FOREST PEST MANAGEMENT POLICY

A. Enabling Acts

Under the general authority of Act 17, P.A. 1921, the Department of Natural Resources is charged with protecting the natural resources of the State of Michigan.

Public Law 95-313, known as the Cooperative Forestry Assistance Act of 1978, authorizes the Secretary of Agriculture, with respect to non-federal forest lands, to assist in the prevention and treatment of insects and diseases affecting trees and forests.

B. Policy

The Department of Natural Resources, Forest Management Division, is responsible for the detection, evaluation and non-regulatory control of all forest pests on state forest lands administered by the DNR. In addition, Forest Management Division conducts pest detection and evaluation programs on private lands. Technical assistance regarding the need for control, and appropriate control efforts and procedures, is also provided to private forest landowners. The policy of Forest Management Division is to cooperate fully with other federal, state, and private agencies in carrying out these responsibilities.

C. Explanation

A major proportion of tree mortality and growth loss in Michigan's forests is caused by insects and diseases. Additionally, forest pests can create hazards and nuisances to people in forest recreation areas. Through Forest Pest Management (FPM), these losses can be reduced and forest resource production and utilization can be increased and enhanced.

The philosophy of FPM is based on principles of ecology and guided by socio-economic conditions. The FPM philosophy calls for treating a pest only when and where needed and in a manner that optimizes the natural mortality factors in the ecosystem. It emphasizes the need for input from a variety of specialists.

FPM is an integral part of total forest resource management. The FPM decision-making framework begins by identifying key values associated with the forest. Management objectives are defined and a program is established for managing individual stands. Potential pests are identified in the managed stands and their potential effect is assessed. Surveys are used to monitor pest populations and stand conditions. This information helps determine the need for treatment.

FPM activities are conducted under two time frames. Under a long-term time frame, existing or potential stand conditions or management activities which may encourage insect and disease problems are identified. Alternatives which would prevent or discourage insect and disease problems are then recommended.

Under a short-term time frame, the forest is actively monitored for the presence of unacceptable levels of insect and disease pests. Based on pest abundance and stand conditions, hazard posed to the forest is estimated. If this hazard would interfere with the planned use(s) for the compartment, then the benefits and costs of available treatment alternatives are compared. Based on this analysis, economically and socially sound alternatives are recommended to minimize the impact of the insect or disease problem.

D. Procedure

1. Long-term time frame - 10 to 100 years

Review stand conditions and management plans. FPM specialists and trained field personnel examine forest compartments in conjunction with the Operations Inventory Program. Through this review, the susceptibility or risk of stands to insect and disease related problems is determined.

Develop prognosis. When current conditions or proposed management activities increase stand risk to pest problems, the specialist estimates the potential damage that the insect and disease pests pose to the host trees. The FPM specialist also determines whether the potential damage would pose a threat to the intended uses of the stand.

Identify prevention alternatives. The FPM specialist identifies alternative management options which may help prevention or minimize the pest problems. These recommendations are provided to the District and Area Forest Managers.

Review management decisions. Management decisions are reviewed to evaluate their efficiency and effectiveness. The reviews may result in modification of management practices. The pest management data base (see Item 3 below) facilitates the review and decision-making process.

2. Short-term time frame - 1 to 10 years

Survey and monitor. Selection of stands for surveillance and monitoring is based on stand value and vulnerability to pests, history of pest problems in the stand, and reports from Forest Management Division field personnel. Timely detection and monitoring of pests depend largely on this input from field personnel and seasonal pest scouts.

Evaluate damage. The FPM specialist analyses the pest information from surveillance efforts and estimates amount of damage to be expected from pests.

Identify management alternatives. If the prognosis indicates that management objectives would be affected significantly by the pest(s), then appropriate management alternatives are identified. Three categories of tactics are available: 1) do nothing, 2) pest-directed tactics, and 3) forest-directed tactics.

Compare and select alternatives. Each management alternative has associated costs and socio-economic outcomes. The do-nothing alternative is used when the economic, social, or environmental costs of the proposed alternatives would exceed the expected benefits.

Pest-directed tactics increase mortality in the pest population. By increasing mortality, the economic damage to the forest is reduced. Currently, the primary pest-directed tools used against forest pests are chemical pesticides and biological pesticides.

Forest-directed tactics take advantage of the interrelation of forest stand dynamics with pest populations. Manipulating forest stand dynamics is a way to influence pest populations to prevent damage to forest resources. For example, pre-salvage cutting can remove a high proportion of merchantable timber before significant damage occurs. Also, removal of vegetation which serves as alternate hosts can help prevent the build-up of populations of certain pests.

Implement and evaluate options. Management alternatives are presented to the District and Area Forest Managers. Strategies are evaluated and their outcome is input to the data base management system.

3. Data base management

Effective detection, monitoring, and evaluation require the input and maintenance of a FPM data base. The data base is maintained by the regional FPM specialists. Data are acquired during routine and special examinations by trained field personnel, FPM specialists, and pest scouts. These data are integral to the FPM planning and implementation functions. Compatibility with the Operation Inventory Program is facilitated through the regional forest management computer.

4. Training

FPM specialists periodically conduct training programs for field personnel. The objectives of the training activities are: (1) to increase field personnel awareness of FPM practices and procedures, (2) to increase knowledge and improve skills in survey techniques, and (3) to provide updates on the current and projected status of forest pests. A major function of training is to ensure that FPM practices are implemented in a safe and timely manner so that pest problems are managed efficiently and effectively.

Approved By _____ 6-14-88
Deputy Director, Resources Date