

Forest Landowners in a Fragmented Landscape

The ownership of forest land is a privilege that more than 125,000 Maryland citizens enjoy. Most owners make forest management decisions based on their own properties. These individual decisions, however, have a collective impact and are better understood when we look at the changing trends in the regional landscape.

Forested land in the Chesapeake Bay region disappeared steadily during the past twenty-five years. Satellite images from 1973 to 1997 show that areas with at least 50 percent forest cover fell from 55 percent to 35 percent of the land. Areas with less than 20 percent forest cover, typically residential and suburban development, increased from 35 to 50 percent.

Fragmentation and its Causes

As forests are fragmented, the size of individual patches shrinks and the forest becomes disconnected. The amount of interior forest--the area several hundred feet from the edge--is reduced, wildlife travel corridors are broken, and there are changes in the animal, plant, and landscape diversity. Fragmentation caused by forest harvesting is temporary until the area regrows. Of greater concern is permanent fragmentation caused by a change in land use to residential or commercial development or agriculture.

Why has fragmentation increased? Increasing population pressure for rural lands has resulted in parcelization of the landscape into smaller ownership units. Sixty percent



Fragmented forest landscape in central Maryland reflects different objectives and interests of many owners.

of Maryland's privately owned forests are less than 10 acres and that percentage is increasing, paralleling a national increase in 10- to 50-acre parcels. Population pressure also brings rising land prices, estate tax burdens for heirs, and new owners with less understanding or attachment to the land.

Fragmentation can begin in ways that are barely noticeable and seem harmless. A cabin in the woods is an

ideal getaway, but the road and power line that lead to it create fragmentation, plus the dogs and cats accompanying the cabins users can create problems for local wildlife.

Sometimes efforts to protect forestland can create problems. Land may be zoned for sparse development, such as one residence for 20 acres. This creates the potential for fragmentation of the forest as individual landowners make land use decisions. Land use policies intended to protect forestland can also add to the problem. Some communities try to limit forest practices with the belief that this policy will preserve forestland. Unfortunately, overly restrictive regulations on forest harvesting may frustrate forest landowners and their ability to receive any income from the property, encouraging the sale and possible parcelization of the property. While forest harvesting may create temporary fragmentation, in the long term, having the land as managed forest is more beneficial than permanent conversion to development.

Effects on Wildlife

Fragmentation may reduce the diversity of forest interior dweller species (FID), including some of the most unique songbirds---warblers, vireos, and tanagers---as well as some woodpeckers, hawks, and owls. Small blocks of forest (less than 100 acres) provide more edge habitat which is conducive to such nest predators as racoons, chipmunks, blue jays, grackles, crows, and brown-headed cowbirds. Cowbirds lay their eggs in the nests of other birds, causing host birds to abandon their nests or raise the cowbird chicks at the expense of their own young. As forests become smaller, birds like hairy woodpeckers must compete with starlings for tree cavities. FID's returning from migration in the tropics compete for food and nesting resources with year-round residents.

Fortunately, not all the news is bad. Fragmentation actually provides positive habitat for many species because of the increase in forest edge, young forests, or open areas. A wide diversity of songbirds and birds of prey, as well as mammals such as deer, wild turkeys, raccoons, and skunks, benefit from forest fragmentation.

Other Effects

Forest fragmentation and the increased forest edge can change the types of plant community present. Typically, plant species that are shade-intolerant (require full sunlight) become established. Invasive plants such as multiflora rose, tree-of-heaven, kudzu, and honeysuckle move into the openings, edges, and roads, expand into the forest interior, and compete with native species. This can threaten the overall health of the forest community.

Fish and forest amphibians and reptiles are affected when their wetland habitats are altered by fragmentation or removal

of the tree canopy. In addition, people and communities are affected. Trees remove air pollutants, lower air temperature, and help control water runoff. Systems must be engineered and funded to compensate for these lost benefits of trees.

When forestland is subdivided, the small chunks cannot be managed as effectively as larger parcels. Ownership of these smaller parcels can change frequently, potentially breaking the continuity of stewardship of the forest.

As parcelization continues, commercial harvesting on individual properties may become less cost-effective. Resistance to harvesting from new neighbors may increase. Professional foresters and educators are stretched to provide the technical assistance needed by an increasing number of forest landowners.

Forest Landowners Hold the Key!

Ninety percent of Maryland's forestland is privately owned. This means the future of Maryland's forests, their health, and wildlife depends on the decisions of many individuals. These decisions may be driven by family situations, age and health of the owner, attitudes and beliefs, and asset position. Because fragmentation and parcelization have both positive and negative consequences and affect an area larger than an individual property, landowners should seek information and help in determining and implementing their management objectives.

A good place to start is to get a recent aerial photograph (about \$14) of your property and the surrounding area from the county Farm Services Agency office (blue pages of the phone book under *US Government*). Note the forest landscape. Can you plan your actions to maintain large blocks of forest? Wildlife and other ecosystem processes do not stop at property boundaries.

Good forest stewardship calls for an extra effort: cooperation with neighboring forest landowners to achieve goals beneficial to the larger forest as well as to the individual forest properties. Encourage your neighbors contact the state forester or local Cooperative Extension office for information on developing a forest stewardship plan and financial incentive programs to help reach the objectives that you share.



Branching Out

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Published quarterly and distributed to more than 4100 woodland owners, resource professionals, and others interested in forest stewardship. For a free subscription or to send news items, dates, and comments, phone 301-432-2767 x310; fax 301-432-4089; e-mail vs12@umail.umd.edu; or mail to Maryland Cooperative Extension, 18330 Keedysville Road, Keedysville MD 21756.

Deadlines are the 10th of January, April, July, and October.

The sponsoring agencies' programs are open to all citizens without regard to race, color, sex, or physical ability.

Loggers/Forestry Field Days

The Western Maryland Loggers/Forestry Field Days and Equipment Show, an annual fun-filled educational event has added a professional lumberjack competition as seen on sports television. The field days are June 11 and 12, at the Garrett County fairgrounds, McHenry.

Professional lumberjacks will compete for prize monies in crosscutting, standing block chop, underhand chop, and springboard and unlimited hot saw. For local loggers, there will be equipment competitions, including a skidder obstacle course and a skidder pull.

The Field Day and Equipment Show is a family event, sponsored by the Maryland Forests Association since 1990. Young and old alike enjoy *Scales & Tales*, Smokey Bear, traditional folk craftsmen and artisans, mountain music, a 5K Fun Run, and food. There are educational displays, programs, and demonstrations. Among the equipment exhibits will be band saw mills, wood splitters, engines, log trucks, skidders, loaders, chainsaws, and feller bunchers.

For information on the Field Day & Equipment Show, visit the MFA webpage at www.mdforests.org or contact Karin Miller, 301-895-5369, mfa@hereintown.net.



Forest Health Update

The Maryland Department of Agriculture (MDA) conducted surveys this spring to detect **pine shoot beetle** and **exotic bark beetle** in Garrett, Allegany, Washington, Frederick, Montgomery, Dorchester, Somerset, Wicomico, and Worcester counties and to detect **exotic bark beetle** in Anne Arundel, Baltimore, Cecil, Kent, Queen Anne's, and Talbot counties. Agency experts found only two pine shoot beetles (in Garrett County) and no exotic bark beetles. MDA currently is analyzing specimens collected last year for potential biological agents that could be used to control **mile-a-minute weed**.

- Last year's dry summer and fall could lead to an increase in **Southern pine beetle**.
- **Fall webworm** were evident in roadside trees last year, primarily in central Maryland from Washington to Harford counties.
- Trees defoliated by **sycamore anthracnose** during last year's wet spring seemed to recover by midsummer.
- **Elm yellows disease** which previously severely affected elms in Frederick and Washington counties did not expand in those areas last year.
- Populations of **hemlock wooly adelgid** appear to be stable across the state.
- No defoliation by **forest tent caterpillar** was detected in four southern Eastern Shore counties surveyed last year.



Educators Wanted

Every year thirty selected people in Maryland receive intensive training in forest and wildlife management. In return, they practice sound forest stewardship and share their knowledge with neighbors and others.

The all expenses-paid training is through the Coverts (*kuh-verts*) Project, sponsored by Maryland Cooperative Extension and the Ruffed Grouse Society. The three-day training, held in Washington County, includes classroom and field experiences. Participants also receive many publications that supplement their learning and serve as a reference for their outreach activities.

Sessions taught by Cooperative Extension specialists, DNR foresters and wildlife biologists, and others include *Historical Perspective on Forest Land Use; Forest Succession and Ecology; Setting Objectives for Managing Forest Land; Developing a Forest Stewardship Plan; Managing Forests for Timber; Marketing Forest Products; Forest Stewardship Resources and Technical Assistance; Principles of Wildlife Management; Ecology and Management of Eastern Wild Turkey, White-tailed Deer, Ruffed Grouse, Woodcock, Songbirds, and Non-Game Species; Preserving Family Lands; Communicating Your Message with Others; Case Studies in Forest Stewardship and What Volunteers Can Do*.

Maryland forest landowners are invited to apply to be a 1999 Coverts Cooperator. Persons who are not forest landowners but who work with them also are eligible. In recent years, county officials, environmental science educators, and representatives of land trusts and conservancies have used their Coverts training to promote sound forest and wildlife management principles with their clientele.

Training will be September 23-26 at Shepherd's Spring Retreat Center, Sharpsburg. For information and an application, send the form below, call 301-432-2767, or e-mail sb274@umail.umd.edu. Applications are due June 25.

Please send information on the Coverts Project:

Name

Address

Send to **The Coverts Project**
c/o Branching Out

Upcoming Stewardship Events

May 15 - Landowners' Field Day, Stronghold Demonstration Area, Sugarloaf Mountain, Dickerson; hands-on experiences in forest management; \$10 registration; contact Tom Anderson; 301-831-8674, mountain@erols.com.

May 21-22 - Timber '99, Hardwood Lumber Manufacturers Association of Pennsylvania forest products, equipment, and technology exposition; Farm Show Complex, Harrisburg; 1-800-344-6301; timber@superorg.com; www.superorg.com/timber99.

June 3 - Maryland Tree Farm Action Council and Maryland Tree Farm Operating Committee meetings, Eastern Shore; program and tour; for all forest landowners, especially those in the region; 1-888-455-7400.

June 11-12 - Western Maryland Loggers/Forestry Field Days and Equipment Show; Garrett County fairgrounds, McHenry; contact Karin Miller, MFA, 301-895-5369, mfa@hereintown.net.

Looking ahead

September 23-26 - Coverts Cooperator training, Sharpsburg; 301-432-2767, sb274@umail.umd.edu.

September 24-25 - State Association of Forest Conservancy District Boards meeting, Kent County.

October 15-16 - Maryland Forests Association annual meeting, Salisbury.

Take Note

- New! **Developing a Fee-Fishing Enterprise: An Opportunity in Recreational Tourism, FS 754**; and **Getting to the Root of Tree Problems, FS 756**; from your county Extension office.
- Revised! **A Landowner's Guide to Building Forest Access Roads**, USDA Forest Service, Northeastern Area; stock # 001-001-00664-5; \$8 from the Superintendent of Documents, 202-512-1800; fax 212-512-2250.
- **Locate your land** on a high-resolution image using TerraServer: www.terraserver.com.
- New! Software on **wildlife and their habitats**; companion to forest management software that supports ecosystem management decision making. USDA Forest Service; download from www.fs.fed.us/ne/burlington/ned/download.htm.
- **Whitetail at the Crossroads**, 30-minute video on past, present, and future outlook for deer population

in suburban and agricultural landscapes, \$25; and **Managing Canada Geese in the Urban Environment—a Technical Guide**, 42 pages; \$10; from Cornell University Media and Technology Resources Center, 607-255-2080, e-mail: Dist_Center@cce.cornell.edu; companion video tape is \$19.95.

- **Windstar Wildlife Institute**. Information on wildlife habitat for backyards and small woodlands. Printed or electronic newsletters, seminars, workshops, and other publications and products. Training and certification program for Master Wildlife Habitat Naturalists. Recently relocated to Myersville, Frederick County, where wildlife habitat enhancements will be installed and demonstrated. On the Internet at www.windstar.org/wildlife; e-mail wildlife@windstar.org, or phone 301-834-9234.
- Bills in Congress of interest to forest landowners include HR8 to phase out estate and gift taxes; HR 1083 to modify IRS provisions related to the treatment of forestry activities; and S808 to amend IRS codes to provide tax incentives for land sales for conservation purposes. Contact your Congressional representative or download information from www.thomas.loc.gov/cgi-bin/query.

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