

COUNTY FOREST COMPREHENSIVE LAND USE PLAN

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CHAPTER 600

PROTECTION

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600 PROTECTION

OBJECTIVE

To protect and manage the resources of the forest from preventable losses resulting from fire, insects, diseases and other destructive elements including those caused by people. Protective methods shall include proper silvicultural methods.

605 FIRE CONTROL

Damage to the forest caused by uncontrolled fire can create an important challenge in the management of the forest. Loss of resource values caused by fire will be minimized through organized prevention, detection and suppression methods. Maintaining a healthy forest is key to fire management. The DNR is responsible for all matters relating to the prevention, detection and suppression of forest fires outside the limits of incorporated villages and cities (s.26.11(1), Wis.Stats). The DNR works cooperatively with local fire departments in all fire control efforts. Marinette County Forest is part of an Intensive Forest Fire protection area. The Fire Prevention Handbook No. 4310.5, Fire Presuppression Handbook No. 4320.5, the Fire Management Handbook No. 4325.1 and the Area Fire Plan shall serve as the guidelines for fire control activities.

605.1 COOPERATION WITH THE DEPARTMENT OF NATURAL RESOURCES

Pursuant to s. 26.11(4) and s. 28.11(4)(f), Wis. Stats., and of the Marinette County Forest Ordinance, the county may cooperate with the DNR in the interest of fire prevention, detection and suppression on the County Forest. This is accomplished through Memorandum of Understanding and Agreement as signed with DNR. See MOU in Chapter 915.3.

605.1.1 Personnel

County Forest personnel, upon request from the DNR, shall be made available for forest fire control efforts within the county in accordance with an established memorandum of understanding (MOU). The DNR is responsible for training and directing the activities of county personnel in accordance with the rules identified in the Area Fire Action Plan.

605.1.2 Equipment

County Forest equipment, upon request and as identified in the MOU, shall be available for forest fire control suppression. During periods of high fire hazard, all County Forest vehicles and/or crews should be equipped with one or more back pack cans, axes or shovels, appropriate personal protective equipment, mobile communication and any other equipment deemed essential by the MOU. All hand tools shall be maintained and provided by the DNR.

605.1.3 Fire Detection

Fire detection is the responsibility of the DNR. County Forestry personnel shall assist and report any wild fires to the DNR, local fire department, or 911 Dispatch. Numerous fire lookout towers are strategically located throughout Marinette County and provide for early detection on Marinette County Forest primarily during the months of April and May. These towers include Beaver, Bagley, Thunder Mountain, Middle Inlet, Cedarville, Goodman, and Dunbar.

605.1.4 Forest Fire Prevention

DNR fire control personnel are authorized by the county to place fire prevention signs at recreational areas and other strategic locations within the forest. The County conducts and controls all operations (including harvesting) on the forest in a manner designed to prevent forest fires. The use of the county forest during high fire danger periods may be restricted. These restrictions will include, but not be limited to, recreation and logging. DNR fire control personnel will consult with Marinette County as to whether these restrictions will be necessary or not.

605.2 SLASH DISPOSAL

Timber sale contracts will be designed to meet or exceed the requirements of the Slash Disposal Law, s. 26.12, Wis. Stats. Additional requirements may be imposed as necessary.

605.3 DEBRIS BURNING

Unauthorized burning of debris will not be permitted on County Forest Lands pursuant to s. 26.12(5), Wis. Stats. Authorized burning of debris on County Forest will be performed

under the authority of a special burning permit, in accordance to NR Code 30. The County Forest will provide the necessary manpower and equipment to conduct the burning, and the DNR and/or the County will notify the appropriate fire department and the sheriff's department of such burning operations.

605.4 CAMP FIRES

Adequate fireplaces will be provided at designated recreation sites. During periods of high fire danger, use of campfires may be restricted.

605.5 PRESCRIBED BURNING

All prescribed burning on County Forest lands will follow the DNR recommendations. See Prescribed Burn Handbook No. 4360.5 for details. Prescribed fire may be an effective management tool in establishing regeneration or restoring unique habitats, which support endangered and/or threatened resources on the County Forest.

605.6 COUNTY FOREST FIRE HAZARD AREAS

Primary emphasis will be placed on fire control efforts in pine areas. Maps of these areas are on file at the local DNR field office and county forest office. Firebreaks and access ways will be established in new plantations as determined necessary after consultation with DNR. Existing access roads, firebreaks and water access points will be maintained as deemed necessary. Secondary emphasis will be placed on hardwood areas with no firebreaks developed or maintained. However, access roads will be maintained as defined in Chapter 700 of this plan.

605.7 UNCONTROLLED FIRE

Any uncontrolled or non-prescribed fires on the County Forest will be suppressed as soon as possible. Marinette County Forestry personnel and equipment will assist the Department of Natural Resources with suppression efforts. Cooperation in forest fire suppression and training between Marinette County Forestry and the Department of Natural Resources will be spelled forth through a signed Memorandum of Understanding and Agreement with these two agencies. Refer to Chapter 915.3.

610 CONTROL OF FOREST PEST & PATHOGEN

610.1 DETECTION

Damage to the forest caused by insects, other pests and diseases can adversely affect management of the forest resources. Losses to resource values impacted by forest pests will be minimized through integrated pest management methods, with emphasis on silvicultural prescriptions (timber sales). The detection and control of pest problems will be accomplished by county and DNR personnel in cooperation with other agencies.

610.2 PEST SURVEYS

Pest surveys are conducted under the direction of the DNR's regional entomologist. The DNR works in cooperation with the Wisconsin Department of Agriculture Trade and Consumer Protection (DATCP) in monitoring the gypsy moth population. The County may cooperate by providing personnel and equipment to assist in these operations.

610.3 INTEGRATED PEST MANAGEMENT

Integrated pest management for the purpose of this Plan, is defined as follows:

“The maintenance of destructive agents, including insects, at tolerable levels, by the planned use of a variety of preventive, suppressive, or regulatory tactics and strategies that are ecologically and economically efficient and socially acceptable.”

The integrated pest management control and methodology shall be determined jointly by the county forest administrator, and DNR liaison forester in consultation with the DNR regional entomologist and regional forester. Suppression of forest pests may include the following:

- 1) Silvicultural prescriptions, including timber sales.
- 2) Biological control.
- 3) Chemical control.

610.3.1 Specific Pests and Pathogens of Interest.

610.3.1.1 Gypsy Moth Strategy

Gypsy moth (*Lymantria dispar*) is an introduced pest that has progressed westward from

the northeastern United States since the late 1800's. It reached eastern Wisconsin and has been widespread in some counties since 1988. Despite efforts to slow-the-spread and suppress outbreaks, it is progressing westerly through Wisconsin. The Marinette County Forest's strategy to combat this defoliating insect will focus on using silvicultural techniques to maintain and improve forest vigor, so as to decrease the likelihood and severity of mortality following defoliation. In addition, suppression spraying with approved insecticides may be considered in high use recreation areas and stands containing a high percentage of susceptible, high valued timber, if gypsy moth populations are high enough. Biological controls have been introduced and new control agents may also be available in the future for introduction to help reduce the length of an outbreak. Areas where suppression may be considered are identified in Chapter 900.2.

The presence or discovery of threatened or endangered species in suppression areas may impact both the type of treatment and the decision to apply suppression tactics. Current insecticides for gypsy moth control include a bacterial insecticide (Btk) and a commercial formulation of a naturally occurring virus (Gypchek). The Gypchek virus, specific to gypsy moth larvae, is only available through the federal suppression program administered by the DNR. The intent in combating this insect is not to eradicate it, but rather to reduce gypsy moth populations so that tree mortality is maintained at tolerable levels. The DNR's regional gypsy moth coordinator and entomologist will be available for consultation on control tactics and possible suppression procedures. DATCP is the agency responsible for quarantine procedures for wood products from infested counties; Marinette County is in the quarantine area.

Marinette County Forest's threshold levels for suppression will be as follows:

Note: The first two bullets listed below meet threshold standards for the Gypsy Moth Suppression program administered by the DNR.

- 20 acres in size and of a compact and regular shape (minimum eligible size for aerial spraying through the state suppression program)
- 500 egg masses per acre, based on 1/40th acre (18.6 ft. radius) plots, for the high use areas, or 1000 egg masses per acre for rural land
- high use or developed recreation areas

- Located in one of the susceptible areas identified on the Marinette County gypsy moth suppression map found in Chapter 900.2.

610.3.1.2 Jack Pine Budworm

Jack pine budworm, *Choristoneura pinus pinus* Freeman, is a native needle-feeding caterpillar that is generally considered the most significant pest of jack pine. Vigorous young jack pine stands are rarely damaged during outbreaks. The most vigorous stands are well stocked, evenly spaced, fairly uniform in height, and less than 45 years old. Stands older than 45 years that are growing on very sandy sites and suffering from drought or other stresses are very vulnerable to damage. Tree mortality and top-kill are more likely to occur in these stands. This mortality and top-kill create fuel for intense wildfires. It will be Marinette County's strategy to harvest at the appropriate rotation age, maintain high stand densities (without overcrowding), and use good site selection for jack pine. This will be an effort to help avoid budworm-caused tree mortality and reduce the threat of damaging wildfires while still providing suitable conditions for jack pine regeneration. Prompt salvage following an outbreak will also help reduce the possibility of wildfire. Use of insecticides is not warranted in combating this forest pest on the County Forest.

610.3.1.3 Oak Wilt

Oak wilt, *Ceratocystis fagacearum* (Bretz) Hunt, is a destructive disease of oak trees. It is responsible for the death of thousands of oak trees in forests, woodlots, and home landscapes each year. Oak wilt is caused by a fungus that invades and impairs the tree's water conducting system, resulting in branch wilting and tree death. Trees in both the red oak group and white oak group are affected. There is no known cure once a tree has oak wilt. Prevention of new oak wilt infection centers is the best management option and involves avoiding injury to healthy trees and removing dead or diseased trees. Dead or diseased trees that are cut and still have tight bark should be debarked, if debarking is not an option the wood should be processed promptly or completely covered with heavy plastic for 1 year to prevent insects from accessing the fruiting bodies of the fungus. Healthy trees should not be pruned during the growing season as this attracts beetles that may carry the oak wilt fungus. If pruning is necessary, or damage is incurred during the growing season, e.g. through construction activities or storms, the wounds should be

painted immediately with wound paint.

610.3.1.4 Forest Tent Caterpillar

Forest tent caterpillar, *Malacosoma disstria* Hubner, can be found throughout the United States and Canada wherever hardwoods grow. The favored hosts in Wisconsin are aspen and oak. This native insect causes region-wide defoliation at intervals from 10 to 15 years; outbreaks usually last 2 - 5 years in the Lake States. Severe and repeated defoliation can lead to dieback and/or reduced growth of affected trees, which in some instances may be significant. Healthy, stress-free trees are less likely to be negatively effected by repeated defoliation. Populations are often controlled by natural enemies, helping the population crash. Aerial spraying of insecticides, including Btk can be an option for control as well. It will be Marinette County's strategy to employ sound silvicultural practices to combat this cyclic pest.

610.3.1.5 Two-lined Chestnut Borer

The two-lined chestnut borer, *Agrilus bilineatus* (Weber), is a common secondary pest in oak trees which have been severely stressed or defoliated several years in a row. Oaks that have been defoliated by insects such as gypsy moth (*Lymantria dispar*), fall cankerworm (*Alsophila pomataria*), and forest tent caterpillar (*Malacosoma disstria*) can be attacked and killed by the two-lined chestnut borer, which feeds in the phloem layer and bores under the bark to girdle the tree. Prevention of two-lined chestnut borer is the best management option. Marinette County will strive to maintain healthy trees through sound silvicultural practices to discourage infestation. Infestations will be salvaged promptly.

610.3.1.6 Emerald Ash Borer

Emerald ash borer, *Agrius planipennis* is a small, metallic-green beetle native to Asia. This exotic beetle feeds on ash trees in the phloem and outer sapwood. Adults emerge in late May thru June. Females lay from 65 to 90 eggs, which hatch in 7 to 10 days. Larvae chew through the bark and into the cambial region where they remain until pupation in May. Infestation is difficult to detect until dieback of canopy begins. Signs of infestation include the presence of metallic-green beetles about half the diameter of a penny on or

around ash trees, thinning and yellowing leaves, D-shaped holes in the bark of the trunk or branches and shoots growing from the base of the tree. Branches will die once they are girdled by the serpentine tunnels losing 30 –50% of the canopy in year one and killing the entire tree in year 2-3.

Since the emerald ash borer was first confirmed in the Midwest in the summer of 2002, more than 20 million ash trees are dead or dying. Infestations have been discovered, during 2006, in upper Michigan and in Illinois near Wisconsin. The emerald ash borer typically moves only short distances by flying, but can survive long distances in transit on ash nursery stock, ash logs, branches and firewood. To avoid the accidental introduction of the beetle to new areas, people are advised to purchase only locally-grown nursery stock and locally-cut firewood. During the summer of 2006 the State of Wisconsin and Marinette County Parks have enacted emergency rules prohibiting transport of out of state firewood into DNR and County Properties.

610.3.1.7 Pine Shoot Beetle

Pine shoot beetle, *Tomicus piniperda* L is an introduced pest of pines. It was first discovered in the US at a Christmas tree farm near Cleveland, Ohio, in July 1992. A native of Europe, the beetle attacks new shoots of pine trees, stunting the growth of the trees. Scotch pine is the principle host, but other pine species are susceptible. The pine shoot beetle may also attack stressed pine trees by breeding under the bark at the base of the trees. The beetles can cause severe decline in the health of the trees, and in some cases, kill the trees when high populations exist. Pine shoot beetle has been discovered in a trap in Marinette County, which is listed under quarantine status since 2005. The goal of APHIS Plant Protection and Quarantine (PPQ) is to define the extent of the pine shoot beetle infestation and limit its artificial spread beyond the infested area through quarantine and an active regulatory program.

610.3.2 Funding

Desired control activities on the County Forest will be funded through the county forestry budget if other sources of funding are not available. In the event costs require additional

funding, special appropriations from the Contingency Fund will be sought. In addition, state legislation may provide monetary assistance in direct crisis situations where major control operations are undertaken. In case of gypsy moth outbreaks, the county may seek cost-shared funding from the State of Wisconsin Gypsy Moth Suppression Program.

610.3.3 Legal Obligations

All control operations will comply with regulations as set forth in existing state and federal legislation. Refer to Wisconsin Administrative Code NR80, AG.29, and the Environmental Pesticide Control Act.

610.3.4 Special Projects

The County may cooperate with other agencies in forest pest research. See Chapter 200.

615 TIMBER THEFT

All cases of alleged timber theft on the county forest shall be investigated and resolved promptly. An allegation of theft by cutting and /or removing timber from the county forest does not alleviate the county from payment under s. 28.11 (9) Wis.Stats. The county will collect damages pursuant to s. 26.05 Wis. Stats. and may also pursue criminal charges under s. 943.20 Wis. Stats. and /or seek civil damages.

615.1 TIMBER THEFT INVESTIGATION

The following procedure should be used in all cases of alleged timber theft:

(1) Determination of Theft

(a) Gathering facts - The county, through its sheriff's department and along with assistance of the DNR liaison, rangers and wardens, will ascertain the facts pertinent to the alleged theft, including determination of the damages to the county. Legal counsel representing the county should be involved in all aspects of investigation. Property involved in the alleged theft may be seized pursuant to s. 26.04 Wis. Stats. for use as evidence.

(b) Boundary determination -If property boundaries are involved, the county shall conduct a legal survey of the boundary in question.

620 ENCROACHMENTS

The county will actively investigate all suspected cases of encroachments on the County Forest. To insure the integrity and continuity of the County Forest land, all cases will be dealt with promptly and in a consistent manner. The following procedures will be used in all cases of suspected encroachments:

- (1) The county will establish property boundaries; if necessary, a legal survey will be conducted.
- (2) The county will gather all facts.
- (3) The Committee, in consultation with the forest administrator, county legal counsel, and the DNR, will make a decision as to the disposition of the case.
 - (a) All above ground encroachments that are movable will be removed from county property.
 - (b) Permanent type facilities, such as homes, garages, and septic systems shall be addressed individually and may be removed or handled by a land use agreement. Sale or transfer of the encroachment should remain an option depending on the circumstances involved and the viability of an adverse possession claim (s. 893.29 Wis. Stats.).
 - (c) Provisions in the land use agreement, if that option is pursued, may include granting the encroacher permission to encroach on the County Forest lands with the following stipulations: no other encroachments will be allowed; the permit is non-transferable; the county must be notified once encroachment is terminated; county continues full ownership and control of property; permittee agrees to waive any rights to any future declaration of ownership or interest in the encroached county property; county reserves the right to cancel the permit and the permit is to be filed in the office of the County Forestry Department and all fees related to the land use permit shall be paid by the permittee.
 - (d) A copy of the actual Land Use Agreement can be found in Chapter 915.4.