



Forest Management and Timber Harvesting in Pennsylvania

INFORMATION FOR CITIZENS AND LOCAL GOVERNMENT OFFICIALS

This publication provides background information about the impact of forest management and timber harvesting ordinances on private forests. We encourage communities and local governments to critically evaluate the need for regulating forestry and the potential impacts on those who own, manage, and depend on these lands for the diverse values they provide.

The document begins with background information on Pennsylvania's forests. Followed by a short overview of Pennsylvania's Municipalities Planning Code. The next section introduces forest management basics, followed by a section describing benefits achieved through forest management. For those local governments considering timber harvesting ordinances, the next section offers reflective questions to guide meaningful discussions about the need for developing regulations.

In Pennsylvania statewide regulations and best management practices already address many of the concerns raised at the local level such as water quality control and road bonding and hauling. The section entitled "State Regulation of Timber Harvesting" provides essential background for consideration.

Believing that it is important for local government to engage resource professionals in their consideration of harvesting and forest management ordinances the next section provides information on accessing relevant expertise.

The last section of this publication contains a model timber harvesting ordinance created by input from natural resource professionals that addresses most of the concerns expressed by local communities. It is consistent with the "Right to Practice Forestry" provision (53 P.S. §10603[t]) of the Pennsylvania Municipalities Planning Code and has been recommended as an ordinance that complies with state law.

Information for Citizens and Local Government Officials

Pennsylvania's forests. Tracts of forest land of all types and sizes are important to our communities. Forested landscapes, whether publicly or privately owned, provide many essential economic, environmental, health, and recreational benefits for residents and visitors alike. The report of the Pennsylvania Twenty-First Century Environment Commission, published in 1998, highlighted the value of forests as

an asset of the Commonwealth and advocated for forests as one of the preferred open space uses of the land. Conserving wooded tracts of land, including forest remnants remaining in developed areas, enables us to retain these many benefits for our communities, residents, and visitors.

Pennsylvania is fortunate to have 58 percent (16.9 million acres) of its land covered with forests. About a third of these woodlands (29 percent, 4.9 million acres) is in public ownership by federal, state and local government. Surprisingly, privately held forests and woodlands represent the largest percentage, covering 71 percent of the state and involving 12 million acres including only 3 percent owned by the forest product industry. The diverse private ownerships represent areas from one to thousands of acres held by an estimated 750,000 owners (e.g., individuals, families, partnerships, corporations). Reasons for owning woodlands vary from providing solitude, to wildlife habitat, to producing income. Regardless of the reasons owners give for owning woodlands, these properties provide indirect and direct benefits to all Pennsylvanians such as clean air and water, wildlife habitat, aesthetic views, recreation, and wood products. Our state's communities are well-served if they help forest owners retain and manage their lands to produce myriad values.

Today, forests face increasing challenges from many factors including invasive insects and diseases, development pressures, and climate change. Aware of these threats, individuals and communities are expressing concerns about forest health and vitality. By cataloguing the benefits forests provide, by adopting regulations and practices that conserve forests, by allowing sustainable harvesting, and by educating residents about the value of forests, local governments play a key role in ensuring the conservation and responsible use of Pennsylvania's forest lands.

In our communities, forests exist in a variety of configurations or manifestations. While we all recognize large or extensive tracts predominated by trees as forests, other wooded parcels, such as farm woodlots, wooded open space within residential developments, and forested buffers along streams, also are key components of our forested landscapes.

Communities, eager for growth, often overlook the importance of forests by implementing policies that reduce the size and impair the health and resiliency of our forests. On the other hand, some communities with good intentions striving to protect forest values impose regulations to protect or preserve forests and inadvertently make it

difficult for forest owners to effectively care for their forests to attain personal values including producing income from harvesting trees. Interestingly the drive to protect or preserve forests often meets with unexpected consequences. For example, competing native and exotic plants come to dominate the understory preventing establishment of new seedlings necessary to replace trees dying from age, diseases, or invasive insects. These ever-expanding areas of non-native plants provide poor habitat for native insects and songbirds. Landowners unable to improve their forests find them less valuable and expensive to retain and often sell for development. These and other stories are common.

Forests are dynamic and always changing and in many cases the changes they are experiencing threaten their health. Unfortunately, some landowners, lacking the skills, resources, interest, and/or knowledge to tend their forested lands properly, may neglect their forests or harvest trees in ways that are detrimental to forest health and sustainability. These actions of individuals and communities increase the vulnerability of our forests to ever-present threats

Pennsylvania's forests will continue to change. The valuable black cherry trees on the Allegheny Plateau, for example, will give way to more shade-tolerant species, such as sugar maple and beech, and the proportion of oaks in the Ridge and Valley Region will decline and give way to red maple and other species. A natural disturbance such as tornadoes, an invasive species or disease, or even climate change may accelerate or slow down these changes.

Silviculture is the science and art underpinning forest management. Silviculture is analogous to agriculture in that it involves working with an understanding of how trees in a forest establish, grow, and compete. Unlike agriculture which deals with short rotations, forests grow and require management over much longer time. Like agriculture, forest management involves weeding, thinning, harvesting, and "planting" to ensure a continuous flow of products—from habitat to timber. Trees compete for water, nutrients, light, and space. By understanding the requirements of various tree species for their best performance on a given site, forest management guides forest development through harvests designed and timed to weed and thin the forest and to establish the next crop. One further point, in Pennsylvania it is seldom necessary to plant following a timber harvest as most forests "plant" themselves with naturally occurring seedlings and the contribution of sprouts from roots and stumps.

Implementing forest management practices is often quite visible. Because the time lapse between silvicultural practices is long, the visual change to a forest is seemingly harsh when it occurs. Understanding and accepting these changes is sometimes admittedly difficult; however, in most cases the visual impact is relatively short as the site “greens-up” and logging slash decays, returning its nutrients back to the soil while providing useful wildlife habitat and protection to seedlings that will contribute to the next forest.

Harvesting intensity varies by silvicultural objective. Tree species have different growing conditions for germination and development. Light is the most easily managed resource for guiding tree development and growth. Some species (e.g., aspen, black cherry, tulip) germinate and grow best with lots of light, while others (e.g., sugar maple, American beech, eastern hemlock) can tolerate low light conditions. Creating the best light conditions through harvesting involves understanding individual tree species light requirements and their ability to compete with other species. As a result, silvicultural prescriptions involve assessing conditions on a given site relative to ownership and management objectives and where a stand is in its development from establishment to maturity. Developing a sound and practical silvicultural plan is not prescriptive; rather, it is a blending of experience, science, and interpretation of existing conditions and desired outcomes. Reasons to harvest might consider financial maturity of trees, presence or absence of new seedlings, a desire to create different wildlife habitat, or improving growing conditions by reducing tree to tree competition.

Forest resource managers recognize that silviculture falls into “systems” designed to guide forest development from regeneration to harvest over rotations that encompass decades. These systems result in forests with either trees in one or more age classes, respectively called even or uneven-aged. Without delving deeply into silvicultural science, clearcuts, shelterwoods, and seed tree harvests result in even-aged forests; while individual and group selection create and maintain uneven-aged forests. Even-aged forests begin under conditions with more light and tend to promote faster growing shade intolerant tree species (e.g., tulip, aspen, black cherry). Uneven-aged forests, because cutting creates less light in smaller canopy openings, tend to foster forests with more layers with trees capable of growing in lower light conditions (e.g., sugar maple, American beech, and hemlock).

Diameter-limit cutting is generally a destructive practice. It is well known that high-grading (also referred to as “select

cutting”) or taking the best trees of the most valuable species, leads to a progressive deterioration of forest quality affecting tree species diversity and quality. However, many people do not realize that diameter-limit cutting, which involves taking trees based on size, is equally as destructive. By cutting all trees above a certain diameter (measured at 4.5 feet above the ground) smaller, slower-growing trees are left. In Pennsylvania’s even-aged forests, small trees are usually about the same age as large ones; however, these small trees may be of a different species, genetically inferior, or in a poor location. Diameter-limit cutting shifts species composition toward slower-growing, less valuable shade-tolerant species, and it may degrade quality by retaining and promoting inferior trees. Such cutting reduces future management options, slows recovery following disturbance, and may eliminate or reduce seed sources for trees species better suited to the site.

Tree planting (artificial regeneration) in forests is uncommon in Pennsylvania. Acceptable silvicultural practices will naturally regenerate from seeds or sprouts. Studies have shown that naturally regenerated trees usually grow faster and survive better than planted trees. Most commonly tree planting in Pennsylvania is done to reforest former strip mine sites, old fields, riparian areas, conifer plantations, and areas where insects or diseases have killed all the seed-producing trees.

The visual impacts of timber harvesting are temporary and infrequent. The raw visual impact of a recent timber harvest changes rapidly. After only three to five years, a casual observer may not recognize past logging activity as slash rots and new tree seedlings and other vegetation renew disturbed areas. In fact, slash or tree tops are left behind purposely after a harvest to protect young seedlings from deer browsing to help regenerate the forest. After a harvest, loggers are unlikely to revisit the area for another fifteen years or more.

Good planning reduces timber harvesting visual impacts. Foresters can screen logging roads, and landings by using topography and vegetation and retain selected large trees to provide fall color and interesting patterns. Other techniques include cutting stumps close to the ground, where feasible imposing utilization standards, and trimming or lopping unused tops in visually sensitive areas so that it is closer to the ground.

Timber harvesting does not lead to development. Forest loss to development is a real concern in Pennsylvania. Forest

landowner survey data suggests that most owners conduct timber harvests infrequently to produce income or for some other objective. Confronted with unreasonable levels of regulation that restrict their use of the forest to meet their needs, the incentive to sell their land for development is a likely alternative. History shows that landowners who have the relative freedom to harvest their woodlots for economic gain have an incentive to leave the forest in an undeveloped condition. Conversely, forest landowners who become subject to unreasonable levels of regulation, often to the point of making active management of their forests uneconomical, often sell their land for development uses. As with farmers, forest landowners should consider how to keep their lands in a perpetually forested condition. Reasonable land-use regulation making allowances for harvesting while providing for the continuation of the natural resource is important for retaining working forest landscapes.

According to U.S. Forest Service inventories, forest area in Pennsylvania has for decades remained relatively constant as farm land abandonment in rural areas has offset forest land conversion for development. Based on existing trends, this is likely to change in future decades. Therefore, conserving working forests is a growing challenge.

Timber harvesting seldom adversely effects water quality and does not lead to flooding. Forest soils are very absor-

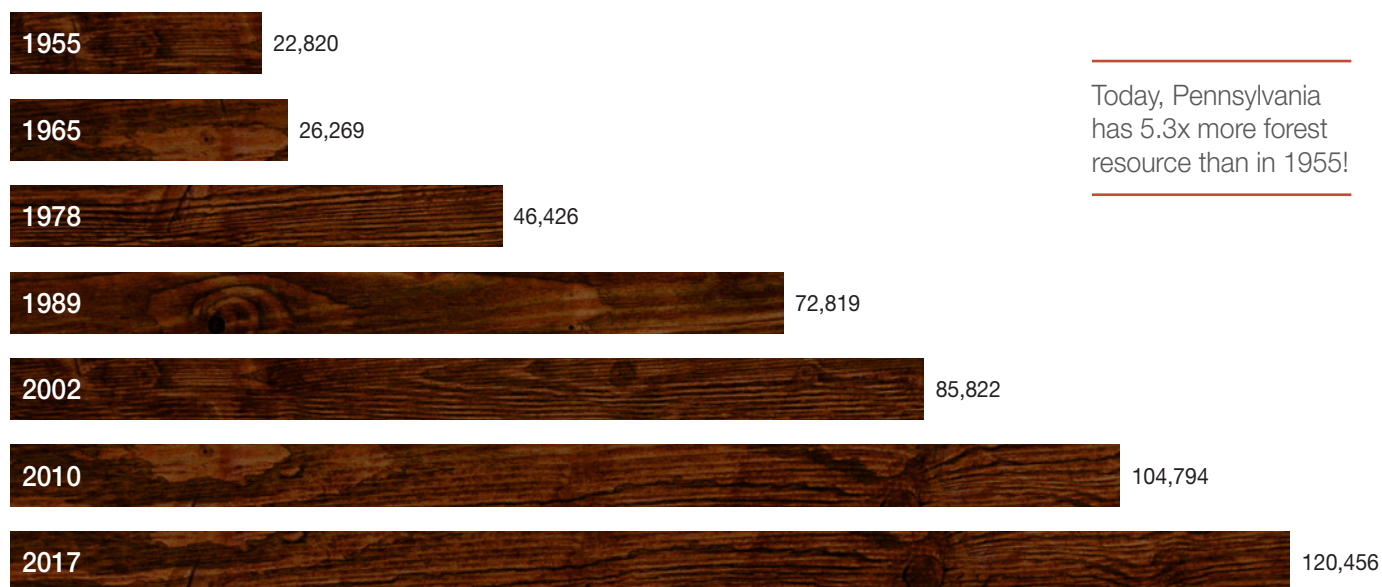
bent. They act as living filters and reduce surface runoff much more than land uses. Logging normally disturbs less than 10 percent of the forest soil in the harvest area and does not change forest soil characteristics. The Pennsylvania Department of Environmental Protection's (DEP) 2018 Assessment Report classifies 17,498 miles of the Commonwealth's streams and rivers as impaired for aquatic life. Of these impaired miles, silviculture was attributed as the source for only 0.04% (7 miles). Further, forest management in Pennsylvania does not normally rely heavily on herbicides or fertilizers. The primary concern with logging is disturbed soils, but by existing state law, all timber harvests must have site specific plan to address potential problems before a proposed timber harvest commences. (See the following section on state regulation.)

Timber harvesting occurs on a small portion of Pennsylvania forests annually. Pennsylvania forests are increasing in volume twice as fast as they were being cut or lost to natural mortality. Overall, the annual Pennsylvania timber harvest is less than 1 percent of the current standing-timber volume.

The chart below uses Forest Inventory Analysis done by the USDA Forest Service to show that the growth in the volume of standing timber in Pennsylvania is five times greater than it was sixty years ago.

Pennsylvania Forest Growth

Millions of Board Feet: 1955-2017 (Standing Saw Timber Only)



Adapted from USDA Forest Inventory Analysis

Benefits of Forestry Management

Forest management encourages open space conservation.

Again, the Pennsylvania Twenty-First Century Environment Commission report recommended that farms and forests remain among “preferred open space uses of the land,” and that these land uses be “sustained, profitable, and environmentally sound.”

Research has repeatedly found that regardless of ownership size, private forest owners hold their land for myriad reasons; from providing solitude, to pursuing recreational opportunities, to wildlife viewing and hunting, to producing income. To sustain or enhance these values and benefits, it is often essential for owners to actively engage in forest management. Simply allowing the forests to develop without management seldom results in desired outcomes especially when one considers all the pressures on trees and forests today, which are threatening forest health and vitality.

Generally active forest management involves harvesting or cutting trees to create desired future conditions. Forest growth and development depends on the allocation of resources: light, water, nutrients, and space. Among these resources, light is the most easily managed and it involves creating space by cutting to allow plant growth and development. Regulations that restrict management, whether to produce income from harvesting or to enhance other values, reduce the desire of owners to maintain woodland on their property. Eliminating or significantly limiting harvesting makes alternatives such as commercial and residential development more attractive.

Forest management provides tax benefits to local governments. According to a study conducted by the American Farmland Trust, forestland and farmland yield an average of \$3 in taxes for every \$1 of required governmental services, while residential land costs \$1.11 in services for every \$1 collected in tax revenues.

Harvesting trees increases habitat diversity and provides other wildlife benefits.

Many animal species, such as the golden-winged warbler, bluebird, snowshoe hare, deer, and ruffed grouse, benefit from younger forests and the temporary openings created by timber harvesting. However, because of logging practices in the early part of the twentieth century, much of Pennsylvania’s forests contains mature trees that are all approximately the same age. The area of young

forests containing seedlings and saplings is now relatively uncommon. This imbalance in the proportion of younger forests is affecting wildlife and plant communities. Timber harvesting increases the proportion of younger trees, which in turn allows for greater habitat diversity and a greater variety of plants and animals in forest areas.

Forest management increases wildlife food source diversity.

Harvesting can spur increased seed, fruit, and nut production on residual trees as well as increase shrub layer diversity under the forest canopy. In addition, slash created from limbs and tops of harvested trees provides small mammals and birds with winter shelter and protection from predators. Further slash is helpful in protecting tree and shrub seedling growth.

Forest management sustains and improves forest health and resilience.

Proactive forest landowners can through management reduce invasive insect or plant threats. Removing tree-of-heaven, diseased beech, dead or dying ash, or hemlock can improve forest health and reduce or slow the spread of various invasive species.

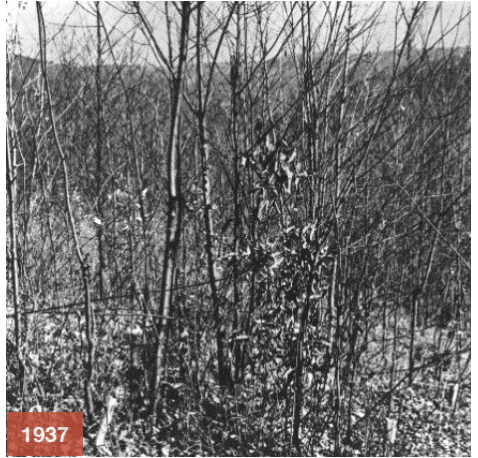
Forest management can improve recreational opportunities.

Trails and roads created during timber harvests may provide hiking and cross-country skiing access.

Forestry in Your Community: Should Township Ordinances Be Adopted?

In the past, only a small proportion of Pennsylvania local governments had chosen to regulate timber harvesting. However, more municipalities will likely consider regulating timber harvesting as our state’s forests mature and more residential development occurs in suburban and rural areas. Development brings more people from cities and suburbs into forested areas where timber harvesting is a traditional practice. The resulting concerns may lead to calls to adopt a timber harvesting ordinance. Whether this is the best solution for a community depends on the answers to several interrelated questions. This section identifies some of the key questions and suggests a process for answering them.

Examine the need for regulations. Why has timber harvesting become a concern? How extensive and frequent is timber harvesting in the community? What effect does it have on the



In 1927 this section of the Little Arnot Run on the Allegheny Plateau was clear-cut for sawtimber, with many seedlings already in place across the area. Since then the forest has been left to develop naturally. This is a classic example of an even-aged forest that has been unmanaged. A silvicultural thinning of this forest in 1958/1968 would have dramatically increased the average tree size of the forest in 2018.

Credit: USDA Forest Service Research & Development, Irvine, PA

community? Has it caused problems? If so, how significant are they compared to other land use questions that might potentially claim some of the local government's limited time and resources?

Different problems call for different solutions. For example, if people are most concerned about the impacts of heavier truck traffic, state law and regulation already provide a solution. The same is true for concerns about erosion and sedimentation or wetland degradation. Education might best address concerns about forest regeneration or wildlife. If the concerns are about the effects on land development of forests, a tree preservation ordinance rather than a timber harvesting ordinance is more appropriate. A well-designed tree preservation ordinance preserves or restores trees as part of commercial or residential development, and it should be a part of the community's land development and subdivision ordinance.

Identify and compare alternative solutions. Local regulation is rarely the only way to resolve a conflict. What are the other alternatives, and how do they compare to local regulation in terms of cost and effectiveness? Would regulation of forestry cause landowners to subdivide and develop woodlands?

Consider not only the public benefits of each alternative but also the burdens imposed on forest landowners and the forest industry. Are they reasonably balanced? Do any of the alternatives infringe upon landowner rights?

Avoid duplication of existing regulations. Find out whether your concerns are already addressed by existing state or local regulations. If so, is further local action necessary or the best choice?

Evaluate the prospect of regulation in light of the Municipal Planning Code (MPC) amendments prohibiting local governments from using a zoning ordinance to unreasonably restrict forestry activities (53 P.S. §10603[f]). The 2002 MPC amendments specifically direct all municipalities to permit forestry activities in their zoning ordinances as a "use by right" in all zoning districts. The intent is to make it easier to conduct all forestry activities by limiting the scope of zoning and other regulations. Municipalities that choose to regulate forestry activities have to create reasonable ordinance provisions that encourage sound forestry principles and practices.

While these statutes do not define "unreasonable restriction" and no appellate court decisions have yet interpreted them, local officials should consult with their solicitors regarding the implications of these provisions before enacting an ordinance. Municipalities that prohibit timber harvesting in forested zoning districts or make timbering a special exception or conditional use subject to many burdensome and time-consuming requirements that are not in compliance with the forestry provisions of the MPC will likely face challenges from both landowners and the forest industry.

Since Act 38 of 2005, known as "ACRE" (Agriculture, Communities, and Rural Environment), went into effect, there have been several challenges by forest landowners and/or the forest products industry regarding "unreasonable" forest management ordinances. A review of these timber harvesting cases prior to writing a local ordinance would be wise (see www.attorneygeneral.gov/resources/acre).

Consider additional enforcement costs. All ordinances must be fairly and consistently enforced, and the municipality must have the capability of administering it efficiently. Normally local governments assign enforcement authority to the zoning or code enforcement officer, who has many other duties and rarely has any forestry training. Before enacting an ordinance, local officials should determine resources needed for enforcement and then proceed only if they are prepared to provide these resources.

Try to anticipate all important consequences. All too often, legislation has unintended consequences (as in Murphy's famous law). For example, by effectively eliminating timber harvesting as a potential source of revenue for forest landowners, an overly restrictive or costly ordinance might create an unintended incentive for owners to convert land to developed uses.

Carefully evaluate proposed forestry practices. Several existing ordinances require specific forestry practices that are either unnecessary or destructive. For instance, some require artificial forest regeneration (tree planting), which is usually unnecessary in Pennsylvania, while others mandate the generally destructive practice of diameter-limit cutting (limiting harvesting to trees above a certain minimum diameter). Even forest practices that are right for some sites may be wrong for others. Therefore, for these reasons, including specific forestry practices in local ordinances is inadvisable.

Consider the economic and operational impacts of a proposed ordinance on loggers and landowners. Timber harvesting provides important economic benefits to communities. Forest landowners pay taxes for the expected returns from the land. The income generated by timber sales is an incentive for landowners not to develop their land. Excessive regulatory costs directly reduce landowners' timber values and might encourage them to convert their land to developed uses.

Loggers are frequently constrained by small profit margins and tight work schedules that largely depend on weather conditions. Lengthy notification and permit processes can cause serious financial and scheduling problems.

Involve the community. Regulation of timber harvesting raises complex and potentially controversial questions. Conflicts may arise over timber harvesting, and usually result in a no-win situation for everyone. Bringing all parties together prior to enacting ordinances may prevent future conflicts and avoid lawsuits. Community participation is a way of uniting people who are concerned about a problem to discuss and address the issues before they become confrontational. By promoting a cooperative atmosphere before the regulatory process begins, both sides can voice their concerns and attempt to reach a mutually satisfactory conclusion.

One way to help ensure the solution adopted is best for the community is to establish a timber harvesting ordinance committee consisting of forest landowners, loggers, environmentalists, concerned citizens, foresters, professional resource managers, township solicitors, and other interested individuals or organizations. The committee should collaborate to carry out the tasks described above and to recommend the appropriate action.

Consult a professional forester. Foresters can provide communities with valuable advice on a wide range of forest conservation issues. Foresters are experts in managing forests to provide multiple benefits on a sustained basis. Involve foresters early in any discussion of timber harvesting regulations.

State Regulation of Timber Harvesting

Pennsylvania state law extensively regulate several aspects of timber harvesting. If local governments or citizens have con-

cerns about regulated activities, the most cost-effective way to deal with them is to work with the appropriate state officials or their local agents. (See "Sources of Forestry Assistance" for suggestions on whom to contact for help on various issues.) The following is a summary of the primary state regulations affecting timber harvesting in Pennsylvania.

All timber harvesting operations in Pennsylvania must have a plan to control erosion and sedimentation. Operations that disturb 25 or more acres of land require an erosion and sedimentation control permit; however, timber operations seldom need permits as they result in very little disturbed land. Generally timber harvesting does not have a major impact on soil or water resources; however, the construction of access roads, log landings, and skid trails can cause temporary soil disturbance in the harvested area. As a result, state regulations (25 Pa. Code, Chapter 102) mandate that (1) the implementation and maintenance of erosion and sedimentation best management practices (BMPs) are required to minimize the potential for accelerated erosion and sedimentation; (2) all earth disturbance activities require the development and implementation of a written erosion and sedimentation plan; (3) the erosion and sedimentation plan shall be prepared by a person trained and experienced in erosion and sedimentation control methods and techniques applicable to the size and scope of the project being designed; (4) earth disturbance activities shall be planned and implemented to minimize the extent and duration of the earth disturbance, maximize protection of existing drainage features and vegetation, minimize soil compaction, and utilize other measures or controls that prevent or minimize the generation of increased stormwater runoff; (5) the erosion and sedimentation plan must contain drawings and narratives that consider such factors as topographic features, soils, volume and rate of runoff, sequence and maintenance program of BMPs, waste disposal, geologic formations, and thermal impacts to surface waters; and (6) the erosion and sedimentation plan must be available at the project site during all stages of the earth disturbance activity.

DEP is responsible for enforcing these regulations. County Conservation Districts (CCDs) may have delegated authority to enforce these regulations. Since the state-mandated requirements are already thorough and rigorous, communities are discouraged from adding regulatory standards that duplicate or exceed the scope of existing state regulations in their local ordinances.

Stream crossings may require permits. Timber harvesting frequently requires that access roads and skid trails cross streams. To minimize any impact on water flow or quality, stream crossings are allowed only under certain circumstances. State regulations (25 Pa. Code, Chapter 105) require permits for all types of crossings, including culverts, bridges, and fords, that drain more than 100 acres or require wetland fills. An approved erosion and sedimentation control plan must accompany all permit applications. DEP is responsible for the enforcement of Chapter 105 regulations. CCDs may have delegated authority and may provide consultation for stream crossing options.

All logging access roads and skid trails crossing wetlands require permits under both state and federal law. The U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers, and the state Department of Environmental Protection (DEP) jointly regulate wetlands. A goal of Chapter 105 is to protect water quality, the natural hydrologic regime, and the carrying capacity of watercourses, including wetlands. Although in most cases tree harvesting can occur in wetland areas, Chapter 105 prohibits the “encroachment” (for example, a road crossing) of any wetland without a permit from the DEP. The erosion and sedimentation control plan described above must accompany the permit application along with a letter from the local CCD stating that it has reviewed the plan and found it satisfactory. The DEP and the Corps have a consolidated joint permit application process. The permit issued by the DEP will usually satisfy federal application requirements, utilizing a Federal State Programmatic General Permit (PASPGP); in special cases, the Corps issues a separate permit. Enforcement of Chapter 105 as it relates to watercourses such as wetlands is the responsibility of the DEP regional offices.

Fish habitat must be maintained. Chapter 25 of the Fish and Boat Code (30 Pa. C.S.A. §§2051–2506) prohibits any alteration or disturbance of streams, fish habitat, or watersheds that in any way may damage or destroy habitat without the necessary permits from the DEP, including those required under 25 Pa. Code, Chapters 102 and 105. The Fish and Boat Code also states that no substance harmful to fish life may run, wash, or flow into the waters of the Commonwealth. Enforcement of the code is the responsibility of the Fish and Boat Commission’s waterways conservation officers.

Dealing with Potential Damage to Local Roads

The potential impact of logging truck traffic on local roads concerns many officials. Some of the roads and bridges in forest areas may not support heavy loads, and the prospect of costly repairs has prompted some local governments to enact road bonding ordinances. In addition, some areas experiencing shale energy development have had conflicts related to shared road damages. It is useful to recognize that energy and logging operations have significantly different business models and operational needs. For example, timber harvesting operations involve lower truck traffic with lower individual truck weights. The Pennsylvania legislature has mandated legal standards for all overweight hauling in Title 75PCS, Chapter 49. Under this system, local road-posting and bonding must comply with state procedures and standards required by law as specified in Road Bonding Regulations: Hauling in Excess of Posted Weight Limit on Highways (67 Pa. Code, Chapter 189). PennDOT publication 221 titled “Posting and Bonding Procedures for Municipal Highways,” contains information about these laws and regulations and is available from the Pennsylvania Local Technical Assistance Program (see “Sources of Forestry Assistance” for the address and telephone number). The section below describes some key procedures and standards for posting and bonding roads and bridges on posted roads. Similar requirements apply to bridges posted independently of roads.

Posting. Before requiring a bond from a hauler, a road must be posted with a weight limit. The steps taken to establish a weight limit include: (1) completing an engineering and traffic study that supports the need for a weight restriction; (2) passing an ordinance identifying the road segment and setting the weight restriction; (3) advertising the posting two times in a general circulation newspaper at least five days prior to actual posting; (4) contacting known heavy haulers who are using the road about executing a maintenance agreement; and (5) erecting standard signs showing the weight limit.

Excess maintenance agreement. After posting a road, the local government enters into an excess maintenance agreement, or similar contractual maintenance agreement, with each hauler who will operate overweight vehicles on that road section. This agreement allows the local government to

shift responsibility for repairing road damages on a pro rata basis to the haulers who damage the road. Note that haulers are only responsible for damage they cause in excess of normal wear and tear. It is essential to keep good records such as load count, weather conditions, and date when determining culpability if there is a damage claim on a road bonded by multiple users.

Permits. Generally, driving an overweight vehicle on posted roads requires a permit. The type of permit depends on the number of vehicles, the number of posted roads used, and the amount of use. Permits are issued only after an excess maintenance agreement, or a similar road use agreement, has been signed.

Inspections and monitoring. Before overweight hauling begins, the local government inspects the road to determine its condition. The hauler, who pays for this service, has the right to be present. After hauling begins, the local government is responsible for monitoring the condition of the road and notifying the hauler of any necessary repairs. If the local government is responsible for making the repairs under the excess maintenance agreement, the local government bills the hauler for the costs. In areas where shale development and logging operations share roads, it is highly recommended that local government officials track the traffic volume for the different operations. This account of traffic volume is helpful in determining a fair distribution of any roadway damages, should they occur.

Security (bonding). Haulers generally must provide security to ensure payment for any road repairs for which they are responsible under the agreement. This security is usually a performance bond, a standby letter of credit, or a certified bank check. The regulations specify the amount of security that required for unpaved roads (\$6,000 per linear mile) and paved roads (\$12,500 per linear mile) in cases wherein the

hauler agrees not to downgrade the road. When the local government and the hauler agree to downgrade the road type during hauling and restore it after hauling ceases, the amount of security required is \$50,000 per linear mile. If the hauler uses several roads for only a short time or makes relatively few trips, the rates per mile may be replaced with a flat rate of \$10,000. By following these rules, local officials can assure taxpayers they will not have to pay for road repairs caused by overweight vehicles, including logging trucks. In addition, landowners and loggers know what to expect when following uniform statewide procedures.

Local Traffic and Minimum Use Permits

With the passage of Act 13 of 2012 and again with Act 89 of 2013, Pennsylvania legislature granted haulers exemptions to the permitting requirements of Title 75PS, Chapter 4902. In general, there are no requirements for vehicles owned by the local government, emergency vehicles, school buses, and vehicles making local deliveries (such as a furniture truck, postal truck, etc.) to obtain a permit. Vehicles traveling to a permanent sawmill or coal processing facility are not required to obtain a permit, provided the destination and origin point are not on the same weight-restricted roadway. Additionally, if the local government official determines that the likelihood of damage to a roadway is minimal and total over posted weight traffic will be fewer than 700 trips per year per hauler, the local government may issue a minimum use permit, which grants the hauler authority to travel on the over posted weight roadway without the legal obligation to provide security. Local government officials may contact PSATS or their local PennDOT engineering district with questions regarding local traffic or the creation of local traffic ordinances.

Sources of Forestry Assistance

If your township or borough is considering enacting an ordinance on forest management or timber harvesting or has concerns about the impacts of timber harvesting on your community, you should involve a professional forester. The Pennsylvania State Association of Township Supervisors (PSATS) can help you locate forestry assistance. Pennsylvania Bureau of Forestry service foresters are also available to help you work through the issues and determine what is best for your community. Other sources of assistance are private consulting foresters, the Pennsylvania Department of Community Affairs, the Penn State Department of Ecosystem Science and Management, Penn State Extension, the Pennsylvania Forest Products Association, the Pennsylvania Forestry Association, and the Society of American Foresters. Below is a list of resources:

Association of Consulting Foresters of America, Inc.
(National Office)
312 Montgomery Street, Suite 208
Alexandria, VA 22314
Phone: 703-548-0990
www.acf-foresters.org

DCNR Bureau of Forestry Headquarters
Rachel Carson State Office Bldg., 6th Floor
PO Box 8552
Harrisburg, PA 17105-8552
Phone: 717-787-2703
Email: PAForester@pa.gov
www.dcnr.pa.gov/about/Pages/Forestry.aspx

Governor's Center for Local Government Services
Department of Community and Economic Development
4th Floor, Commonwealth Keystone Bldg.
400 North Street
Harrisburg, PA 17120-0225
Phone: 1 888-2-CENTER or 717-787-8169
Email: ra-dcedclgs@pa.gov
www.dced.pa.gov

Hardwoods Development Council
Pennsylvania Department of Agriculture
2301 N. Cameron Street, Room 308
Harrisburg, PA 17110-9408
Phone: 717-772-3715
Email: hardwoods@pa.gov
www.agriculture.pa.gov

Penn State Extension within the Department of Ecosystem
Science and Management
416 Forest Resources Building
University Park, PA 16802
Phone: 814-863-0401
www.extension.psu.edu

Pennsylvania Department of Transportation
www.penndot.gov
(click on "Regional Offices" for district offices)

Pennsylvania Forest Products Association
301 Chestnut Street, Suite 102
Harrisburg, PA 17101
Phone: 800-232-4562 or 717-901-0420
Email: pfpa@paforestproducts.org
www.pfpa.org

Pennsylvania Forestry Association
116 Pine Street, Fifth Floor
Harrisburg, PA 17103
Phone: 717-234-2500
www.paforestry.org

Pennsylvania Local Technical Assistance Program
Commonwealth Keystone Building
400 North Street, 6th Floor
Harrisburg, PA 17120
Phone: 800-FOR-LTAP
www.ltap.pa.gov

Pennsylvania State Association of Township Supervisors
4855 Woodland Drive
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Pennsylvania Model Forestry Ordinance

Before deciding to adopt an ordinance regulating forestry activities, your community should carefully weigh the questions presented near the beginning of this publication. Adoption of local regulations is not the answer for all communities.

If your community decides regulations are necessary, the following model ordinance may be helpful. It was developed in 1994 by a team of professional foresters led by Penn State's School of Forest Resources and updated in January 2001 to conform to the forestry-related changes in the Pennsylvania Municipalities Planning Code effected by Act 68 of 2000. It again was slightly modified in 2019 to reflect decisions made by the Pennsylvania Attorney General through appeals in the "Agriculture, Communities and Rural Environment Act," commonly referred to as ACRE.

The intent of this model ordinance is to address fairly the needs and concerns of local citizens as well as forest landowners and the forestry industry. It is consistent with the "Right to Practice Forestry" provision (53 P.S. § 10603[t]) of the Pennsylvania Municipalities Planning Code.

This model is best applied with the assistance of a professional forester who has the expertise to help ensure that the final regulations are tailored to your community's particular circumstances.

Model Ordinance

Section 1. Policy; purpose. In order to conserve forested open spaces and the environmental and economic benefits they provide, it is the policy of the municipality of _____ to encourage the owners of forestland to continue to use their land for forestry purposes, including the long-term production of timber, recreation, wildlife, and amenity values. The timber harvesting regulations contained in sections 1 through 8 are intended to further this policy by (1) promoting good forest stewardship, (2) protecting the rights of adjoining property owners, (3) minimizing the potential for adverse environmental impacts, and (4) avoiding unreasonable and unnecessary restrictions on the right to practice forestry, and improving human health and welfare of the community.

Section 2. Scope; applicability. To encourage maintenance and management of forested or wooded open spaces and promote the conduct of forestry as a sound and economically viable use of forested land throughout the municipality, forestry activities—including timber harvesting—shall

be a permitted use by right in all zoning districts. Sections 1 through 8 apply to all timber harvesting within the municipality where the value of the trees, logs, or other timber products removed exceeds \$2,000. These provisions do not apply to the cutting of trees for the personal use of the landowner or for precommercial timber stand improvement.

Section 3. Definitions. As used in sections 1 through 8, the following terms shall have the meanings given in this section:

- a. "Felling" means the act of cutting a standing tree so that it falls to the ground.
- b. "Forestry" means the management of forests and timberlands when practiced in accordance with accepted silvicultural principles, through developing, cultivating, harvesting, transporting, and selling trees for commercial purposes, which does not involve any land development. (The definition of forestry is taken from 53 P.S. § 10107 of the Pennsylvania Municipalities Planning Code. Only forests and timberlands subject to residential or commercial development shall be regulated under the municipality's land development and subdivision ordinance.)
- c. "Landing" means a place where logs, pulpwood, or firewood are assembled for transportation to processing facilities.
- d. "Landowner" means an individual, partnership, company, firm, association, or corporation that is in actual control of forested land, whether such control is based on legal or equitable title or any other interest entitling the holder to sell or otherwise dispose of any or all of the timber on such land in any manner, and any agents thereof acting on their behalf, such as forestry consultants, who set up and administer timber harvesting.
- e. "Litter" means discarded items not naturally occurring on the site, such as tires, oil cans, equipment parts, and other rubbish.
- f. "Lop" means to cut tops and slash into smaller pieces to allow material to settle close to the ground.
- g. "Operator" means an individual, partnership, company, firm, association, or corporation engaged in timber harvesting, including the agents, subcontractors, and employees thereof.

- h. “Pre-commercial timber stand improvement” means a forest practice, such as thinning or pruning, that results in better growth, structure, species composition, or health for the residual stand but does not yield a net income to the landowner, usually because any trees cut are of poor quality, too small, or otherwise of limited marketability or value.
- i. “Skidding” means dragging trees on the ground from the stump to the landing by any means.
- j. “Slash” means woody debris left in the woods after logging, including logs, chunks, bark, branches, uprooted stumps, and broken or uprooted trees or shrubs.
- k. “Stand” means any area of forest vegetation whose site conditions, past history, and current species composition are sufficiently uniform to be managed as a unit.
- l. “Stream” means any natural or artificial channel of conveyance for surface water with an annual or intermittent flow within a defined bed and bank.
- m. “Timber harvesting,” “tree harvesting,” or “logging” means that part of forestry involving cutting down trees and removing logs from the forest for the primary purpose of sale or commercial processing into wood products.
- n. “Top” means the upper portion of a felled tree that is not merchantable because of small size, taper, or defect.
- o. “Wetland” means “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions including swamps, marshes, bogs, and similar areas.” (Source: Pennsylvania Code, Chapter 105 Regulations)

Section 4. Notification; preparation of a logging plan.

- a. **Notification of commencement or completion.** For all timber harvesting operations that are expected to exceed __ acres, the landowner shall notify the municipality enforcement officer at least __ business days before the operation commences and within __ business days before the operation is complete. No timber harvesting shall occur until the notice has been provided. Notification shall be in writing and specify the land on which

harvesting will occur, the expected size of the harvest area, and, as applicable, the anticipated starting or completion date of the operation.

- b. **Logging plan.** Every landowner on whose land timber harvesting is to occur shall prepare a written logging plan in the form specified by this ordinance. No timber harvesting shall occur until the plan has been prepared and provided to the municipality. The provisions of the plan shall be followed throughout the operation. The plan shall be available at the harvest site at all times during the operation and shall be provided to the code enforcement officer upon request.
- c. **Responsibility for compliance.** The landowner and the operator shall be jointly and severally responsible for complying with the terms of the logging plan.

Section 5. Contents of the logging plan.

- a. **Minimum requirements.** At a minimum, the logging plan shall include the following:
 1. Design, construction, maintenance, and retirement of the access system, including haul roads, skid roads, skid trails, and landings
 2. Design, construction, and maintenance of water control measures and structures, such as culverts, broad-based dips, filter strips, and water bars
 3. Design, construction, and maintenance of stream and wetland crossings
 4. The general location of the proposed operation in relation to municipal and state highways, including any accesses to those highways
- b. **Map.** Each logging plan shall include a sketch map or drawing containing the following information:
 1. Site location and boundaries, including both the boundaries of the property on which the timber harvest will take place and the boundaries of the proposed harvest area within that property
 2. Significant topographic features related to potential environmental problems
 3. Location of all earth disturbance activities, such as roads, landings, and water control measures and structures

4. Location of all crossings of waters of the Commonwealth
 5. The general location of the proposed operation to municipal and state highways, including any accesses to those highways
- c. **Compliance with state law.** The logging plan shall address and comply with the requirements of all applicable state regulations including, but not limited to, the following:
1. Erosion and sedimentation control regulations contained in Title 25 Pennsylvania Code, Chapter 102, promulgated pursuant to the Clean Streams Law (35 P.S. § 691.1 et seq.)
 2. Stream crossing and wetlands protection regulations contained in Title 25 Pennsylvania Code, Chapter 105, promulgated pursuant to the Dam Safety and Encroachments Act (32 P.S. § 693.1 et seq.)
- d. **Relationships of state laws, regulations, and permits to the logging plan.** Any permits required by state laws and regulations shall be attached to and become part of the logging plan. An erosion and sedimentation pollution control plan that satisfies the requirements of Title 25 Pennsylvania Code, Chapter 102, shall also satisfy the requirements for the logging plan and associated map specified in paragraphs (a) and (b) of this section, provided that all information required by these paragraphs is included or attached.

Section 6. Forest practices. The following requirements shall apply to all timber harvesting operations in the municipality:

- a. Felling or skidding on or across any public thoroughfare is prohibited without the express written consent of the municipality or the Pennsylvania Department of Transportation, whichever is responsible for maintenance of the thoroughfare.
- b. No tops or slash shall be left within 25 feet of any public thoroughfare or private roadway providing access to adjoining residential property.
- c. All tops and slash between 25 and 50 feet from a public or private roadway providing access to adjoining residential property or within 50 feet of adjoining residen-

tial property shall be lopped to a maximum height of 4 feet above the ground.

- d. No tops or slash shall be left on or across the boundary of any property adjoining the operation without the consent of the owner thereof.
- e. Litter resulting from a timber harvesting operation shall be removed from the site before it is vacated by the operator.

Section 7. Responsibly for road maintenance and repair; road bonding. Pursuant to Title 75 of the Pennsylvania Consolidated Statutes, Chapter 49, and Title 67 Pennsylvania Code, Chapter 189, the landowner and the operator shall be responsible for repairing any damage to municipality roads caused by traffic associated with the timber harvesting operation to the extent the damage is in excess of that caused by normal traffic. The operator may be required to furnish a bond to guarantee the repair of such damages.

Section 8. Enforcement

- a. **Code enforcement officer.** The code enforcement officer shall administer and enforce for sections 1 through 8 of this ordinance.
- b. **Inspections.** The code enforcement officer may go upon the site of any timber harvesting operation before, during, or after active logging to (1) review the logging plan or any other required documents for compliance with sections 1 through 8 and (2) inspect the operation for compliance with the logging plan and other on-site requirements of these regulations. Note that active logging sites are inherently dangerous, even when tree felling is not occurring. No one should ever enter onto an active logging site without the proper personal protective equipment and/or without giving prior notification to the logging supervisor.
- c. **Violation notices; suspensions.** Upon finding that a timber harvesting operation is in violation of any provision of this ordinance, the code enforcement officer shall issue the operator and the landowner a written notice of violation describing each violation and specifying a date of not less than 30 days by which corrective action must be taken. The code enforcement officer may order the immediate suspension of any operation upon finding that (1) corrective action has not been

taken by the date specified in a notice of violation, (2) the operation is proceeding without a logging plan, or (3) the operation is causing immediate harm to the environment as confirmed by local conservation district and DEP. Suspension orders shall be in writing, issued to both the operator and the landowner, and remain in effect until, as determined by the code enforcement officer, the operation is brought into compliance with this ordinance or other applicable statutes or regulations of the logging plan. The landowner or the operator shall appeal an order or decision of a code enforcement officer within 30 days of issuance to the governing body of the municipality.

d. Penalties. Any landowner or operator who (1) violates any provision of this ordinance, (2) refuses to allow the code enforcement officer access to a harvest site pursuant to paragraph “b” of this section, or (3) fails to comply with a notice of violation or suspension order issued under paragraph (c) of this section is guilty of a summary offense and upon conviction shall be subject to a fine of not less than \$100 plus costs. Each day the violation continues may constitute a separate offense. The enforcement of this ordinance by the municipality shall be by action brought before a district magistrate in the same manner provided for the enforcement of summary offenses under the Pennsylvania Rules of Criminal Procedure.

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