



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

Property Identifiers

Property Name and Designation: **TICHIGAN WILDLIFE AREA, HONEY CREEK WILDLIFE AREA, & NEW MUNSTER WILDLIFE AREA**

Forestry Property Code: **Tichigan = 5207, Honey Creek = 5202, New Munster = 3004**

Property Location – County: **RACINE & KENOSHA COUNTIES**

Property Acreage: **Tichigan = 1,560; Honey Creek = 1,340; New Munster = 1,495**

Master Plan Date: **Master Planning process for these properties (and others) began in July 2014.**

Property Manager: **Marty Johnson**

Part 1: Property Assessment

A. GENERAL PROPERTY DESCRIPTION – MANAGEMENT, ADJACENT LAND USES, TOPOGRAPHY, SOILS, ETC.

Historically the Kenosha and Racine County landscape supported oak savannas, wetlands, and prairies, all of which are represented in various states on the wildlife areas. During the settlement period many of these cover types were converted to farming activities: wetlands were drained and plowed; prairies were plowed and planted to crops; and savannas were grazed. After these lands were purchased by the state farming activities continued in many upland areas, but grazing ended.

As designated state wildlife areas, management goals on these lands have changed. Farming is still a land management tool, but the overall goals transitioned from crop production to maximizing habitat for wildlife species and providing recreational opportunities (i.e., hunting, fishing, wildlife watching, etc.). Land management has included practices such as prairie and tree plantings and wetland restoration. It also has included habitat management practices such as mechanical mowing, prescribed burning, water level manipulation, herbicide treatment and invasive plant removal.

Tichigan Wildlife Area

Tichigan Wildlife Area is a 1,560 acre property located two miles northwest of the Village of Waterford in northwest Racine County. The Tichigan Marsh in pre-settlement times was part of the Fox River system and formed an extensive emergent marsh. It was an area that supported a variety of wildlife species including waterfowl, deer, muskrats, wetland birds and songbirds. The Wisconsin Conservation Department made the first land purchase in 1958. Today, habitat on the property consists of oak woodland, lowland woodland, shrub-carr wetland, wet meadow, cattail marsh, shallow marsh, grassland and agricultural fields. Tichigan Creek, a Class III trout stream supported in part by springs from a wooded esker, runs through the south part of the property providing fishing opportunities. Wildlife on the property includes deer, turkey, waterfowl and other small game. Pheasants are stocked on the property.

The variety of natural communities on the property provides chances for grassland, wetland, oak opening, oak savanna, wet meadow and cattail marsh habitat management. On several locations of the property there are areas dominated by open grown oaks with dense understories of woody invasive species that present restoration opportunities for Oak Openings and Oak Savannas. Additional opportunities exist for enhancement/restoration of several quality wet prairie areas with woody invasive species and nutrient runoff issues. Management of woody and herbaceous invasive species is carried out in all habitat types. Habitat management tools include prescribed burning, mechanical mowing, hand work (i.e., chain sawing, pulling, etc.) and spot herbicide application. The



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

timing and use of all these tools takes into account the life history requirements of invertebrates, reptiles, plants and other species found on the property. A timber harvest is planned for the property targeting 87 acres of oak and central hardwoods and pine plantation (Stand 5 (44ac), Stand 11 (11ac), Stand 21 (28 ac), Stand 23 (4 ac)).

Honey Creek Wildlife Area

Located $\frac{3}{4}$ of a mile north of the City of Burlington in western Racine County, this 1,340 acre property is divided into four parcels in western Racine and eastern Walworth Counties. The property supports oak-hickory woodland, wetland, grassland, dry prairie, wet meadow, and deep marsh. Two of the four property parcels are tied to water features – Long Lake and Honey Creek. The Wisconsin Conservation Department made the first land purchase in 1958.

While not in pristine condition, this property still provides good opportunities for oak woodlands (oak opening & savanna), dry prairie, wet meadow, and grassland habitat management. Several woodland blocks have mature oaks with understories dominated by woody invasive species such as black locust, buckthorn and honeysuckle. Several gravel knolls have dry prairie remnants that support little bluestem, big bluestem, rough blazing star and hoary puccoon. These areas have also become overgrown with woody invasive species. Habitat management tools include prescribed burning, mechanical mowing, hand work (i.e., chain saw, pulling, etc.) and spot herbicide application. The timing and use of all these tools takes into account the life history requirements of invertebrates, reptiles, plants, and other species found on the property. A timber harvest is planned for the property targeting 84 acres of oak-hickory hardwood stands and an aspen grove (Stand 23 (71 ac), Stand 16 (10 ac), Stand 12 (3 ac)).

New Munster Wildlife Area

Located $\frac{3}{4}$ of a mile northeast of the Village of Twin Lakes in southwest Kenosha County, the rolling landscape supports a matrix of agricultural fields, oak-hickory woodlands, wetlands, a pine plantation, and dry prairies over 1,495 acres. This property also features Palmer Creek, the only trout stream in Kenosha County, in the central and northeastern portion of the property. The wildlife area was established to provide important pheasant and upland game habitat in a rapidly developing area of Wisconsin. In the project protects water quality, improves fish habitat, and provides public access for fishing, hunting, and trapping. The Wisconsin Conservation Department made the first land purchase in 1947. In recent years two additional unattached parcels along the Fox River have been added to the wildlife area: a 177.4 acre DOT wetland mitigation site in 2008 and a donated 51.2 acre site in 2013. The properties added riverine, emergent/open water, and floodplain forest habitat.

Past agricultural use of the area (i.e., farming, grazing, etc.) has impacted natural communities on the property, but good opportunities still exist to manage and/or restore communities such as oak woodlands, dry prairies, wet meadows, and grasslands. Several woodland blocks have open grown oaks with understories dominated by woody invasive species such as buckthorn and honeysuckle. There are also gravel knolls with remnant dry prairies that support several native species like little bluestem, big bluestem, rough blazing star, and hoary puccoon, which also face woody invasive species encroachment. Habitat management tools include prescribed burning, mechanical mowing, hand work (i.e., chain sawing, pulling, etc.) and spot herbicide application. The timing and use of all these tools takes into account the life history requirements of invertebrates, reptiles, plants, and other species found on the property. A timber harvest is planned for the property targeting 108 acres of oak and central hardwood and pine plantation (Stand 1 (18ac), Stand 4 (15 ac), Stand 13 (39 ac), Stand 14 (30 ac), Stand 15 (6 ac)).



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

B. ECOLOGICAL LANDSCAPE DESCRIPTION AND PROPERTY CONTEXT

This property is located within the Southeast Glacial Plains Ecological Landscape (EL). The dominant landforms in this EL are glacial till plains and moraines composed mostly of materials deposited during the Wisconsin Ice Age. Other glacial landforms, including drumlins, outwash plains, eskers, kames, and kettles are also well-represented. Soils tend to be lime-rich tills overlain by silt-loam loess. Historically the landscape provided a mixture of prairie, oak forests and savanna and maple basswood forests. End moraines and drumlins largely supported savannas and forests. Wet-mesic prairies, southern sedge meadows, emergent marshes, and calcareous fens are also found within the landscape. Mid 1800's land-cover around the property likely consisted of marsh/sedge meadow and a mixture of oak openings and oak woodlands. In terms of hydrology and aquatic productivity, this Ecological Landscape is among the highest in the state. Major river systems include the Wolf, Bark, Rock, Fox, Milwaukee, Sugar, Mukwonago, and Sheboygan, and several lake chains also exist. Extensive marshes, fens, sedge meadows, wet prairies, tamarack swamps, and floodplain forests are also significant features found within this landscape.

Since Euro-American settlement, large portions of the Southeast Glacial Plains have been intensively developed for agricultural or urban-industrial uses, significantly altering the historical vegetation. The hydrology of this Ecological Landscape has been greatly altered and affected by modifications (ditching, diking, tiling), grazing, invasive plants, excessive inputs of sediment- and nutrient-laden runoff from croplands, and human development. Remaining forests today occupy only about 10% of the land area and consist of maple-basswood, lowland hardwoods, and oak. Most of the rare or natural communities that remain are associated with large moraines or in areas where the Niagara Escarpment occurs close to the surface.

A wide variety of soils series is present on the three properties, yet there are similarities in the overall soil types present. Each of these properties has large areas of low, wet areas that consist of muck soil, or are marsh or alluvial material. Houghton muck is the most common soil series present, but other muck soils include Palms, Adrian, Ogden, and Rollin mucks. The remainder of each property contains loams or silt loams that in general are very fertile soils. The number of soil series here are too numerous to mention, but generally these properties have somewhat heavier soils throughout that again are quite fertile. Only a few sands are present, and those are in a few small areas on the New Munster Wildlife Area.

The three properties fall mostly into a single Land Type Association (LTA), the Heart Prairie-Burlington Plains LTA (222Kf03), having soils that are predominantly well drained loam over calcareous gravelly sandy outwash. A small portion of Honey Creek Wildlife Area includes the Geneva Moraines LTA (222Kf01) which is predominantly well drained silt and loam over calcareous sandy loam till. Additionally, a small portion of the New Munster Wildlife Area includes the Wheatland Prairies Landforms LTA (222Kf04) which is moderately well drained loam and clay over calcareous silty and clayey alluvium, lacustrine or sandy outwash.

All three properties are featured in the Lake Michigan Region of the Great Wisconsin Birding and Nature Trail as properties on which to see a wide variety of waterfowl and shorebird species, as well as flycatchers, terns, sandhill cranes, several owl species, golden-crowned kinglets, brown creepers and nuthatches.

Both Tichigan and Honey Creek Wildlife Areas are identified as places for managing high quality wetland communities of statewide significance within the Southeast Glacial Plains Ecological Landscape according to Wisconsin's Wildlife Action Plan.

In addition, Tichigan Wildlife Area is listed as a Natural Area-2 (NA-2) by the Southeastern Regional Planning Commission in the natural areas report, *A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeast Wisconsin*. Tichigan Marsh is the largest emergent marsh in Racine County.



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

C. CURRENT FOREST TYPES, SIZE CLASSES AND SUCCESSIONAL STAGES

The forested areas in each property are dominated by hardwood timber, with oak being the primary component and management objective. Central hardwoods and miscellaneous deciduous (generally black locust and box elder) are also prominent components on each property. Smaller areas of bottomland hardwoods (including swamp white oak, silver maple, green ash, cottonwood and elm) and aspen are also included. The properties also have small areas of white pine as well. But generally the dominant forest type on these areas is oak and central hardwoods. A break down by property is as follows:

1) **Tichigan:** (forested acres = 311)

- a) **Oak:** Oak is the dominant timber feature here, with six stands typed as oak totaling 159 acres. All of these stands are dominated by large sawtimber sized trees, mainly being red, white, bur and black oak. A light to moderate volume of pole-sized central hardwoods in present in each, although varying in stocking. The understory of most of this area has considerable upland brush present, mainly being buckthorn. Work has been done in a couple stands to eliminate the invasive component and currently these areas are more open. One stand was previously pastured and is generally open, although buckthorn is beginning to invade.
- b) **Central hardwoods:** Two stands were typed as central hardwoods and total 95 acres. The majority of this (92 acres) is in one stand, which is dominated by a light stocking of large and small sawtimber sized trees (walnut, cherry, hickory, a few oak) along with a light volume of poletimber sized trees. Brush again is heavy through much of this area. The other stand, a 3-acre site, is a mix of poletimber and sapling sized central hardwoods, including cherry, hickory and oak.
- c) **Aspen:** One 9-acre stand is typed as aspen, and includes sapling sized aspen mixed with upland brush (buckthorn, honeysuckle, prickly ash). Aspen stocking is light.
- d) **Bottomland hardwoods:** Three stands are typed as bottomland hardwoods, totalling 32 acres. One stand is a 16-acre sapling stand dominated by green ash. The other two stands are comprised of poletimber- sized trees, also dominated by green ash with smaller amounts of silver maple and elm and light to moderate brush in the understory.
- e) **White Pine:** One stand (5 acres) of primarily white pine with some red pine and a few spruce. Stand is comprised generally of poletimber-sized trees and some small sawtimber-sized trees.
- f) **Non-Forest Areas:** The non-forested area at Tichigan totals 1,258 acres with the majority being low, wet sites (1,091 acres), including lowland brush, lowland grasses, marshy areas and open water. The remaining 167 acres includes farm land, upland grasses, and upland brush.

2) **Honey Creek:** (forested acres = 428)

- a) **Oak:** Oak dominates this property area with 224 acres found in 4 stands. All four of these stands are dominated by large sawtimber sized oaks (red, white, bur and black) with a light stocking of central hardwood poletimber mixed in. Upland brush is generally prominent in these stands, except for areas where maple is present in any volume as saplings.
- b) **Central hardwoods:** Three stands are typed as central hardwoods, and total 90 acres. Most of this stand area is dominated by a light stocking of sawtimber sized trees that include black cherry hickory, and some oaks. A light volume of central hardwood poletimber is mixed in as well. Upland brush is again often heavy in the understory, except where maple is present. A small area (4 acres) consists of lightly-stocked sapling-sized central hardwood trees mixed with upland brush.
- c) **Aspen:** There are three aspen stands present through this property that total 62 acres. These 3 stands are quite variable, with one (40 acres) including large sawtimber to



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

- poletimber sized trees, a second (10 acres) including just a light stocking of pole-sized aspen with brush and grass understory, and the third (12 acres) being sapling sized aspen mixed with brush.
- d) White pine: One stand is typed as white pine, totaling 52 acres. This designation is somewhat misleading as much of this stand includes primarily poletimber sized hardwoods. The white pine are generally scattered through the stand as small to large sawtimber trees that are generally larger than the hardwoods present. But most of the volume is in hardwood poletimber, including black locust, aspen, cherry, hickory, oak and elm.
 - e) Non Forest Areas: The non-forested area at Honey Creek totals 881 acres with the majority being low, wet sites (748 acres), including lowland brush, lowland grasses, marshy areas and open water. The remaining 133 acres includes farm land, upland grasses and herbaceous vegetation, and upland brush.
- 3) **New Munster**: (forested acres = 680)
- a) Oak: Four stands are typed as oak, totaling 172 acres. Three of these stands, including the bulk of the acreage, consist of large sawtimber sized (15+ inches diameter) oaks (red, white, bur, black) mixed with central hardwood poletimber (cherry, hickory, elm, others). The oak are fairly well stocked in each of these stands and dominate the stand areas. Upland brush, mainly buckthorn and honeysuckle, are present in the understory, being often quite heavy. The fourth stand typed as oak includes only one acre, and consists of oak seedlings/saplings with a grass understory.
 - b) Miscellaneous deciduous: One stand type is included that totals 249 acres, although it is found in several locations. These areas are dominated by black locust or box elder poletimber (5 – 11 inches diameter) occasionally with a small volume of central hardwoods included. Upland brush is common in the understory of each site.
 - c) Tamarack: One stand here is typed as tamarack, and is the only area in all three properties with tamarack. This stand totals 172 acres, and consists of trees mainly poletimber sized, some saplings at times. Brush is heavy in the understory, including buckthorn.
 - d) Bottomland hardwoods: Two stands are typed as BH, both being adjacent to the Fox River. One, totaling 27 acres, includes small sawtimber (11 – 15" trees) and poletimber sized trees, with light to moderate brush in the understory. Silver maple, cottonwood, green ash and bur oak are present here. The second stand is younger with silver maple, green ash and box elder poletimber and saplings lightly scattered through the site, with lowland brush present at time, but with lowland grasses generally dominating the understory.
 - e) Central hardwoods: One stand is typed as central hardwoods and is 6 acres in size. This stand has a light stocking of black cherry, hickory and an occasional oak as pole to small sawtimber sized trees, with a considerable amount of box elder mixed in the poletimber. Upland brush is generally heavy.
 - f) White pine: One stand type is included, although several locations are present on the property. The stand includes white and red pine along with some spruce. These conifer plantations are generally small saw to poletimber sized trees. Occasional hardwood trees are mixed in, and brush is variable in the understory, with it being quite dense in some, but light in others.
 - g) Non-Forest Areas: The non-forested area on New Munster totals 644 acres with the majority being low, wet sites (465 acres), including lowland brush, lowland grasses, and open water. The remaining 179 acres includes farm land, upland grasses, and developed area.



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

D. NHI: ENDANGERED, THREATENED, SPECIAL CONCERN SPECIES, SPECIES OF GREATEST CONSERVATION NEED (SGCN)

Tichigan Wildlife Area - Six rare fish (one Endangered, two Threatened, and three Special Concern), one Special Concern turtle, 10 rare plants (one Endangered, three Threatened and seven Special Concern) and seven natural community types have been documented within a two mile buffer of the property.

Honey Creek Wildlife Area - Four rare birds (all Special Concern), four rare fish (two Threatened and two Special Concern), three rare mussels (one Endangered, one Threatened, one Special Concern), one Special Concern crustacean, one Special Concern turtle, nine rare plants (four Threatened and five Special Concern) and eight natural community types have been documented within a two mile buffer of the property.

New Munster Wildlife Area - Two rare birds (Special Concern), seven rare fish (one Endangered, two Threatened and four Special Concern), four rare mussels (one Endangered, two Threatened, one Special Concern), one Special Concern turtle, three rare plants (one Threatened and three Special Concern) and three natural community types have been documented within a two mile buffer of the property.

NHI screening protocols will be conducted and species guidance protocols will be followed prior to and during any current and future management activities. Of note is a State Threatened plant which is known to persist in one of the proposed harvest areas. Known plant locations will be identified and appropriate avoidance and protection measures (e.g., conducting operations elsewhere when they are least likely to cause damage or avoiding broadcast spraying of herbicides) will be taken to avoid "take" of this species.

E. WILDLIFE ACTION PLAN CONSERVATION OPPORTUNITY AREAS (COA)

As identified in the [2005 Wisconsin Wildlife Action Plan](#), both Tichigan and Honey Creek Wildlife Areas are identified as places for managing high quality wetland communities of statewide significance within the Southeast Glacial Plains Ecological Landscape. These communities should be managed to capture maximum SGCN diversity and feature a continuum of an extensive matrix of marshland including southern sedge meadow, bog relict, northern hardwood swamp and surrogate grassland.

F. SIGNIFICANT CULTURAL OR ARCHEOLOGICAL FEATURES

According to the Wisconsin Historical Society database, a review of the timber sale locations on the three wildlife areas did not turn up any cultural or archeological sites. Standard procedure calls for known sites to be protected during forest management operations.

G. INVASIVE SPECIES

As is unfortunately common in southeast Wisconsin, invasive non-native vegetation is present throughout these properties. Common buckthorn, bush honeysuckle, garlic mustard and multiflora rose are present in most of the woodland areas as well as in more open sites. Reed canary grass is common in wet areas. Black locust also is present on portions of each of the properties and has the ability to be very invasive and difficult to eradicate from areas. Efforts have been made to reduce the presence of invasive species through a combination of mowing, herbicide work and burning, with repeated burning being used to keep the invasive species from returning after they have been largely removed from specific areas. In the areas of these properties that have timber harvesting scheduled, efforts to control the invasive vegetation will be performed prior to any harvest. Brush control efforts will also be made in areas where oak savanna/oak opening is the eventual goal.



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

H. EXISTING STATE NATURAL AREAS (SNA) DESIGNATIONS/NATURAL COMMUNITY TYPES LIMITED IN THE LANDSCAPE

There are two existing State Natural Areas, one on Honey Creek Wildlife Area and the other on New Munster Wildlife Area. Cherry Lake Sedge Meadow SNA, designated in 1975, is located within Honey Creek Wildlife Area and encompasses 80 acres which contains southern sedge meadow, fen and northern wet forest communities (most notably, tamarack bog) and is adjacent to an esker which supports restorable oak woodland. The site is managed for the calcareous fen and oak opening reserve. New Munster Bog Island SNA, on New Munster Wildlife Area, was one of the early state natural areas, designated in 1967. The site contains a sandy knoll of hardwoods surrounded by tamarack and shrub-carr bog, the latter of which have been affected somewhat by drainage attempts.

The properties include some good examples of **High Value Conservation Forests (HCVF)** Southern Forest types (older closed canopy forests dominated by larger diameter red and white oak, hickory, ash, black cherry, elm).

I. PRIMARY PUBLIC USES (RECREATION)

The included properties are managed to provide opportunities for public hunting, fishing, trapping and other outdoor recreation such as snowmobile trails and a boat launch, while protecting the qualities of the unique native communities and associated species found on the property. All three properties provide excellent hunting opportunities for turkey, deer, squirrel, rabbit, dove, and waterfowl. Pheasant hunting opportunities also exist on the properties and are supported by the department pheasant stocking program. A total of 20 parking lots provide public access to these three properties.

J. BIOTIC INVENTORY STATUS

The Rapid Ecological Assessment for the Wildlife and State Natural Areas of the Southern Kettle Moraine Region was completed in 2011 and is posted to the DNR website.

K. DEFERRAL/CONSULTATION AREA DESIGNATIONS

Four consultation area designations are located on these properties – two at Tichigan WA and one each at Honey Creek and New Munster WAs. For consultation sites, there is a range of activities that might occur, from completely passive management to intensive timber harvest. In every case the interdisciplinary team first determines that the activities will not limit or remove options for the master plan.

With respect to this IFMP, one timber harvest is occurring or is planned for a consultation site located on Honey Creek WA. Staff representing property manager, area supervisor, forester, district ecologist, in consultation with NHI staff and lead master planning staff, have been in communication regarding harvest plans and are taking appropriate precautions to ensure that any resultant harvest will preserve the integrity of the site for which it was recognized in the Rapid Ecological Assessment.

Part 2: Future Management – IFMP components

FOREST MANAGEMENT OBJECTIVES *(Outline primary forest management objectives)*

With all forest management objectives, there are several more universal objectives that can be attained including options such as increasing large snags and coarse woody debris, controlling the spread of invasive plant species and consideration for Wildlife Action Plan priorities and management of SGCNs. Integrating Priority Actions from Wisconsin's 2005-2015 Wildlife Action Plan to the extent possible within the framework of this document, or avoiding actions that might preclude successful implementation of these actions in the future is recommended.



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

The management objectives for these three properties are generally the same throughout, with minor variations. For vegetative management, the forested areas also will be managed similarly on all three properties, with consistent management objectives. Generally, the upland areas will be managed to promote oak with a lesser mix of central hardwoods (hickory, walnut and cherry). For example, dependent upon site characteristics oak woodland may be the primary objective whereas on other sites oak savanna will be the objective.

In general the forest management objective for this area is to promote healthy, vigorous stands that are better able to withstand insect and disease attacks, and that offer good aesthetic values, wildlife habitat and quality forest products. Forest management practices should promote native forest types that enhance diverse wildlife populations and provide wildlife recreation opportunity. Specific management objectives by species are as follows:

1. Oak: The primary objective in these stands will be to promote the growth and retention of large oak and to encourage regeneration. The native dominant oak woodland/savanna tree species are typically managed passively. However, some thinning of the canopy to promote replacement trees as well as understory manipulation and shrub control via harvest, brushing or fire may be needed to mimic natural disturbance patterns. Stands will be managed to create overstory conditions that allow enough light to penetrate the canopy and reach the forest floor to stimulate light dependent understory oak woodland and savanna species that are often suppressed from inadequate light. Secondly, associated hardwoods such as hickory, black cherry and walnut may be retained or promoted at low densities.
2. Central and Miscellaneous Hardwoods: The management objective in these stands is to promote desirable hardwoods, with the possibility to shift them to an oak type if possible, and away from less desirable hardwoods such as black locust and box elder. Brush control is an objective in these areas as well, especially when trying to establish new regeneration.
3. Bottomland Hardwoods: The management objective in these stands will be to promote the growth of desirable tree species (swamp white oak, silver maple, and possibly other tree species) and encourage species other than ash to have a greater presence here. Ash would not be favored due to the presence of the Emerald Ash Borer in the area.
4. Aspen: The management objective for the aspen type will vary by location. In some areas, the aspen will be removed to promote other cover types such as oak or prairie. In some locations the aspen may be harvested to allow other hardwoods present to utilize the growing space. In other sites, the management objective is to promote successful regeneration of aspen in this area for the benefit of wildlife species present and to maintain diversity on the landscape.
5. Conifer stands/plantations: As with the aspen, the management objective for the conifer plantations will vary by location. In some locations, the conifer stands will be eventually harvested and the sites converted over time towards hardwoods (oak, hickory, cherry). In other locations the management will be to maintain healthy conifer stands through periodic thinning.
6. Non-forested areas: Generally the management of the non-forested areas will be to promote prairie vegetation, both for upland and wet prairie community types.

PROPERTY PRESCRIPTIONS *(Identify specific and pertinent prescriptions by area or forest type, including passive management areas, extended rotation, and other information that will help achieve the objectives)*

ALL STANDS – The Wildlife Action Plan describes Priority Conservation Actions that make effective use of limited resources and address multiple species with each action. All proposed forestry prescriptions should reference Priority Conservation Actions, Wildlife Action Plan priorities, property objectives and be based on individual stand level needs.



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

Forest management prescriptions are the same for all three properties, and are described as follows:

- 1. Oaks:** These stands will be managed to promote the oak type by utilizing techniques such as modified shelterwood harvest, thinning, extended rotation and managed old forest coupled with efforts to control invasive brush species. Reserve, or legacy, trees should be retained as groups or individuals throughout the property within harvested stands. Timber harvests will focus on removal of central and northern hardwood species (primarily non-oak and non-hickory species) and aspen, with some thinning of suppressed oak where dense patches occur (leaving largest diameter/crowned individuals) or where small crowned individuals are shading open grown, larger crowned trees. Additional thinning of canopy trees could occur when replacement trees are vigorous, but to a more limited extent than traditional shelterwood harvests. Black cherry and hickory may be retained or promoted as well, but managing for the oak species and its regeneration is the primary objective for these sites. In each case, invasive species control will be performed prior to a harvest in order to promote more desirable conditions for oak regeneration. Supplemental planting may be utilized after brush control and harvesting are completed in order to encourage regeneration of the desirable tree species. Invasive species management will continue at least until the hardwood regeneration is established, and preferably be continued over the long term in order to promote overall health and vigor of the natural community. Invasive species control will involve some combination of mechanical and chemical techniques, possibly including prescribed burning.
- 2. Miscellaneous Hardwoods:** In the miscellaneous hardwood areas, management to convert these sites to more favorable hardwoods will involve harvesting the undesirable tree, species such as black locust and box elder, preparing the site, and then planting desirable hardwoods, again mainly oaks. Funding will have to be pursued for this work, which may involve chainsaw and herbicide work to kill black locust prior to harvest or herbicide work to kill new regeneration of black locust and box elder following a harvest, as well as potential brush mowing to adequately prepare the sites for planting.
- 3. Central Hardwoods:** Management will be focused on promoting the better quality central hardwoods while encouraging a shift towards oak where site conditions allow. This will involve techniques such as thinning and/or shelterwood to remove less desirable tree species, brush control using a combination of cutting or mowing and herbicide, and planting desirable native tree species (especially white and red oaks) in open areas. Oak and hickory will be retained and promoted as much as possible. Openings may be created that can be planted with oak after the harvest. Care will be taken to manage non-native invasive woody species, preferably prior to harvest.
- 4. Bottomland Hardwoods:** Management in these limited areas will involve thinning to remove less desirable species and if conditions allow, tree planting to encourage other bottomland tree species to promote replacement of the green ash. When feasible, care will be taken to manage non-native invasive woody species, preferably prior to harvest.
- 5. Aspen:** For all merchantable aspen stands, clearcutting will be utilized when the stands are to be harvested. For aspen stands scheduled to stay as aspen, the stands will be targeted for harvest at roughly 50-years of age. Aspen will aggressively regenerate after clearcutting, so no planting is necessary. Invasive brush control may be needed in some areas to give the aspen regeneration adequate growing space. In mixed stands where the aspen is to be cut in order to favor other hardwoods, no additional management is necessary after harvesting the aspen. Areas slated for conversion will be clearcut, and then aspen regeneration will be controlled by mowing and/or burning.
- 6. Conifer stands/plantations:** Periodic thinning (roughly a 10-year interval) will be used to promote the health and vigor of these stands. In stands slated for conversion, the objective will be to promote desirable hardwoods present in the stand. A hard transition may be performed at some point, with a harvest of the conifers and planting of desirable hardwoods. Generally in mixed stands, native species such as white pine will be favored over red, jack and Scotch pine.
- 7. Non-Forested Areas:** The primary management tool for the non-forested areas will be prescribed burning to reduce or eliminate undesirable vegetation and to promote the desirable plants. Mowing and possibly grazing, may be utilized as well.



Interim Forest Management Plan

Tichigan, Honey Creek & New Munster Wildlife Areas

PREPARED BY:

Marty [Signature]
Property Manager

8/13/15

Date

APPROVED:

Timothy E. Zytte [Signature]
Area Program Supervisor

08/21/2015

Date

REVIEWED BY:

Michael Siger [Signature]
Forester

4 August 2015

Date

[Signature]
District Ecologist

8/25/2015

Date