fire suppressed and much of it has been logged.



Bell's Landing dry northern forest (extirpated EO). Photo by Joshua G. Cohen.



2014 aerial photograph of Bell's Landing dry northern forest (extirpated EO).

Gaylord Compartment 101

Surveyed Good Hart Mesic Forest mesic northern forest (EO ID 16069). Adjusted Element Occurrence rank from CD to X (extirpated) following survey. The area no longer qualifies for classification as a mesic northern forest element occurrence. The species composition and structure have been greatly influenced by recent logging, invasive pests (i.e., beech bark disease and emerald ash borer), and deer herbivory. Due to beech bark disease and emerald ash borer, this forest has lost two major canopy species. Deer herbivory has greatly impacted the understory and ground cover. The recent logging appears to be part of a research study. Numerous large canopy gaps of varying size were recently created within the forest.



Good Hart Mesic Forest (extirpated EO). Photo by Joshua G. Cohen.



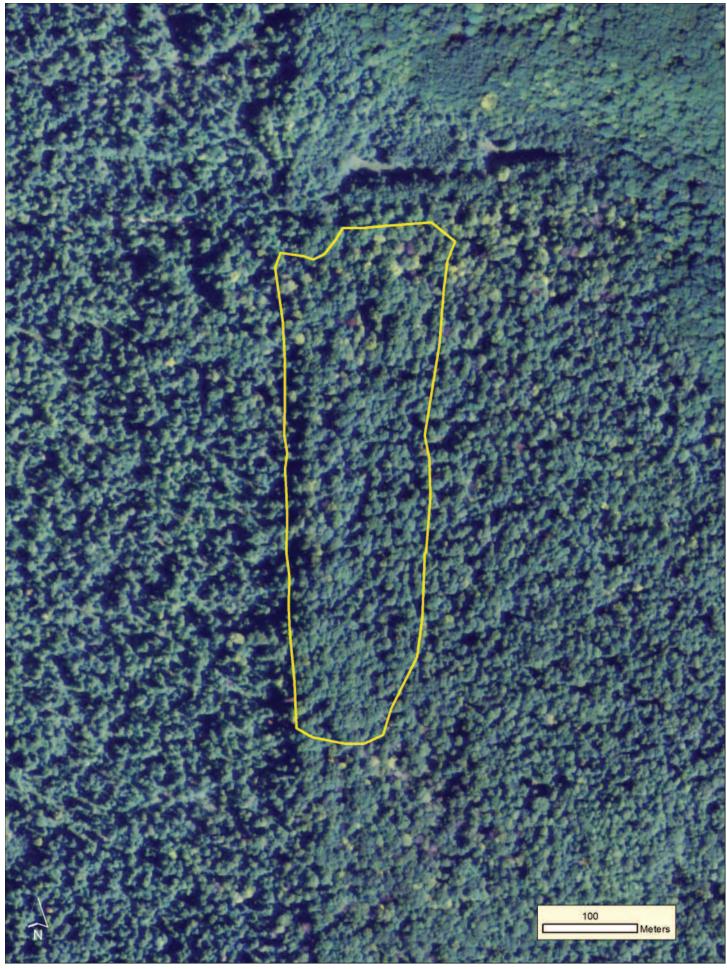
2014 aerial photograph of Good Hart Mesic Forest (extirpated EO).

Gaylord Compartment 101

Surveyed Wormwood Mesic Forest mesic northern forest (EO ID 16068). Adjusted Element Occurrence rank from CD to X (extirpated) following survey. The area no longer qualifies for classification as a mesic northern forest element occurrence. The species composition and structure have been greatly influenced by recent logging, invasive pests (i.e., beech bark disease and emerald ash borer), and deer herbivory. Due to beech bark disease and emerald ash borer, this forest has lost two major canopy species. Deer herbivory has greatly impacted the understory and ground cover.



Wormwood Mesic Forest (extirpated EO). Photo by Joshua G. Cohen.



2014 aerial photograph of Wormwood Mesic Forest (extirpated EO).

Gaylord Compartments 218 and 219

Surveyed Point Catosh Swales wooded dune and swale complex (EO ID 10973). Modified boundary of mapped wooded dune and swale complex using recent aerial imagery and survey data to account for recent logging activity. Confirmed Element Occurrence rank of C.



Point Catosh Swales wooded dune and swale complex. Photo by Joshua G. Cohen.



2014 aerial photograph of Point Catosh Swales wooded dune and swale complex.

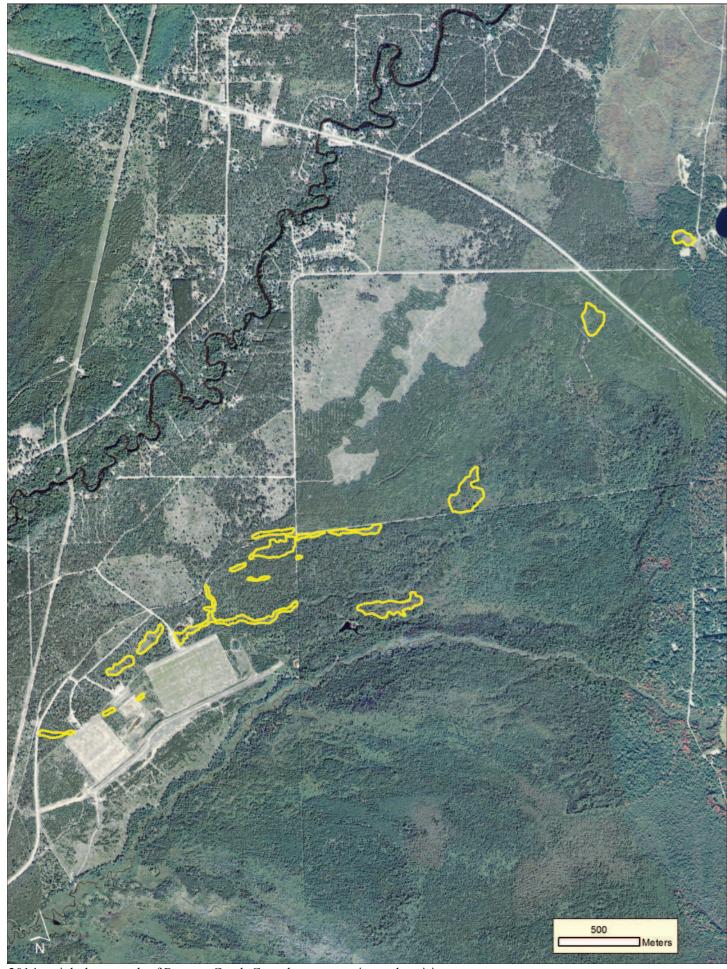
Natural Community Surveys for Emergency Contingency Project 2016 - 14

Grayling Compartments 180, 181, and 182 and Traverse City Compartment 129

Surveyed Portage Creek Complex wet-mesic sand prairie (EO ID 2078). Following survey, significantly modified boundary of mapped wet-mesic sand prairie excluding numerous degraded prairie polygons and many polygons that were likely never prairie openings (these polygons are dry northern forest and have been for decades). Adjusted Element Occurrence rank from B to BC following surveys. In addition to the decrease in the overall size of the Element Occurrence following the remapping, the remaining prairie polygons continue to be threatened by fire suppression and invasive species.



Portage Creek Complex wet-mesic sand prairie. Photo by Joshua G. Cohen.



2014 aerial photograph of Portage Creek Complex wet-mesic sand prairie.

Gwinn Compartments 49 and 50

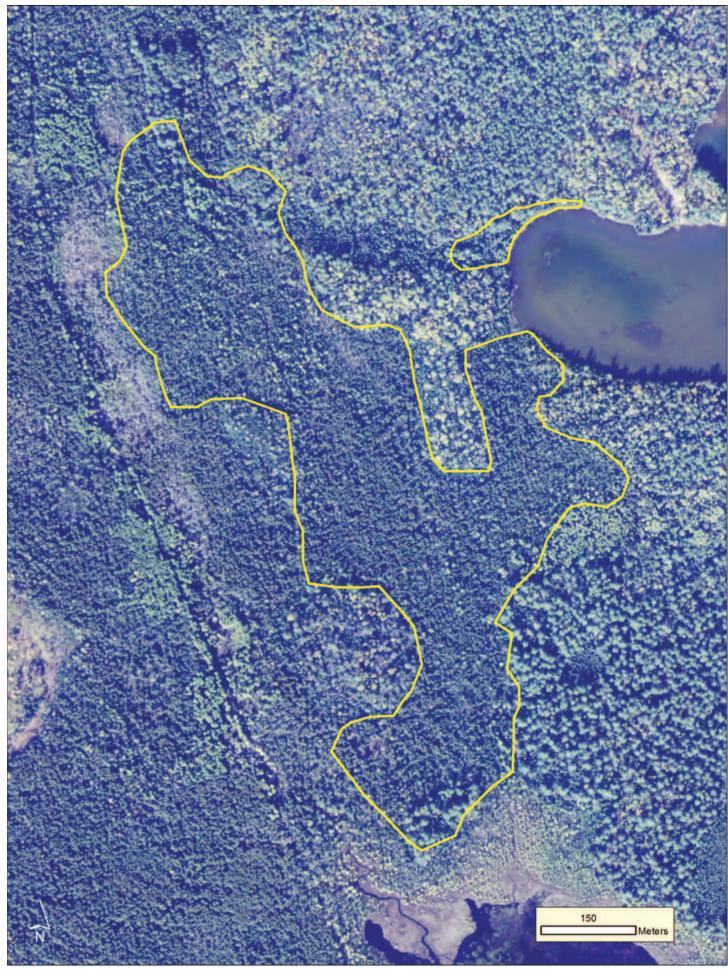
Surveyed Anderson Lake rich conifer swamp (EO ID 14542). Following survey, significantly modified boundary of mapped rich conifer swamp excluding areas of poor conifer swamp. Confirmed Element Occurrence rank of C.



Anderson Lake rich conifer swamp. Photos by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 Page-17



2014 aerial photograph of Anderson Lake rich conifer swamp.

Gwinn Compartment 69

Surveyed northern hardwood Stand 31 in Gwinn Compartment 69. The area does not qualify for classification as a mesic northern forest Element Occurrence. The species composition and structure have been greatly influenced by repeated logging events.



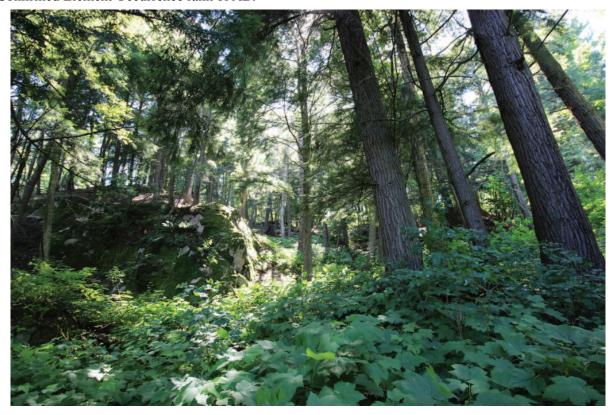
Northern hardwoods, Gwinn Compartment 69, Stand 31. Photos by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 Page-19

Gwinn Compartment 204

Surveyed Sugarloaf Grove mesic northern forest (EO ID 10118, formerly called Big Bay Road). Following survey, significantly modified boundary of mapped mesic northern forest increasing the total acreage by including a large polygon to the north of the initially mapped polygon. Adjusted Element Occurrence rank from CD to BC following survey. During the course of surveys for Sugarloaf Grove mesic northern forest, opportunistically documented high-quality granite bedrock glade. Incorporated this site into nearby existing granite bedrock glade Element Occurrence, Sugarloaf Glade (EO ID 18814). Confirmed Element Occurrence rank of AB.



Sugarloaf Grove mesic northern forest. Photo by Jesse M. Lincoln.



Sugarloaf Glade granite bedrock glade. Photo by Joshua G. Cohen.



2014 aerial photograph of Sugarloaf Grove mesic northern forest.



2014 aerial photograph of Sugarloaf Glade granite bedrock glade.

Newberry Compartment 3

Surveyed Barfield Lakes dry northern forest (EO ID 4328). Following survey, significantly modified boundary of dry northern forest. Confirmed Element Occurrence rank of C.



Barfield Lakes dry northern forest. Above photo by Jesse M. Lincoln and below photo by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 Page-23



2014 aerial photograph of Barfield Lakes dry northern forest.

Pigeon River Compartments 43, 46, 47, and 48

Surveyed northern hardwood stands within Tin Shanty Dedicated Habitat Area. The area does not qualify for classification as a mesic northern forest Element Occurrence. The species composition and structure have been greatly influenced by past logging, current logging, invasive pests (i.e., beech bark disease and emerald ash borer), and ungulate herbivory (both deer and elk browse are prevalent). However, this block of maturing northern hardwoods is suitably classified as a Dedicated Habitat Area because it provides potential habitat for wildlife species that depend on large blocks of late-successional forest.



Tin Shanty Dedicated Habitat Area, Pigeon River Forest Management Unit. Photos by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 Page-25

Roscommon Compartment 107

Surveyed Houghton Lake Red Pines dry northern forest (EO ID 3510). Following survey, significantly modified boundary of dry northern forest. Confirmed Element Occurrence rank of D.



Houghton Lake Red Pines dry northern forest. Photo by Joshua G. Cohen.



2014 aerial photograph of Houghton Lake Red Pines dry northern forest.

Sault Sainte Marie Compartment 5

Surveyed Sand Bay mesic northern forest (EO ID 5088). Following survey, slightly modified boundary of mesic northern forest using recent aerial imagery. Confirmed Element Occurrence rank of BC.



Sand Bay mesic northern forest. Photos by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 - 28



2014 aerial photograph of Sand Bay mesic northern forest.

Sault Sainte Marie Compartment 12

Surveyed Barbed Point boreal forest (EO ID 10330). Following survey, slightly modified boundary of boreal forest using recent aerial imagery. Adjusted Element Occurrence rank from BC to B following survey. During course of survey for Barbed Point boreal forest documented high-quality limestone cobble shore (EO ID 20694, Barbed Point). The Barbed Point limestone cobble shore is a B-ranked Element Occurrence.



Barbed Point boreal forest. Photo by Joshua G. Cohen.



Barbed Point limestone cobble shore. Photo by Joshua G. Cohen.



2014 aerial photograph of Barbed Point boreal forest.



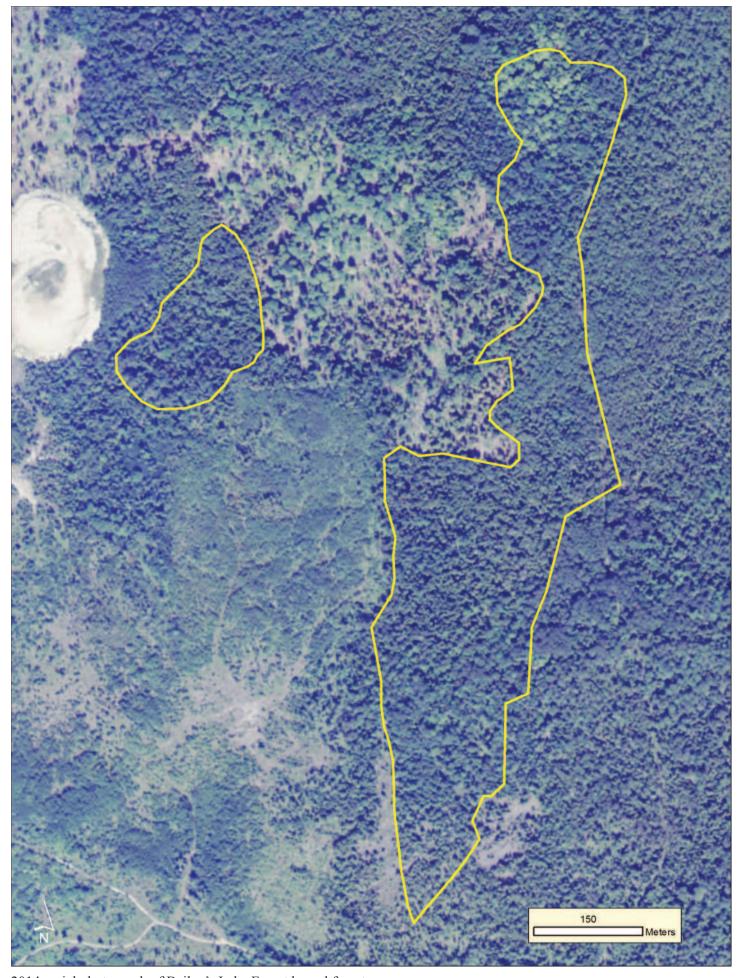
2014 aerial photograph of Barbed Point limestone cobble shore.

Sault Sainte Marie Compartment 13

Surveyed Bailey's Lake Forest boreal forest (EO ID 14549, formerly called Boreal #7). Following the survey, significantly modified the boundary of the boreal forest using recent aerial imagery and survey data to account for recent logging activity. Adjusted Element Occurrence rank from BC to C following survey.



Bailey's Lake Forest boreal forest. Photo by Joshua G. Cohen.



2014 aerial photograph of Bailey's Lake Forest boreal forest.

Shingleton Compartments 23, 24, 25, 26, and 28

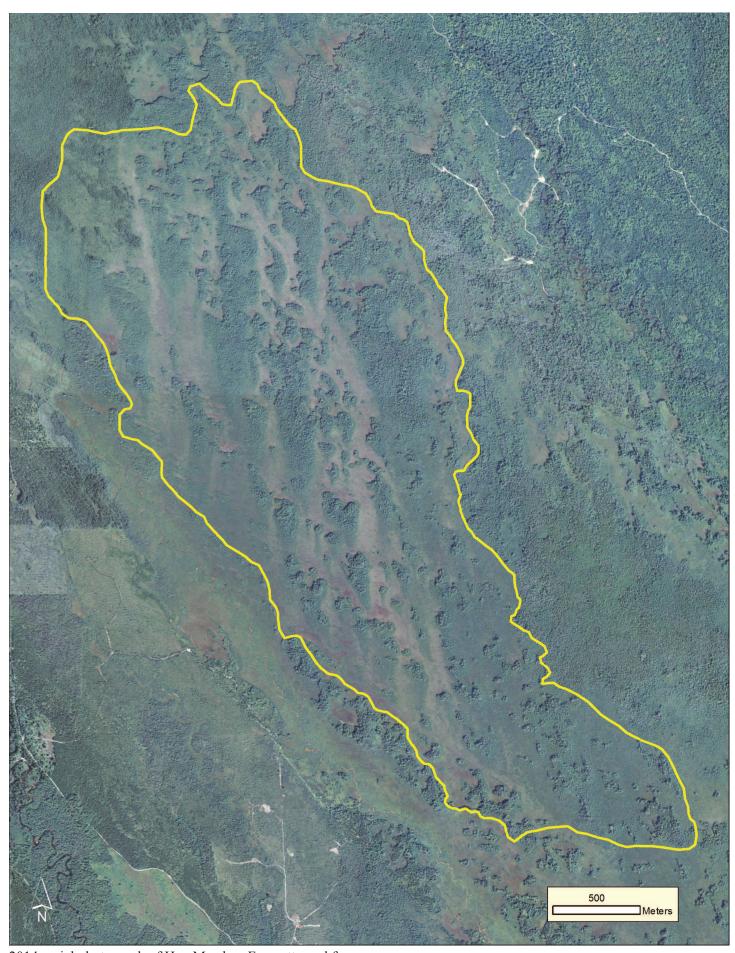
Surveyed Hay Meadow Fen patterned fen (EO ID 13129). Following survey, modified boundary of patterned fen using recent aerial imagery. Adjusted Element Occurrence rank from B to AB following survey. During course of survey for Hay Meadow Fen patterned fen documented high-quality dry northern forest (EO ID 20695) and high-quality northern wet meadow (EO ID 20699). Hay Meadow Pines dry northern forest occurs in Compartments 23, 24, 25, 26, and 28, and is an A-ranked Element Occurrence. Giardia Spa northern wet meadow occurs in Compartments 23, 26, and 28, and is an A-ranked Element Occurrence.



Hay Meadow Fen patterned fen. Photos by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 Page-35



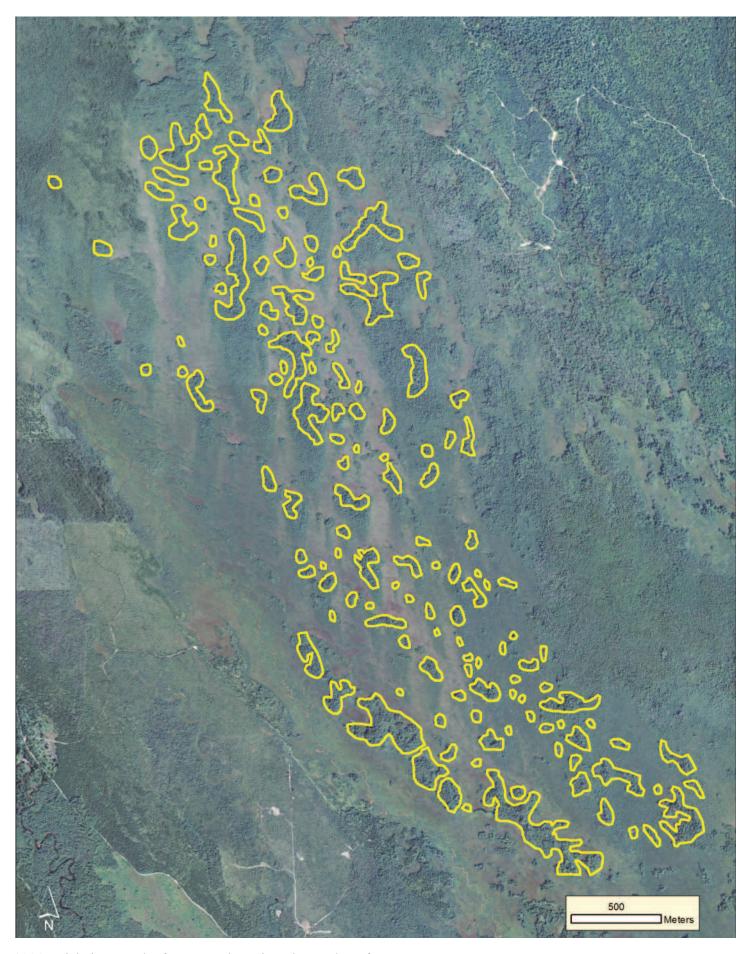
2014 aerial photograph of Hay Meadow Fen patterned fen.



Hay Meadow Pines dry northern forest is composed of multiple islands nested within the Hay Meadow Fen patterned fen. Photos by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 Page-37

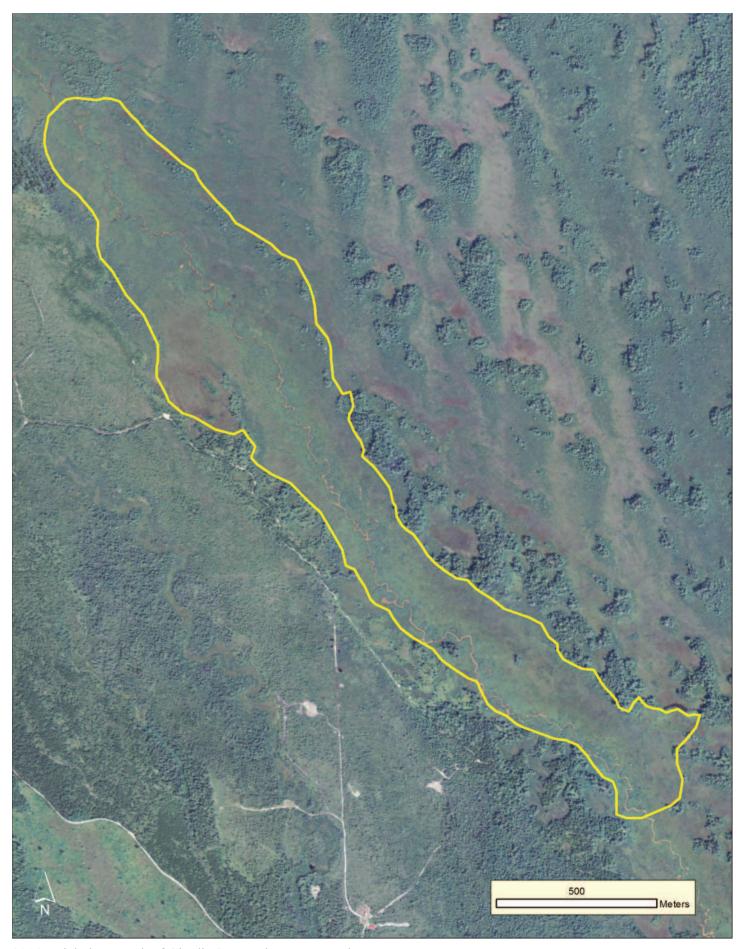


2014 aerial photograph of Hay Meadow Pines dry northern forest.





Natural Community Surveys for Emergency Contingency Project 2016 Page-39



2014 aerial photograph of Giardia Spa northern wet meadow.

Traverse City Compartment 142

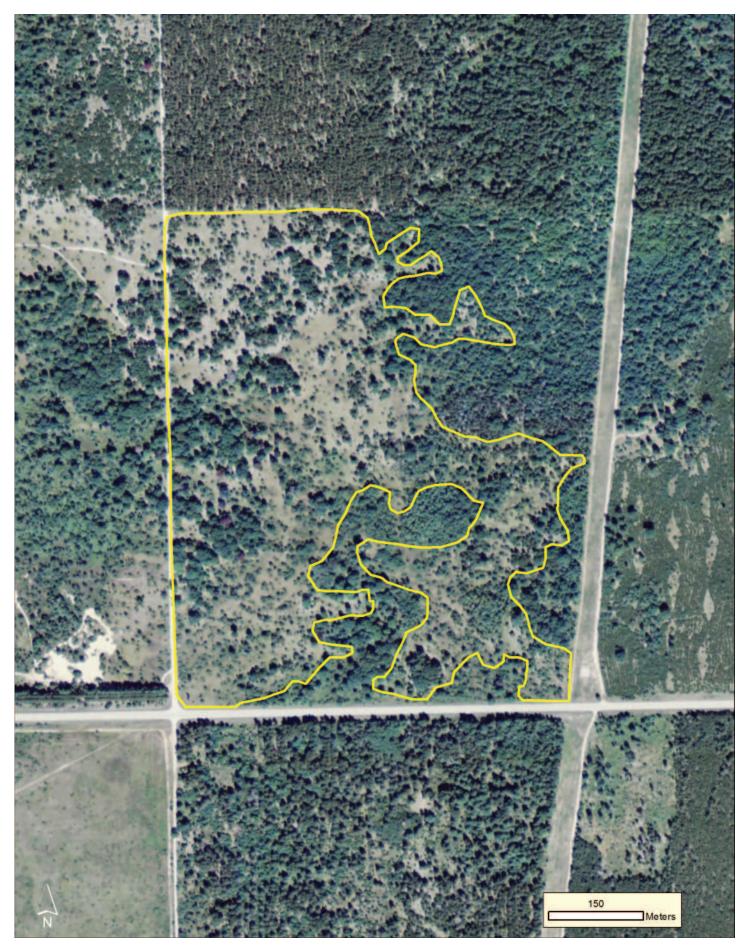
Surveyed Fletcher Barrens oak-pine barrens (EO ID 4516). Following survey, slightly modified boundary of oak-pine barrens using recent aerial imagery. Confirmed Element Occurrence rank of C.



Fletcher Barrens oak-pine barrens. Photos by Joshua G. Cohen.



Natural Community Surveys for Emergency Contingency Project 2016 Page-41



2014 aerial photograph of Fletcher Barrens oak-pine barrens.