wildland WATERS

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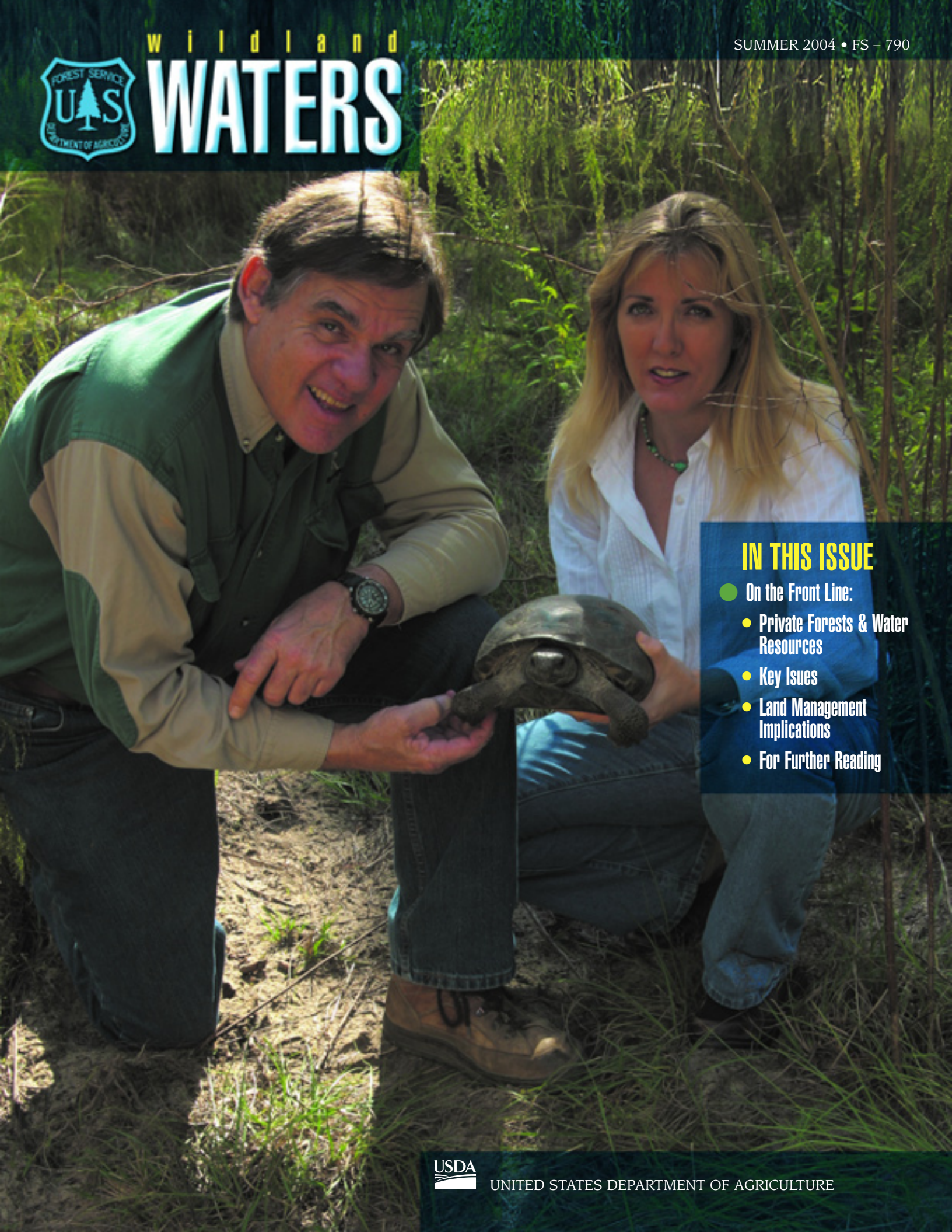

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USDA
UNITED STATES DEPARTMENT OF AGRICULTURE

Private Forests

Comprising roughly half the forested land in the United States, non-industrial private forests include vital yet vulnerable water resources. This issue explores the land-use activities and pressures that confront these forests, and provides examples of programs and policy options to support working private forests for the future.

Susan Stein, who coordinates studies on private forestlands for the Cooperative Forestry Staff of the Forest Service State and Private Forestry Deputy Area, coordinated the development of this issue. Brett Butler, a research forester with the Forest Service Northeastern Research Station, provided critical guidance and statistics on private forest owners based on the National Woodland Ownership Survey, which he manages. Mary Carr, a technical publications editor for the Forest Service, deftly wrote the entire issue, based on source materials provided by Susan and others.

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On the Frontline:

Private Forests and Water Resources

General hydrologic cycle in an Oregon forest. *While the specifics of forest hydrologic cycles differ from place to place, all forests play a critical role in the maintenance of water quality and the proper functioning of terrestrial, aquatic, and subterranean ecosystems.* *Graphic courtesy of Oregon Forest Resources Institute.*

George Fenn treats his forest like a tree farm. Pat McFadden sees his forest as a refuge for native plants and wildlife. Jean Shaffer's forest provides a source of artistic materials for a value-added furniture-making business. All three private landowners manage their forests in ways that protect water, soils, and vegetation. Their different perspectives reflect the diversity of goals and styles used to manage millions of non-industrial private forests throughout the United States.

Comprising roughly half the forested land in the country, nonindustrial private forests—what we'll call "private forests"—are on the frontline of providing and protecting the Nation's water. These are parcels of land that have or could have forest cover and are neither public (managed by governments) nor industrial (owned and managed by a timber company). The extent of private forests and their proximity to population centers make them among our most vital yet most vulnerable water sources.

From trees to taps: the role of forests in providing and protecting water

It's no surprise that forests have long been recognized as premier sources of clean water for multiple uses including recreation, fish habitat, and drinking water supplies. In a forested environment, most precipitation does not strike soil directly but is intercepted by the tree canopy, shrubs and herbaceous vegetation, and decaying organic matter on the forest floor. Some precipitation filters down to the soil layer, slowing the flow over land and allowing water to seep into the subsurface and replenish the groundwater. Other water evaporates and transpires back to the atmosphere, to fall again as rain, snow, fog, or mist.

Many major municipal water supplies in the United States draw from reservoirs surrounded by tree-lined watersheds. Quabbin Reservoir in western Massachusetts, for example, whose water flows to 2.5 million taps in metropolitan Boston, is surrounded by a 96,000-acre heavily forested watershed.
Photo courtesy of the Town of Belchertown, Massachusetts.

Forests are responsible for priceless, water-related ecological services that are vital for our well-being. Take, for example:

- **Fresh water resources.** About two-thirds of the Nation's fresh water originates on forested lands; about 51 percent of the lower 48's water supply comes from forests.
- **Drinking water.** Forested watersheds provide a source of drinking water for 180 million people.
- **Protection from erosion.** Forest cover protects soils by intercepting rainfall and slowing its impact as it hits the ground. This significantly reduces erosion, especially during floods. In riparian (streamside) forests, tree roots help stabilize soils, thus stabilizing streambanks and hillsides.
- **Filtering out contaminants.** Riparian forest buffers can reduce fertilizer, pesticide, and sediment runoff into streams by as much as 90 percent.
- **Support of wildlife.** Riparian and upland forests provide food and shelter for aquatic species as well as for terrestrial wildlife.

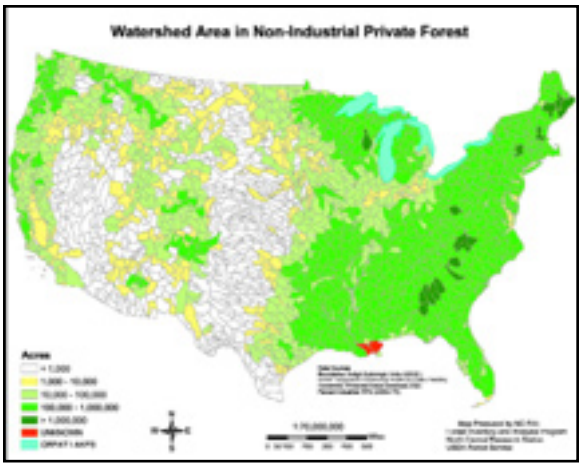
Private forests take the lead

Of all the Nation's forests, private forests play the lead role in providing and protecting water. "Forests in the lower 48 States contribute about 51 percent of the water in streams and rivers," observes U.S. Department of Agriculture (USDA) Forest Service researcher Tom Brown, whose Rocky Mountain Research Station team is developing models to measure the water derived from U.S. forests. "Approximately half of that amount comes from private forests." In other words, nearly 25 percent of all the water flow in the country can be said to come from private forests. "That's a lot of water," notes Brown, "about 123 trillion gallons per year, equal to the amount of water in Lake Erie."

Private forests take the lead in water supply and conservation in part because of their sheer magnitude. Nearly 350 million forest acres are managed by some 10 million individuals, families, organizations, Indian tribes, or other nonindustrial

Counting the drops

Scientists at the Forest Service Rocky Mountain Research Station and Colorado State University are in the process of quantifying available water volume from U.S. forests. Annual contributions to water supply will be estimated by State and water resource region, and by land cover class and land management class. Such research will lay the groundwork for further studies that may be able to more accurately estimate the actual contributions of private forest lands to our water resource supply. See http://www.fs.fed.us/rm/value/research_cpl.html



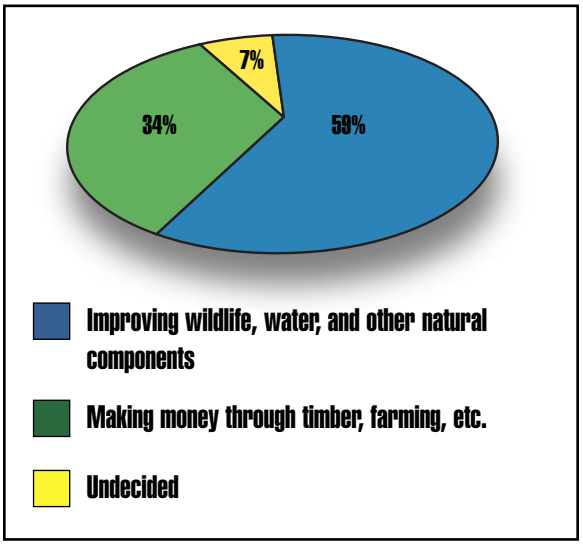
Private forests are more prominent in the Eastern United States. Their proximity to human population centers make private forests more valuable for water supplies but more vulnerable to development.

Source: R. McRoberts and M.D. Nelson, Forest Service North Central Research Station.

private entities across the country. With parcels ranging from 1 to 5,000 acres or more in size (94 percent of which are smaller than 100 acres), private forest landowners altogether hold nearly five times more acreage than industrial forests, and slightly more forest acres than all Federal, State, and county agencies combined.

The importance of private forests to water is also a function of where they are located. Acreage of private forest in the heavily populated East is four times that of public forest, but in the less crowded West there are three times more acres of public (mostly Federal) forest than private. This means that private forests are more likely than forests in other ownerships to be located closer to human population centers, making them not only more important for providing water-related services but also more threatened by development.

Sound management for sustainable water resources



Why own a private forest? *A study of 4–5 million individual private landowners in the South revealed a variety of reasons for possessing rural land. Most respondents (59 percent) said they own land to improve the natural features of their property.*

Source: Adapted from Cordell and Macie 2002.

People own private forests for a host of reasons, including family legacy, aesthetics, nature protection, hunting and fishing, investment, privacy, rural lifestyles, and sale of forest products. For some, the forest is simply part of their home or farm. Consequently, private forests are managed for a mix of uses, such as recreation, timber harvesting, and conservation of wildlife, water, and other natural resources. Stewardship of private forests is often intensely personal: landowners may also be the managers and sometimes even the workforce of "working forests," which provide the social and economic underpinning for thousands of families and small businesses.

Forest management for such a range of purposes can involve actions as diverse as thinning, timber harvesting, tree planting, road or trail construction and maintenance, and application of chemicals. Unless managed properly, some of these activities—particularly timber harvesting and construction of roads and stream crossings—have the potential

BMPs help protect water quality. *The photo above shows a poorly installed culvert on a forest road in South Carolina; notice the bank erosion. The photo below shows an appropriately installed culvert on a similar forest road. Installation of this culvert followed South Carolina BMPs that ensure good road construction practices.*

Photos by Darryl Jones, courtesy of South Carolina Forestry Commission, 2001.

to disturb soils, increase sedimentation to streams, alter stream temperatures, affect the amount and timing of water flow, introduce contaminants to water supplies, and influence how and where nutrients move through the system.

"How forests are managed has a profound effect on the water quality of lakes, streams, wetlands, and groundwater and on the ability of watersheds to perform their most basic functions," states Lori Wilson, hydrologist on the Mark Twain National Forest in Missouri. "Sound watershed management, protection, and restoration are key to maintaining and achieving healthy aquatic, riparian, and wetland ecosystem function and condition."

To foster sound forest management, all States and a number of tribes have developed "best management practices" (BMPs). These are practices designed to help landowners, foresters, and loggers protect water quality during all stages of forestry. BMPs often include guidelines for preharvest planning, streamside and wetland area management, road construction and maintenance, timber harvesting, revegetation, and chemical management.

Such guidance is a powerful tool for protecting a State's waters from silt and other pollution. In Vermont, for example, where BMPs are known as AMPs or "acceptable management practices," the Department of Natural Resources reports that "at a very low cost AMPs have been highly effective in reducing the numbers and severity of water quality violations on logging operations." While BMPs are voluntary in most areas, compliance with forest management practices is mandatory in some States, such as Oregon, Washington, and California.

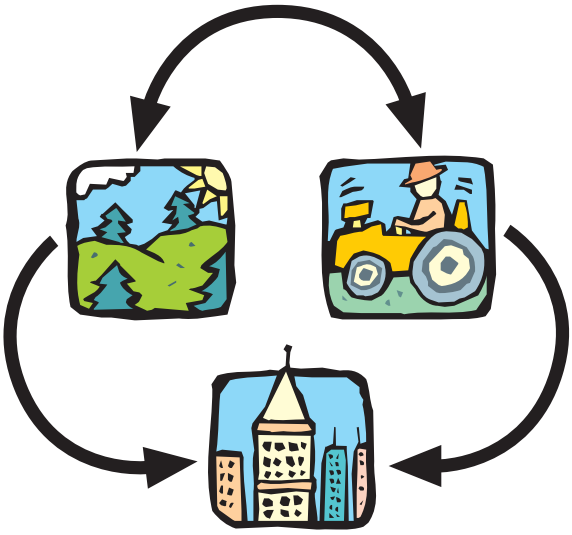
Whether the rules are voluntary or mandatory, private forest landowners play a critical role in their implementation on the ground. A key to effective water quality protection is to help ensure that landowners, along with their loggers and the forestry consultants who advise them, are not only trained but inspired to participate successfully in sustainable forest management practices.

Anne Hairston-Strang, a forest hydrologist from Maryland, and Paul Adams, a professor and forest watershed extension specialist in Oregon, surveyed private forest landowners in Oregon, to assess their level of support for mandatory regula-

tions under Oregon's Forest Practices Act (Hairston-Strang and Adams 1997). Among their findings: the costs and complexity of rules and the desire to feel in control of management decisions are major factors influencing the support of private landowners and managers for water protection measures. "The challenge of improving fish habitat," they conclude, "likely depends on social science—that is, motivating landowners to pursue these goals in their riparian land management."

Going, going, gone... at 3 acres per minute. *Development is fragmenting forests and farmlands across the country, such as these new suburbs in Dallas County, Iowa. Some 10 million acres of forest land were developed between 1982 and 1997, almost half of that happening after 1992. Recent Forest Service estimates are that some 15–20 million acres of U.S. forest land could be converted to urban and developed uses by 2050.*

Photos by Lynn Betts, USDA Natural Resources Conservation Service, 2000.



A one-way street *Over time, some forest, pasture, and crop lands shift back and forth dynamically; however, rural land converted to "urban" use is essentially lost for good.*

Source: Adapted from Alig et al. 2000.

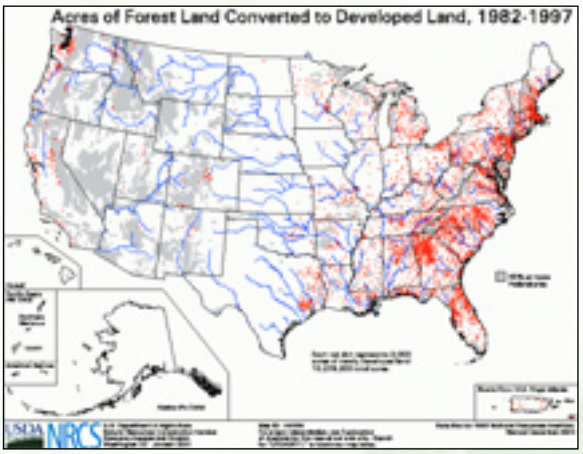
Paving paradise: development and other pressure points

The high profile of private forests in providing water-related goods and services is matched by a high level of vulnerability to their being damaged or lost. Millions of woodland acres are prime candidates for development or conversion to other uses, which represents the single largest threat to private forests across the country. In addition, some 7 percent of private forests nationwide are considered at risk for mortality from insects and disease, and many face a recurring potential risk of catastrophic fire.

The social, economic, and ecological pressures facing private forest landowners underscore the complexity of the challenge to maintain these working forests for the future. It's no wonder that keeping their land intact for future generations is the number one concern of private forest landowners.

Cutting up the pie

In recent decades the United States has seen increasing conversions of forest land dominated by vegetation to developed land dominated by pavement and buildings. This accelerating trend has been driven in some areas by population growth, in other areas by shifts in population to new locations, and everywhere by lifestyle demands that are causing development to increase at rates even faster than population growth itself.



Non-Federal forest land is the dominant type of forest land being developed.
Source: 1997 National Resources Inventory.
(http://www.nrcs.usda.gov/technical/land/forest.html)

Development's conjoined twin is fragmentation—remaining forests are being chopped into smaller and smaller parcels and otherwise split apart by disjointed ownership, patchy vegetation, and incompatible land uses. Development and fragmentation reduce the ecological, economic, and social benefits that intact private forests provide.

A variety of interrelated factors contribute to a disproportionate susceptibility of private forests to being subdivided, sold, and converted to residential, commercial, recreation, agricultural, and other uses. Consider:

- **Location, location, location.** Some of the fastest-growing populations affecting private forests are in the East, where most forest lands are private and many overlap with prime land for residential and second home development.
- **Demographics.** Two-thirds of woodland owners are over the age of 55; 40 percent are over the age of 60; nearly 17 percent are already older than 75. An aging population portends probable turnover in the near future.
- **Economic and tax pressures.** When forest product markets are weak and property values are through the roof, land-use choices get tough. The impact of taxes is among the top four concerns of forest landowners.
- **Regulatory pressures.** If forest practice and watershed protection rules are complex, inflexible, or too costly, they can increase uncertainty, generate confusion, and make management cumbersome.

Urbanization

Of particular concern is urbanization—converting forests and other open spaces into suburbs and shopping centers. Urbanization replaces natural vegetation cover with impermeable surfaces such as roads, parking lots, driveways, and rooftops. Rainfall isn't captured and retained by vegetation but runs off quickly into streams, carrying pesticides, chemicals, fertilizers, oils, and metals. Aquifers don't get recharged. Stream stability, surface and groundwater quality, and aquatic biodiversity all suffer when the amount of impervious surface is increased by as little as 10 percent (see sidebar).

Hard surfaces are hard on streams

Effects of hard surfaces on streams and aquatic life

Stream attribute	Percent of impervious surface 0-10	11-25	25-100
Stream stability	Stable	Unstable	Highly unstable
Water quality	Good	Fair	Fair to poor
Stream biodiversity	Good to excellent	Fair to Good	Poor

Source: Schueler 1994, cited in Macie and Hermansen 2002.

On the brighter side . . .

- *Some effective mitigation measures (such as stream buffers and BMPs) can minimize environmental risks of development.*
- *There is renewed interest in alternative development designs, such as cluster developments that retain more trees and other natural features.*
- *Conservation easements are increasingly popular and effective tools to protect water and other natural resources while keeping forests in private ownership.*
- *When crop and pasture lands are developed, there is an opportunity to educate new homeowners about the value of planting and maintaining native trees.*
- *Property taxation systems based on the land's current use and not its "highest and best" use are increasingly common and offer some financial relief to forest landowners.*

Forest lands and farm lands can—and do—convert back and forth to some extent in some parts of the country. According to the National Resource Inventory, between 1982 and 1997 more than 20 million acres of forest land were gained from lands that were previously in crop, pasture, or rangelands. However, conversion of forest lands to urban areas, either directly or by way of agriculture, is essentially irreversible (see figure), so the net result is a continuing loss of forest lands.

Urbanization can also have social implications with respect to water protection and conservation. People moving into newly urbanized areas often bring different attitudes and a lack of experience with natural resources and rural social values. As areas around private forests become more populated, newcomers may be unwilling to support forest management practices on remaining forest lands. One study in Virginia, for example, estimates a near-zero probability of sustainable forest management when population density exceeds 235 people per 1,000 acres (Virginia Department of Forestry 1997, cited in Sampson and Decoster 2000); another predicts that the probability of commercial timber harvest approaches zero at around 150 people per square mile (Wear et al. 1999).

Ecological pressures

Insects and water quality: a complex story

Various hypotheses are being tested about how tree damage or death from insects and disease can affect water. Some studies in the Appalachian Highlands suggest that loss of leaves can interfere with the hydrologic cycle through decreased evapotranspiration and increased leaching of nitrates into stream waters (Swank et al. 1988). A study in the Delaware Basin suggests that loss of hemlock forests to the rapidly spreading hemlock woolly adelgid may affect water quality through changes in stream temperature and water flow (Snyder et al. 2002).

A recent Forest Service survey revealed that the second highest concern of private forest landowners is insect damage. Forest Service inventory data show that approximately 20–25 percent of private forests in some Eastern States—Delaware, Maine, New Hampshire, West Virginia, and Virginia, for example—are at risk of damage from insects and disease; many others are in the 10–20 percent at-risk range.

The direct link between insect damage and water quality is not well understood, but researchers are investigating how insects and disease may affect hydrologic function, water temperature, and streamflow. For sure, insect and disease impacts can increase the vulnerability of forests to fire, which runs a close third in the list of forest landowner concerns. Catastrophic fire in forest lands has the potential for severe ecological damage through soil erosion; increased sediment, turbidity, or

excessive nutrients in surface waters; flooding and mudslides; and other threats to aquatic and human life and water supplies.

Insects, disease, and fire have their natural and necessary place in forested ecosystems. However, private forests already fragile from fragmentation and development may be less able to rebound if the extent or severity of such pressures becomes extreme.

Untapped treasures: programs and policies for private forests

Sustainable forest management that protects water resources can be a daunting challenge for private forest landowners, especially for those whose training and backgrounds are far from professional forestry. Assistance and education programs and supportive public policies can make a critical difference in the retention of sustainable working private forests and the conservation of the water resources they provide.

An abundance of assistance

Paradoxically, while many private forest landowners say that one of their primary management objectives is to improve water and wildlife, only a handful of these landowners—a mere 7 percent of those owning parcels between 10 and 5,000 acres in the lower 48—currently have a written management plan. Fewer than half of private forest landowners seek professional assistance, even though innumerable Federal, State, and private resources are available *(see Assistance Program Sampler sidebar)*.

A number of factors may be at play. In many areas, State forestry agencies are the primary source of technical assistance. They, like other government agencies, may be understaffed, underfunded, and unable to respond effectively when asked; many are never even asked because landowners may be unaware of State-level options. Some loggers soliciting timber from private forests may be unfamiliar with or resistant to appropriate BMPs. Some people may shy away from seeking help because of the complexity of the issues or the red tape in which assistance is often entangled. Some are unaware of or perhaps overwhelmed by the sheer abundance of programs available, or they don't know where to turn to get started.

It's certainly not for want of need or interest. A 2002 survey conducted by the Ozark Woodland Owners Association (OWOA) in north-central Arkansas, where 90 percent of the 2.4 million acres of forest lands are private forests, revealed that "while private landowners are highly motivated to manage their forest lands themselves, two-thirds of the landowners surveyed say they don't have the skills and resources to do so," according to OWOA President Thomas E. Brent. "Furthermore," Brent notes, "the majority have limited personal time and financial resources to devote to management activities."

Such factors point to a need for education and assistance programs to be more visible and accessible—not only to increase the likelihood that private forests will remain productive and healthy but also to help keep them afloat. Focused public education efforts could help raise awareness of the value of forests and forest management among people in both urban and rural areas. There may also be a need to improve training and education for the trainers themselves, to help them keep up to date with rapidly changing technologies, techniques, and ideas.

Assistance Program Sampler

USDA Forest Service, Cooperative Forestry (202-205-1389)

- **Forest Stewardship Program (FSP)**—offers technical assistance and planning guidance for writing management plans. http://www.fs.fed.us/spf/coop/programs/loa/fsp/
- **Forest Land Enhancement Program (FLEP)**—offers financial and technical help for implementing forest stewardship plans, with a specific objective to improve water quality. http://www.fs.fed.us/spf/coop/programs/loa/flep/
- **Forest Legacy Program (FLP)**—helps States to develop and carry out their forest conservation plans through encouragement and support of conservation easements. http://www.fs.fed.us/spf/coop/progrms/loa/flp/
- **Rural Community Assistance (RCA)**—helps resource-based rural communities build skills, networks, and strategies to address social, environmental, and economic changes. http://www.fs.fed.us/spf/coop/programs/eap/rca/

USDA Farm Service Agency (FSA)

- **Conservation Reserve Program (CRP)**—provides financial incentives to convert highly erodible or other environmentally sensitive acreage to vegetation (e.g., riparian buffers). Contact your local FSA office. http://www.fsa.usda.gov/dafp/cepd/crp.htm
- **Conservation Reserve Enhancement Program (CREP)**—pays incentives for specific conserva-tion practices. Contact your local FSA office. http://www.fsa.usda.gov/dafp/cepd/crep.htm

USDA Natural Resource Conservation Service

- **Environmental Quality Incentive Program (EQIP)**—offers technical, educational, and financial assistance to address natural resource concerns in an environmentally beneficial and cost-effective manner. 202-720-1834. http://www.nrcs.usda.gov/programs/eqip/
- **Wetlands Reserve Program (WRP)**—provides financial support for wetlands restoration and protection projects. 202-720-7157. http://www.nrcs.usda.gov/programs/wrp/

Individual States

- **State foresters**—offer direct technical assistance and leveraging of State and local resources to develop programs and forest protection measures. Contact your State's department of forestry or natural resources. For a list of State foresters, contact the National Association of State Foresters. 202-624-5415. http://www.stateforesters.org/
- **State extension services (usually university related)**—offer technical knowledge and skills, inspiration, and awareness and understanding about rules, forestry, water issues, tax and financial options, and basic decision-making processes. Contact your State university or agricultural college.

Private Organizations

- **American Tree Farm Association**—offers training and mentoring, education and technical assistance, conservation partnerships, public policy advocacy, and "tree farm" certification programs. 202-463-2462. http://www.treefarmsystem.org/
- **Forest Landowners Association**—follows legislation before Congress that affects forest landowners and their property; provides advocacy and education to support responsible forest management. 1-800-325-2954. http://www.forestlandowners.com/
- **Forest Stewards Guild**—works to develop forest management solutions that work from economic, environmental, and social perspectives. 505-983-3887. http://www.foreststewardsguild.org/
- **Land Trust Alliance**—promotes voluntary land conservation; provides resources and training to help protect open space. 202-638-4725. http://www.lta.org
- **National Network of Forest Practitioners**—provides a clearinghouse of information and technical assistance, to promote the well-being of the environment, communities, and workers. 401-273-6507. http://www.nnfp.org/
- **National Woodland Owners Association**—promotes forestry and the interests of woodland owners.1-800-GRN-TREE. The NWOA Web site has links to State affiliates and other local woodland owners associations. http://www.woodlandowners.org/

Guide to the guidance

Privateforest.org offers an online guide to the multitude of available resources. Developed by The Nature Conservancy (TNC), with financial support from the Forest Service's Forest Stewardship Program, this Web site includes a library, information exchange, links to individual State forestry resources, and current information about forest management. Go to http://www.privateforests.org/.

Policies and research to take private forests into a sustainable future

Achieving public objectives for water protection on private forest lands ultimately requires more than landowner assistance and public education. Effective public policy that promotes incentives, flexible and understandable rules, in-depth information, and old-fashioned inspiration all can help improve the stability of private forest enterprises and empower private forest landowners to resist the pull to pull out.

Public policy that fosters education and financial assistance is evident in the multitude of programs described above. In addition, many States have initiated programs that offer preferential tax treatment and other incentives to help preserve forest lands. For example, Pennsylvania's Clean and Green program provides for lowered taxes on land devoted to Forest Reserves. Indiana's Classified Forest Program allows landowners with at least 10 forested acres to keep the land in forest in exchange for property tax breaks, forestry literature, and free assistance from a professional forester.

Informed policymaking requires a thorough understanding of not only the complex technical issues but also the environmental and social costs and benefits of private forests. A few identified research areas that could help provide that understanding include:

- **Long-term monitoring** of water quality and habitat modification associated with urbanization.
- **Watershed-scale studies** to compare relatively undeveloped watersheds to similar watersheds with greater disturbances due to roads.

- **Studies of the impact** of taxes and other economic pressures on landowners' decisions to retain or sell their land; one nationwide study is already being supported by the Forest Service to determine the tax burden on private forest landowners in each State.
- **Research** that would allow us to better quantify the tangible and intangible values of private forests to the Nation.

Sustainable management and retention of private forests will continue to be tough challenges as these landowners face mounting pressures, as forested and aquatic ecosystems undergo environmental change, as social values and management decisions shift, and as competition for water resources increases. Education, support, and dedicated leadership at all levels will be needed to help ensure that private forests and their diverse landowners remain firmly in place, on the frontline of water protection efforts far into the future.

People on the frontline

On lands of every size, type, and condition, private forest landowners are applying an array of management styles and objectives that protect and enhance water quality. Here's a sampler of some private forest challenges and opportunities being met with creativity and flair across the country. For more details on each story, go to http://www.fs.fed.us/wildlandwaters/.

Pushing the envelope: George Fenn, Oregon

"We have no problems with erosion, our streams are all shaded with conifers, and we're creating a lot of biomass that wildlife can use," explains George Fenn of Oregon, who converted a 425-acre sheep pasture into 390 acres of profitable yet protected forest that includes coastal redwood trees planted, and harvested, along the streams. "Our riparian areas are all planted," he notes, pushing the envelope of conventional wisdom but operating well within the strict requirements of Oregon's Forest Practices regulations, which he enthusiastically supports.

Lokchasassa stewards Pat McFadden and Angela Hagen with resident gopher tortoise.
Photo by Raymond Wilson, 2003.

Stewardship first: Pat McFadden, Georgia

"What we're doing is a bit radical for this area," admits Pat McFadden of his Lokchasassa Wilderness Project, located in rural Georgia where commercial pine plantations and pivot irrigated row croplands are the norm. McFadden's approach is to harvest trees in favor of wildlife and native plants, not for timber production. "Here, it's stewardship first," he says. "On Lokchasassa, biodiversity is our goal." McFadden's 700 acres of riparian and upland forest and 120 acres of restored wetlands harbor diverse species, including some that are threatened or endangered. McFadden's active stewardship plan earned him recognition as a Certified Steward under Georgia's Forest Stewardship Program.

Jean Shaffer demonstrates value-added products from her small forest.

Photo by Mary Carr, 2003.

TreeArt: Jean Shaffer, Washington

"If you meet the needs of your forest, your forest will meet your needs," believes Jean Shaffer. A practitioner of ecological, or natural selection, forestry, Shaffer takes clues from the condition of individual trees and naturally occurring events to decide what trees to remove. She and her husband individually select, cut, and mill each tree from their 20-acre western Washington forest to create unique high-end furniture and wooden sculptures from mostly small-diameter trees. Off limits are the stately Douglas-firs and madrones surrounding the spring and pond that provide a wildlife watering hole. This small, isolated forest, surrounded by mushrooming housing developments, is certified by SmartWood, under the Forest Stewardship Council.

Ed Fite repairs fencing that keeps livestock from his riparian area.

Photo by Eddie Glenn, 2003.

Hats off for water quality: Ed Fite, Oklahoma

Private forest landowner Ed Fite—along with his cousin, Julian Fite—is steward of some 1,400 acres of oak-hickory forest and pasture lands adjacent to the Illinois River. Fite's approach to forest and farm management reflects not only his personal philosophy but also his priorities when he's wearing a different hat, that of Oklahoma Scenic Rivers Commission director: "I manage number 1 for water quality," he says. Fite follows his stewardship management plan to exclude livestock from the riparian area and ensure careful harvest practices on the upland forest, where wildlife find refuge. "There's so much help out there," he advises other private forest landowners while wearing his landowner-advocate hat. "Go out and solicit education and technical assistance from agencies like the Natural Resources Conservation Service, State forestry departments, State and local farm agencies, State conservation commissions, and the U.S. Environmental Protection Agency." Ed recommends asking public servants like himself to help smooth the way.

Lloyd Keisler and his family receive a ceremonial check for participation in the Forest Legacy Program.
Photo by Dan Ernst, 2003

Preserving paradise: Lloyd Keisler and family, Indiana

Located just a few minutes from the city of Bloomington's 70,000 people and a bustling airport, a 300-acre private forest is under increasing development pressure from the surrounding community. Lloyd Keisler and his family are resisting that pressure, though. Their land will remain forested forever as part of the Forest Legacy Program, with a conservation easement on their Little Richland Creek property. The Keislers will continue to manage their forest for wildlife habitat, soil conservation, air and water quality, timber, and aesthetic values.

—Adapted from USDA Forest Service/Forest Legacy Program, www.fs.fed.us/na/durham/legacy/

A vision of beauty on Nicatous Lake, protected by a conservation easement.
Photo by Alan Hutchinson, 2002.

It begins with a vision: Jim and Jenness Robbins, Maine

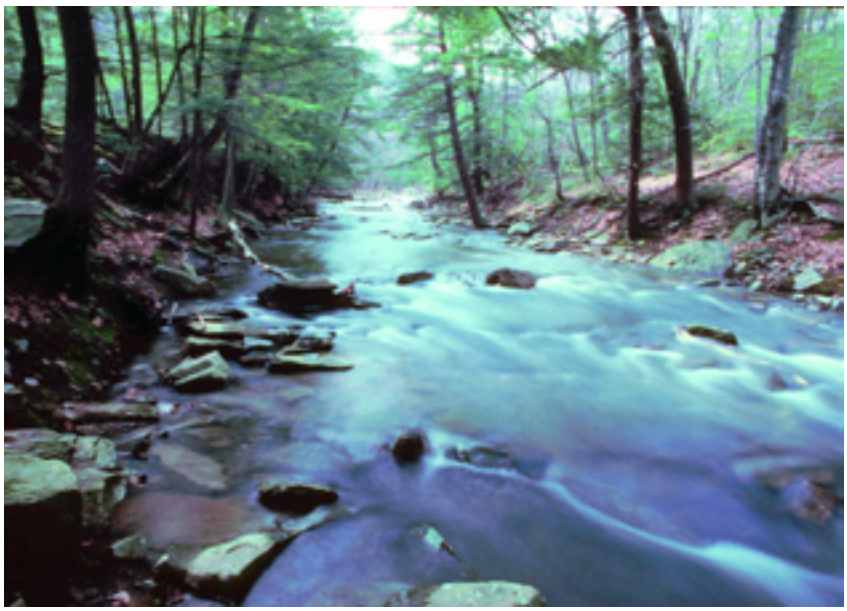
"The Nicatous Lake project began with a vision held by Jim and Jenness Robbins, [who] believed there had to be a way to keep their lands undeveloped, a place the public could enjoy and wildlife could thrive, while generating a sustained flow of forest products" observed Alan Hutchinson of the Forest Society of Maine. This nonprofit conservation group is part of a coalition of organizations that helped landowners, Robbins Lumber, and Champion International protect more than 20,000 acres of Maine forest lands from future development through a conservation easement on the property. "We believe in a balance between ecology and economics," declared landowner Jenness Robbins.

—Adapted from USDA Forest Service/Forest Legacy Program, http://www.fs.fed.us/na/durham/legacy/

Planting trees, protecting water: Stanley and Kathy Guest, Pennsylvania

Stanley and Kathy Guest had tried for years to engage a strong partner organization and secure financial support to correct nonpoint source pollution problems and restore the riparian areas on their Century Oak Farm in southeast Pennsylvania. When the nonprofit Green Valleys Association (GVA) stepped forward, the scale tipped. Fencing, moving cattle crossings to adjacent pastures, and installing a nutrient containment structure all helped improve both the new riparian buffer and stream quality. And the Guests got into agroforestry—planting trees, lots of trees, with the help of local volunteers, students, and neighboring farmers. They removed exotic vegetation from the streamside and planted instead native trees and shrubs and native warm-season grasses, with the goal of planting a fully functioning and sustainable ecosystem on the streambank

—adapted from GVA Watershed Stewardship Award Application, 2002.



Key Issues

- Private forests are vital for the protection of water quality and quantity, yet they are at risk of development, conversion, and ecological damage.

- Sound watershed management, protection, and restoration on private forests are important for maintaining and achieving healthy aquatic, riparian, and wetland ecosystem function and condition.

- Private forest landowners are key to the successful implementation of water protection measures.

Land Management Implications

- As land uses and ownerships change over time, management decisions that emphasize the retention of sustainable working private forests will be important to protect these sources of clean water.

- Training, technical, and financial assistance provided to private forest landowners, loggers, and managers can help ensure compliance with BMPs, increase knowledge and skills of forest practitioners, and provide social and economic support for working forests.

- Policies and regulations can foster stewardship by being flexible, well-grounded in science, accessible, understandable, and cost-effective.

- Conservation education programs can help raise awareness of forest resources and can foster understanding of diverse ideas, values, and forest management goals. ▮

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For Further Reading

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