

Are Voles Eating Your Trees?

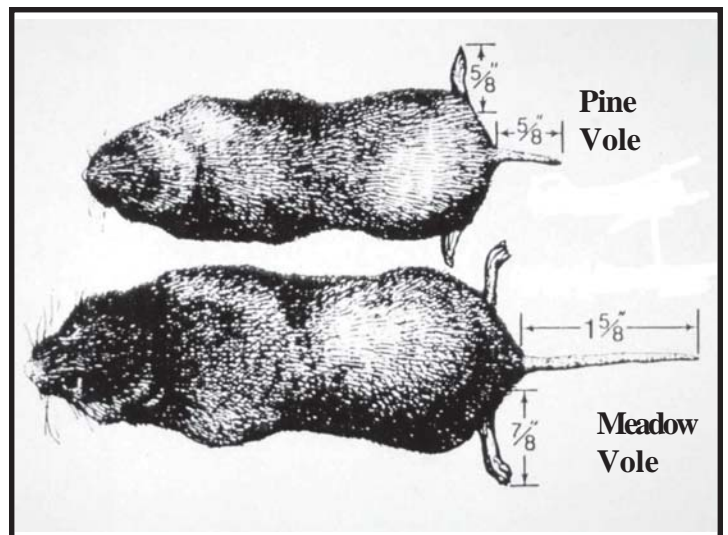
Since 1997, 9,501 acres of trees have been planted in Maryland. Incentive programs such as the Conservation Reserve Enhancement Program (CREP) have been responsible for 7,542 of those acres. The survival of seedlings and saplings in young forest plantations is critical and many factors may contribute to poor survival. Mortality of forest plantings caused by rodents, especially voles, can be a significant but misunderstood cause in some plantings. Landowners and foresters alike are often not aware of the damage voles can cause and are surprised when they discover survival of planted trees is dramatically reduced over the winter and small trees are chewed off at ground level or root systems totally destroyed.

Understanding how to identify vole habitat and damage, their potential for damage to forest plantations, and ways to minimize the problem can increase the survival and success of forest plantings. Voles are small mouse-like rodents that eat roots, bark and bulbs and can cause significant damage to hardwood and pine seedlings and saplings, orchards, nurseries and landscapes. The meadow vole and the pine vole are found in Maryland.

The meadow vole, also called the meadow mouse, is a small, compact rodent, 4.5 to 7 inches long, with small round ears and a tail about twice the length of the hind foot. Meadow voles live in grassy habitats where they

construct a complex network of surface runways. They also sometimes dig burrows and nest underground.

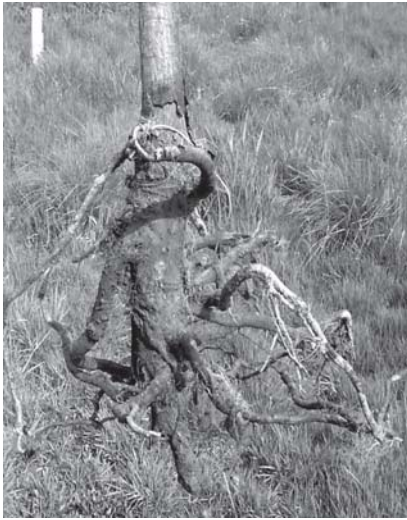
The pine vole, also called the pine mouse, is 4 to 5 inches long, with a shorter tail, smaller eyes and a blunter nose than the meadow vole. It spends nearly all its life in an extension system of trails and burrows, 1 inch to 2 feet below ground, and is harder to find and control. Moles and shrews often are confused with voles, but these animals primarily feed on soil insects and worms and do not damage plants.



During the growing season, voles eat green vegetation and fruits and pose little problem to woody plants. However, in the fall and winter when green vegetation is gone, voles change their diet to the more available woody roots, stems and bulbs. Voles kill trees by girdling the stem, (eating the bark at ground level) and eating the roots. Since voles are prolific reproducers, with up to ten litters each year, their populations can increase dramatically over the summer with good habitat.

Survival counts of forest planting are usually done in the fall when voles are just beginning to change their diet. Many landowners and foresters are surprised to find a plantation with 90 percent survival in the fall reduced to

30 percent the next spring due to vole damage.



The first step in managing vole populations is to determine their presence, preferably prior to planting the trees. Voles are a greater problem in old pastures and fields with existing habitat that may already support a vole population. Planting

trees in this environment, combined with the lack of vegetation control, can lead to a rapid increase in an existing small vole population.

To positively identify if you have meadow voles, look for surface runways in long grass. Active runways will have grass clippings and small piles of droppings that resemble grains of rice. Pine vole evidence features entrance holes to their underground runways about 1-1/2 inches in diameter with small piles of earth and can be found near tree trunks and along the edges of mulched beds. Snap traps baited with apple or peanut butter and placed in surface tunnels can catch some of the rodents and provide the needed positive identification.

Control options for voles fall into four main areas:

1) **Cultural methods** - apple growers learned long ago that herbicide strips down the row of trees reduces habitat and exposes voles to predators. Mowing the grass in between these strips also helps. The vegetation in many riparian buffer plantings, when allowed to grow, only provides better habitat, especially if voles are present already.

2) **Encouraging predators** - owls, hawks, foxes,

and other animals can eat large numbers of voles. The cultural methods above expose voles to predators. If perching sites for hawks and owls are lacking, installing tall poles (10-15 feet) with a crossbar on top in the plantation may help.

3) **Trapping methods** - in home landscapes, mouse-traps baited with apples and placed on a 10-foot grid can effectively trap out voles from small beds. But this is not realistic in forest plantings.

4) **Chemical methods** - the use of poisonous rodenticides is necessary in some cases to control acute population outbreaks of voles so that at reduced levels, they can later be managed using the methods described above. Rodenticides should be used only by commercial pesticide applicators. Zinc phosphide is the most widely used and effective rodenticide. The material is usually broadcast on the site or put in bait stations in the fall when vole populations are at their peak and the potential for winter damage to woody material is likely. Voles are most likely to bait at this time because summer's vegetation is gone. Zinc phosphide is eaten by the voles and forms a phosphide gas in the stomach that kills the rodent instantly. The gas dissipates so that there is no danger of secondary poisoning to owls or other predators.

Vole populations should be assessed when a planting plan is being developed; during the survival check in the fall after planting, or after any large increase in tree mortality. Voles are not a problem on all sites, but old pastures and fields provide opportunities for problems. The proper use of rodenticides is necessary to deal with acute vole problems that can dramatically increase mortality over the winter. Understanding how to manage voles is one factor to assuring the success of the thousands of acres of trees being planted.

For more information on voles, contact your state forester or obtain a copy of Fact Sheet 654, "Reducing Vole Damage to Plants in Landscapes, Orchards, and Nurseries," from your local Cooperative Extension office. Also, go online to www.naturalresources.umd.edu.



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Outstanding Forest Stewards

The Maryland Tree Farm System recently announced two awards: Mr. and Mrs. Malcolm Morris of St. Mary's County are Maryland's Outstanding Tree Farmer of the Year for 2001 and Mount St. Mary's College and Seminary, Emmitsburg, is Maryland's Outstanding Institutional Tree Farm of the Year.

The Morris's have owned and managed 171 acres on MD Rt. 5 under a forest management plan in the Tree Farm System for the past seven years. Their main objectives are producing forest products and maximizing the wildlife attributes of the property. They are active in the local community and promote the benefits of reforestation to other farmers and tree farmers. Mark Muir, DNR forester, said the Morrises "always use professional forestry advice. . . are very energetic in managing their timber and perform the management practices to maximize the highest yields possible." Mr. and Mrs. Morris will be entered in the Northeast Regional Outstanding Tree Farmer of the Year contest in the year 2002.

For the first time, recognition was given to an outstanding institutional Tree Farm in the state. Mount St. Mary's College and Seminary owns 760 acres of woodland and has been a certified Tree Farm since 1990. Their primary objectives are education, recreation, soil and water conservation, and forest and wildlife management. They have been very active in road and trail maintenance and planting of riparian forest buffers on 20 acres. Over the past five years they accomplished a 40-acre pine thinning, an intermediate harvest in a 23-acre hardwood stand, established a 20-acre warm season grass meadow and monitored their hardwood stands for Gypsy moth control. According to Michael Kay, DNR forester, the College has been a good steward of their large property for many years, managing the property with a multiple use strategy encompassing education, forest management, wildlife, aesthetics, and soil and water conservation. Their forestland is widely used by students and faculty for educational classes and areas to commune with nature.

Congratulations to these two outstanding examples of forest management. Although in different settings, each is practicing sound forest stewardship while inspiring others to promote sustainable forestry. 

Need a stumpage price report?
Need to know how to manage wildlife damage?
Want to know how to offset the costs of property ownership?
Then log onto www.naturalresources.umd.edu.

Forestry Task Force Report

Maryland's forest community is facing serious challenges during the 21st century, most notably are increased sprawl development patterns due to an expanding population. It is imperative that Maryland conserve and manage its renewable forest resources for future generations. With this in mind, in 1998 Governor Parris N. Glendening signed an Executive Order that created the Maryland Forest Task Force.

This Task Force has recently developed a result-oriented report with recommendations that will preserve the forests of Maryland.

The first set of recommendations are designed to encourage retention and management of privately owned forestlands. The total projected cost for these initiatives is \$3.1 million for the 2002 fiscal year. They include:

1. Maryland's Forest Service, Forest Boards and the Maryland Cooperative Extension be given the financial resources necessary to advise and educate forest landowners on ways to better manage their forestlands.
2. Maryland's principal land conservation programs be better coordinated to collectively conserve forested areas.
3. An inventory database of Maryland's forest resources be developed every five years.
4. Tax incentives be provided to those forest landowners willing to implement forest management plans.
5. Maryland's primary and secondary education curricula ensure a concerted focus on the values and benefits of managing forests for Maryland's environment and economy.

The second set of recommendations are designed to promote the economic viability of Maryland's forest products industry. The projected cost is \$5 million for the 2002 fiscal year. The recommendations are as follows:

1. State financial assistance be provided to help Maryland's forest products industry upgrade and modernize its manufacturing equipment in order to enhance efficiency and promote job retention/growth within Maryland's rural communities.
2. Maryland's Forest Products Utilization and Marketing Program - a program designed to help market Maryland's forest products - be created.
3. A user guide be developed that facilitates an awareness of land use regulations that impact the management of privately owned forestlands and the operations of Maryland's forest products industry.

For more information, or to obtain a copy of the Maryland Forestry Task Force Final Report, please visit www.dnr.state.md.us/forests/ or call your state forester.

FSU Forestry Minor

Frostburg State University now offers a forestry minor. The program is aimed at wildlife, biology, geography and parks and recreation majors. It includes basic courses in forestry and a summer forestry field practice involving the Savage River and Green Ridge state forests. The minor involves 23 credit hours, with 17 required credits. For more information, contact Durland Shumway at 301-687-4170 or by e-mail at dshumway@frostburg.edu.

Sawmill & Woodlot Magazine

Sawmill and woodlot owners now have an excellent online resource at www.sawmillmag.com. The number one trade publication now posts its magazine online and has created an informational and interactive web site.

Bulletin Board - Post tips or questions or interact with other sawyers and woodlot owners.

Reviews - Check out the equipment reviews before making any portable sawmill or firewood processor purchase.

Classified - List your available pieces of equipment for free in the Sawmill & Woodlot online marketplace.

You may order a subscription of *Sawmill & Woodlot Magazine* online or by calling 1-888-290-9469. A one-year subscription is \$18.

Mid-Atlantic Stewardship Seminar

This annual seminar for forest landowners takes place November 3, 9 a.m. - 4 p.m. at Frederick Community College. A variety of topics will be covered including: Managing Voles & Deer Damage; Gypsy Moths; Managing the Risks; and Organic Insect Control. This is a great opportunity to network with fellow landowners. Cost is \$20 per person or \$35 for two. Contact Terry Poole, 301-694-1594 x 13577, for a registration form.

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Please send changes of address.

See page 2 for addresses and phone number.

Upcoming Stewardship Events

Aug. 22: Managing Vole Damage in Forest Plantings, Owens Park, Bealsville, 9 a.m. - 2:30 p.m. Preregistration required, contact Jonathan Kays, 301-432-2767, x323 or jk87@umail.umd.edu. Pesticide recertification credits.

Sept. 5 - 7: Protecting Farmland at the Fringe: Do Regulations Work? Baltimore. Focusing on guiding development and protecting farmland. Contact: Dr. Loretta Lynch, 301-405-1264, or <http://aede.ag.ohio-state.edu/programs.swank>.

Sept. 14 - 15: American Paulownia Association Convention, Santee, SC. Contact: Sharon Blickenstaff, 16345 Mt. Tabor Rd., Hagerstown, MD 21740.

Sept. 15: Maryland Tree Farm System Annual Meeting focusing on "Sustainability," Frederick Community College, Frederick. Contact Howard Anderson, 888-455-7400.

Oct. 2 - 4: Northeast Agroforestry & Carbon Conference, Binghamton, New York. Conference will emphasize forest farming high value understory products and tree crop management and will explore the significance of carbon in the Northeast. Contact Mark Grennan, 518-828-4385, x105 or mark.grennan@ny.usda.gov.

Oct. 19 & 20: MFA Annual Meeting and 25th Anniversary Celebration, Hagerstown. Contact Karin Miller, 301-895-5369.

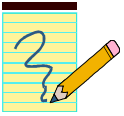
Maryland Tree Farm System Certifier Training: One-day classroom training on Forest Certification movement, Tree Farm program benefits and eligibility, on-the-ground Certification process and the telephone inspection process. Contact Jeff Bracken for regional training dates. 304-258-4681.

November 3: Mid-Atlantic Forest Stewardship Seminar, Frederick Community College. See column left for details.

Web Watch...

Fish management in ponds: www.dnr.comell.edu/ext/fish/12ondl.htm

All about forestry - From Forestry photographs to diseases to forestry FAQ's: www.forestry.about.com.



Take Note