

COUNTY FOREST COMPREHENSIVE LAND USE PLAN

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CHAPTER 300

DESCRIPTION OF FOREST AND MANAGEMENT PLANNING

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300 DESCRIPTION OF FOREST

300.1 COUNTY FOREST OWNERSHIP

The County Forest is composed of 10 management compartments ranging in size from 80 acres to nearly 9,434 acres. Within the county forest boundaries approximately 65 percent of the land is county owned with most of the remaining 35 percent in small private holdings. A map of these compartments can be found in the Appendix.

300.2 NATURAL FEATURES

300.2.1 Topography

Within Marathon County there are four major areas with distinct physiographic characteristics resulting primarily from glaciation and the influence of underlying bedrock. The far northern and western parts of the county are broad, nearly level to sloping ground moraines. Harrison-Hewitt, Wisconsin River, and Bern Forest Units have these characteristics. The central part, except for the Wisconsin River Valley, is a mixed area of ground moraines and uplands underlain by bedrock at a depth of two to twenty feet. This area is nearly level to steep. The steeper areas generally are next to major drainage ways. Burma Road and Nine Mile Forest Units fall within this category. The Wisconsin River Valley is composed of nearly level to very steep outwash terraces and nearly level and gently sloping floodplains. The southeastern part of the county consists mainly of nearly level to steep outwash plains and stream terraces and undulating to very hilly moraines and drumlins. Leather Camp, Kronenwetter, and Elderon Forest Units have these characteristics.

The topography of Marathon County is largely controlled by the glacial features and the bedrock. The highest elevation in the county, on top of Rib Mountain, is 1,941 feet. The lowest elevation, at the point where the Wisconsin River flows out of the county, is about 1,100 feet. Most of the elevations in the county range from 1,200 to 1,450 feet. Local elevation differences are generally less than 100 feet. The greatest local elevation difference, about 750 feet, is between the top of Rib Mountain and a nearby terrace in the Wisconsin River Valley.

Most of Marathon County is within the Wisconsin River drainage basin. The western part of the county is drained mainly by the Little Rib, Big Rib, Black, Big Eau Pleine, and Little Eau Pleine Rivers and their tributaries.

The Trappe, Big Sandy, Eau Claire, Bull Junior, Little Eau Claire, and Plover Rivers and their tributaries drain the eastern part of Marathon County. The southeastern part of the county is

within the Wolf River drainage basin.

300.2.2 Geography

Marathon County, the largest county in the state, is located in the north-central portion of Wisconsin and almost entirely in the watershed of the Wisconsin River. There are 1,008,921 acres in the county of which 32,055 acres is made up of water. Approximately 37 percent of the land is classified as forest land. The County Forest, which contains approximately 30,195 acres is the 22nd largest County Forest in the state. A note of interest is that the geographic center of the western half of the northern hemisphere (i.e. the intersection of the 90th longitude and the 45th latitude) lies in the northwest portion of the county. At this point, the county is halfway between the equator and the North Pole and halfway between the prime meridian (Greenwich, England) and the 180th meridian, which makes up most of the International Date Line. Appendix 1000 contains maps showing the location of the forest.

300.2.3 Geology and Soils

The bedrock geology of the county is quite uniform and consists of granite and undifferentiated igneous and metamorphic rocks with scattered quartzite, slate, and iron formations. “Rotten granite” is quite prevalent in the western half of the county. It is used for road topping, base course, and shoulder material for highways. Southward from Wausau lies a 20- to 30-mile wide band along the Wisconsin River which is unglaciated. Its sandy soils were formed by material washed away from the glaciers’ edge. West of this so-called driftless area lays a region covered by earlier ice advances where the glacial ridges and hills have been worn down to gentle slopes. Heavy silt loams cover nearly all of this western part of the county. Lakes and swamps have disappeared. Adjoining the outwash plain on the east is the Wisconsin Terminal Moraine. Silt loam and sandy loam soils predominate in this youthful, hilly sector. Peat and water-filled, kettle-like depressions are scattered between hills. Drainage patterns are poorly defined. A generalized soil map is found in the appendix. Detailed soil information is available from the USDA Web Soil Survey. (websoilsurvey.nrcs.usda.gov).

300.2.4 Biological Communities

Ecological Landscapes are regions in Wisconsin containing similar ecology and management opportunities. Each landscape can present unique management opportunities and challenges. These landscapes are essentially based on the National Hierarchical Framework of Ecological Units (NHFUE) (Cleland et al. 1997). More information on the 16 Ecological Landscapes defined within Wisconsin is available at: <https://dnr.wi.gov/topic/landscapes/index.asp?mode=Choose>

The Marathon County Forest lies within the Forest Transition Ecological Landscape.

Forest Transition Landscape – The soils are moderately well drained sandy loams derived from glacial till, but there is considerable diversity in the range of soil attributes including sandy, organic and loam and silt loam soils. Land cover is highly variable with aspen, birch, hardwoods and pine along with many areas cleared dominated by agriculture.

300.2.4.1 Land Type Associations

Land type associations are units of the National Hierarchical Framework of Ecological Units (NHFEU) classification system. They are much smaller than Ecological Landscapes and are generally based on glacial features. They can be useful for planning at finer scales within a landscape. The following Land Type Associations are present within the Ecological Landscapes of the Marathon County Forest. More information is available at: <https://dnr.wi.gov/topic/landscapes/index.asp?mode=detail&Landscape=11>

Landtype Associations (LTA's) within the subsections include: 212 Qc 01 Abbotsford Moraines, 212 Qd 01 Ackley Plains, 212 Qd 02 Marathon Uplands, 212 Qd 04 Rib Mountain, 212 Qd 05 Dubay Plains, 212 Qd 07 Peplin Uplands, 212 TA 03 Hatley Moraines, and 212 TA 04 Upper Plover River Moraines. LTA's having common ecological characteristics allow land managers to better plan for future vegetative communities, wildlife species to feature, and compatible recreation uses.

300.2.5 Vegetative Cover Types

Approximately 76 percent of the Marathon County Forest Land base is forested. Forested uplands are comprised of primarily aspen, northern hardwoods, red pine, oak, white birch, balsam fir, spruce, and jack pine, while bottomland hardwoods, tamarack, black spruce, and cedar occupy the forested lowlands. The remainder is classified as non-forested; including types such as wetlands, lowland shrubs, upland shrubs, bogs, minor lakes, streams, grassy openings, trails, roads, rock outcroppings, utility rights-of-way, and developed recreation facilities. The County Forest is composed of nearly 30,195 acres, with 22,665 acres classified as commercial forest. The aspen type alone composes approximately 66 percent of the total commercial forest acreage. The different cover types present on the Marathon County Forest are detailed in the appendix.

The great majority of the forest (78%) is located in the eastern one-half of the county. The remaining blocks, Nine Mile, Burma Road, and Bern Forest Units (22%) are located in the western half of the

county. Maps showing the location of the County Forest are in the appendix.

FORESTED COMMUNITIES

The forested cover types are made up of a variety of size classes (regeneration, sapling-pole, and saw timber) and structure (canopy, layers, ground vegetation, dead and downed material and inclusions).

Forest cover types associated with the County Forest are:

<u>Commercial</u>	<u>Acreage</u>
Aspen	14,892
Northern Hardwood	1,616
Red Maple	1,889
Red Pine	911
Oak	2,606
White Birch	19
Fir – Spruce	227
Swamp Hardwoods	172
Jack Pine	14
White Pine	153
Swamp Conifer	<u>166</u>
Total Commercial	22,665

NON-FORESTED COMMUNITIES

Non-forested habitats are important components of management within the County Forest.

Upland and wetland non-forest types provide important habitat for distinct groups of species.

Non-Forest Cover Types

<u>Non-Commercial</u>	<u>Acreage</u>
Alder	5,547
Willows	69
Minor lakes, streams & flowages	384
Lowland grass	353
Upland grass	351
Upland brush	58
Rock outcrop	1
Farm land	56
Marsh or muskeg	53
Right of Ways	102

Parking Areas	31
Nature or Hiking Trails	68
Motorized Vehicle Trails	<u>127</u>
Total Non-Commercial	7,200

Upland Non-Forest

Upland non-forest areas of the County Forest include:

Grass openings - consist of upland grasses such as brome, quack, bluegrass, timothy, big and little bluestem, and Indian grass.

Herbaceous vegetation - ground cover predominated by herbaceous species with bracken fern, sweet clover, giant ragweed, sting nettle, upland aster, goldenrod, and prairie dock being common.

Shrub opening - primarily upland site less than 10% stocked with tree species but having 50% or more of the area stocked with taller growing, persistent shrubs. This includes hazel, dogwood, juneberry, sumac, alder, willow, and prickly ash.

Rock outcrops - include rocky talus and bedrock.

See Chapter 830 for detailed discussion on Biological Community Types.

Wetlands

Wisconsin State Statutes define a wetland as “an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation, and which has soil indicative of wet conditions.” Wetland communities are recognized to be a complex association of plants and animals, soils and water levels having special natural values. They provide many functional values including shoreline and flood protection, water quality protection, groundwater recharge, and animal and plant habitat. Therefore, it is the policy of Marathon County to preserve, protect, and manage wetlands under its jurisdiction in manner that recognizes the natural values of wetland and their importance on the environment. Scientists distinguish dozens of wetland types, characterized by vegetation, soil type and degree of saturation or water cover. Some of the more prominent types found on the County Forest include:

Aquatic bed - plants growing entirely on or in a water body no deeper than 6 feet. Plants may include pondweed, duckweed, lotus and water-lilies.

Marshes - characterized by standing water and dominated by cattails, bulrushes, pickerelweed, lake sedges and/or giant bur-reed.

Sedge or “wet” meadows - these wetlands more often than not have saturated soils rather than standing water. Sedges, grasses and reeds dominant, but may also have blue flag iris, marsh milkweed, sneezeweed, mint and several species of goldenrod and aster.

Scrub/shrub - these areas, which include bogs and alder thickets, are characterized by woody shrubs and small trees such as tag alder, bog birch, willow and dogwood.

Forested - these areas, include bogs and forested floodplain complexes, are characterized by trees 20 feet or more in height such as tamarack, white cedar, black spruce, elm, black ash, green ash and silver maple.

Forest management is conducted on many of the forested wetlands with activities occurring primarily during frozen conditions. See Chapter 830 for detailed discussion on Biological Community Types.

300.2.6 Fish and Wildlife

Wisconsin supports over 650 different types of mammals, birds, reptiles, amphibians and fish as well as millions of invertebrates. Management of county forest lands and the biotic communities they support provide a mix of habitat types and ages for a wide range of wildlife species. Each species, or interacting group of species, do best under different conditions. County forest lands provide a full range of habitats from open grasslands/barrens to mature forests, from bogs to forested wetlands, from spring ponds to lake shorelines. County forest staffs work closely with WDNR fish and wildlife managers and conservation organizations to identify and manage critical habitat for breeding, migrating and wintering fish and wildlife.

While the Marathon County Forest provides for a wide range of fish and wildlife species, current management strategies or programs have emphasized the following species and/or communities:

Bern Wetland Management

Marathon County purchased the 269-acre Bern Wetland to develop a waterfowl flowage (impoundment). The DNR is responsible for managing the flowage and maintaining the dam.

Forest stands next to the flowage will be managed for a natural appearance. Forest stands will also be managed to develop old trees and especially maintain trees with cavities for birds and mammals.

Bitzke Waterfowl Refuge Management

The Bitzke Refuge is an area of about 300 acres with flowages (impoundments) developed for waterfowl production and protection as a cooperative project between Marathon County and the Wisconsin Department of Natural Resources with funding from Ducks Unlimited, Wisconsin Waterfowl Association, Marathon County, and DNR. The Wisconsin Conservation Corps assisted with nature trail development.

The refuge will be maintained in a condition which will promote the development of a complete wetland ecosystem featuring waterfowl. Interpretive signs, boardwalks, benches, an observation tower, and flowage structures were developed to enhance the use of the area by the public.

The visual horizon (from the top of the observation tower) will be maintained in as naturally appearing condition as possible. The DNR may use artificial nesting platforms and boxes or other wildlife management techniques within the refuge.

Ruffed Grouse Area Management

Marathon County in cooperation with the Ruffed Grouse Society and the Department of Natural Resources has developed a special ruffed grouse management area in the Leather Camp Forest Unit north of the Little Eau Claire River (approximately 3,163 acres). The primary intent of this project is to maintain intolerant forest types, primarily aspen, in stand sizes less than 20 acres when feasible, with a variety of size and age classes to promote ruffed grouse, American woodcock, and other species associated with the aspen forest.

Marathon County has developed and will maintain a trail system to allow the harvest of small areas. These trails will remain closed to motorized use except for approved snowmobile or ATV trails in winter and by permit for persons with disabilities, or other contract or permit (timber management, beaver control, etc.).

Although aspen management will dominate this area, appropriate aesthetic management practices will be used to reduce negative visual impacts from aspen regeneration harvests.

300.2.7 Rare and Endangered Resources

A review of the Natural Heritage Inventory (NHI) indicates the presence of a number of rare species, natural communities and unique natural features on the Marathon County Forest. All land disturbing projects will include an evaluation phase, to determine whether an NHI screening is required.

The Natural Heritage Inventory Database is the most comprehensive source of rare species data for Wisconsin. These data are used for a variety of purposes including research, land management, state land master planning, community planning, conservation planning and review of public and private activities across the state. The NHI Portal is currently available to DNR staff and County Forest staff who hold a data sharing license.

The Wisconsin Historical Preservation Database is the most comprehensive source of cultural resources for Wisconsin. These data are used for a variety of purposes including research, land management, state land master planning, community planning, conservation planning and review of public and private activities across the state. The Wisconsin Historical Preservation Database is currently available to DNR staff and County Forest staff.

300.2.8 Water

Marathon County also has no streams which are classified as Outstanding and Exceptional Resource Waters.

Marathon County has 32,055 acres of water, involving 18 lakes, 6 major flowages, and 643 miles of streams. Within the boundaries of the Forest, there are few fishery resources.

There are 18 small wildlife flowages within the County Forest boundaries which are managed for waterfowl. In addition, the County owns frontage on the Wisconsin River, and Four Mile Creek and Black Creek, which are named trout streams, and several unnamed feeder streams. A complete inventory of the surface water resources in Marathon County can be found in the appendix.

Marathon County has no streams which are classified as Outstanding and Exceptional Resource Waters. Note: An entire listing of the outstanding and exceptional resource waters can be found in Wisconsin Admin. Code NR102.10 and 102.11.

300.3 CULTURAL FACTORS

300.3.1 Economy

The importance of the County Forests to Wisconsin's economic health continues to rise. County

Forests sustain over 60,000 full-time jobs derived from logging, trucking, paper production, manufactured building materials, and lumber. Many other jobs are created in such businesses as the expanding printing industry and are located far from the forested northland. County Forests contribute to the 24 billion dollar forest industry in Wisconsin.

In addition, the lands managed by these 29 counties provide an important recreation resource to complement our state's valuable tourism industry. Tourists spend valuable money at local businesses. By providing 2.4 million acres of public recreation land, we bring tourists to our state. As population increases and public access to privately owned forestland decreases, the need for accessible lands unquestionably will assume an ever more important role. More information on the economic impact of the County Forest program can be found at

<https://www.wisconsincountyforests.com/>

Production of forest products and spin-off industries derived from the recreational opportunities on the Forest and the forest products it produces are vitally important to Marathon County's economic well-being. Forest industry is the #2 ranked employer in the County. Recreation is ranked # _____.

This information can be found at the following link:

<https://dnr.wi.gov/topic/forestbusinesses/factsheets.html>.

300.3.2 Education and Research

Education and research continue to be critical components in making decisions that affect our natural resources. As public needs and demands on our forest and its products increase, we must be prepared to assure that sound decisions result. To this end, Marathon County encourages and supports research efforts that relate to the forest, and educational opportunities that will promote a better understanding of forest communities and management.

300.4 OTHER PUBLIC LANDS OWNERSHIP

Marathon County Forest doesn't share any common boundaries with other public lands within the County. The Harrison-Hewitt Forest Unit abuts the Langlade County Forest Ackley Wildlife area. Some trails are connected providing users to move from one forest to another. Marathon County will continue to seek additional opportunities with Langlade County in the best interests of the public.