

Forest Legacy Statewide Assessment of Need Pennsylvania





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STATEMENT OF PURPOSE

The Forest Legacy Program (FLP), established by the 1990 Farm Bill, was created by Congress to identify and conserve “environmentally important forest areas that are threatened by conversion to non-forest uses, through the use of conservation easements and other mechanisms, for promoting forest land conservation.” The Federal Agriculture Improvement and Reform Act of 1996, (P.L. 104-127:stat.888), authorized the Secretary of Agriculture, at the state’s request, to award grants for the state to carry out the FLP, including the acquisition of land and interests in land.

In August 2000, Governor Ridge designated the DCNR-Bureau of Forestry to administer the FLP in Pennsylvania. The purpose of the FLP in Pennsylvania is to help protect and sustain working forests, while maintaining private ownership of the land. Forest Legacy promotes environmental integrity, traditional forest uses, and sustainable forest management. It also provides a means to maintain and re-establish forests along scenic corridors and protect headwaters and streams to enhance water quality.

Seven specific goals were established as part of the Forest Legacy Program. These goals were established as a result of extensive discussion by the State Forest Stewardship Committee (SFSC). They take the wide variety of interests involved into consideration. The goals will be achieved through voluntary easements protecting forestland from development and through planning and promoting forest stewardship. The seven goals are stated below:

1. To maintain traditional forest uses, including recreation and timber harvesting, following Best Management Practices (BMPs).
2. To maintain productivity of forests for future generations.
3. To reduce the trend towards forest parcelization.
4. To conserve significant tracts of contiguous forest.
5. To conserve water resources and riparian zones.
6. To conserve important habitats for plants, fish, and wildlife.
7. To restore degraded forested ecosystems.



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INTRODUCTION

In response to concerns about the changing nature of forest resources in the United States, Congress, in 1990, initiated the Forest Legacy Program (FLP). In 2000, the Governor of Pennsylvania designated the Department of Conservation and Natural Resources Bureau of Forestry as the state lead agency to develop and administer the FLP in Pennsylvania. The purpose of a FLP is to identify and conserve threatened and environmentally important forestland by preventing the conversion of forestland to non-forest uses. This will be achieved primarily through conservation easements, with voluntary landowner participation. Forest areas that are important and are threatened with conversion from traditional forest uses to non-forest uses will be submitted as proposed Forest Legacy Areas to the USDA Forest Service.

Guidelines for the FLP require the state lead agency to prepare an Assessment of Need (AON) as the first step in establishing a state FLP. The State Forest Stewardship Committee played a major role in developing this AON.

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PENNSYLVANIA FOREST HISTORY

Prior to European settlement, a dynamic Native American culture depended on Pennsylvania's forests. Their use of fire to create clearings shaped, on a small scale, Pennsylvania's forest. These changes were, however, limited when contrasted with those imposed by European settlement.

Europeans first began to settle Pennsylvania in the early 1600s. Land was initially cleared for farm establishment on the Coastal Plain and Piedmont of the southeast (Figure 1). As pioneers moved westward, settlement and clearing followed the river drainages. During the 1700s, the discovery of coal resulted in substantial forest cutting for mine timbers. Land clearing for agriculture and harvesting for mine timbers, charcoal and tanning bark dominated timber removal during the late 1700s and early 1800s.

Large-scale commercial logging began in the mid-1800s in response to a rapidly expanding national economy. It is estimated that a total of nearly 100 million crossties were needed just for railroad construction. During this period, almost \$30 million of timber was harvested annually in Pennsylvania. The forests of the mid-1800s differed from those found in the state today. White pine, hemlock, and American chestnut dominated the landscape. Although the common perception is that these were forests of large trees, records suggest that this was not always so. Nevertheless, stands containing 100,000 board feet per acre were found. Today, a 7,000 board feet per acre yield is considered exceptional.



Then



Now

Cutting trees was an arduous task that employed an extensive work force. Trees were felled using axes and crosscut saws. In some cases, the bark was removed and used to produce tannin for the leather industry. Oxen, and later horses, provided the power to move the logs to temporary impoundments in streams. Until the mid-1870s, systems of dams and splash ponds on secondary streams fed the logs into the state's three major river systems: the Allegheny, the Susquehanna, and the Delaware. This slow, labor-intensive process was replaced after the development of logging railroad systems in the 1880s. The railroads put most of the state's timber within reach and streamlined the flow of logs to the mills downstream.



Much of the removal during this period was hardwood timber. The first entries into these stands focused on hardwood sawlogs. Soon thereafter, the demand for new products created a market for hemlock bark used for tannin, hemlock and white pine used for construction, and hardwoods used for fine lumber, chemical wood, fuel and mine timbers. It was a “boom and bust economy,” and within 40 years, nearly all of the state’s merchantable timber was cut, leaving a forest, which was described by Dr. Joseph T. Rothrock as being in a “stripped or brushy” condition. These depleted forests were subject to frequent and intense fires that consumed the remaining stands and prevented forest regeneration. Rothrock believed that if the Pennsylvania highlands were not reforested, they would “wash to the oceans”.



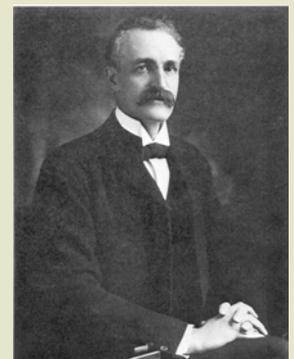
Dr. Joseph T. Rothrock

This disregard for the “stewardship” of the state’s timber and forest resources generated significant concern among many citizens. These concerns led to the formation of the Pennsylvania Forestry Association (PFA) in 1886. The PFA promoted forest resource education and lobbied for the establishment of an agency dedicated to forestry in Pennsylvania. In 1895, the Division of Forestry within the Pennsylvania Department of Agriculture was created, with Dr. Rothrock as commissioner.

From 1898 to 1910, the state acquired 924,798 acres of forested land. In 1902, Rothrock established the first State Forest Nursery, and in 1903, founded the Pennsylvania State Forest Academy in Mont Alto. These institutions were designed to provide the trees and the trained foresters necessary to begin the reforestation of Pennsylvania.

The public interest in conservation gained momentum and in 1905, the first of Pennsylvania’s State Game Refuges was established in Clinton County. It was not until 1919 that the State Legislature passed a law authorizing the Game Commission to purchase lands. These State Game lands were set aside to be used as game refuges and public hunting grounds.

Charismatic leaders, including Gifford Pinchot, John Muir and Theodore Roosevelt led the national conservation movement in the early 1900’s. In 1911, the Weeks Act provided for the nationwide acquisition of lands to protect forested watersheds of navigable streams. This act was the basis for the creation of additional National Forests, including the Allegheny National Forest in 1923. This acquisition added 513,161 protected acres to existing forest reserves in Pennsylvania.



Gifford Pinchot



In 1933, newly elected President Franklin D. Roosevelt created the US Civilian Conservation Corps (CCC), a work program for able bodied, unemployed males. This peacetime “army” was recruited to battle the destruction and erosion of the nation’s natural resources. Approximately 93 resident work camps, each consisting of 174-200 young men, were built on Pennsylvania’s state forestlands. State forestry personnel planned and supervised work projects for the CCC. Work projects included construction of roads, fire trails, workshops, park and picnic area development, tree planting, and fire suppression. Most of the CCC camps in Pennsylvania were closed by 1942.



CCC Camp # S-166 at Clearfield Tree Nursery

In the 1940’s, some of these abandoned camps housed conscientious objectors, draftees who were excused from bearing arms during World War II and later, as the war progressed, the sites were surrounded with high barbed wire fence and used again by the Army, this time to house German prisoners of war.

The next significant development in the state’s forest management was in 1955, when the entire state forest system in Pennsylvania was placed under a scientific timber management plan. In 1985, the scope of the timber management plan was revised to encompass all forest resources and functions including water, wildlife, timber, fire protection and recreation. Recreational use has grown in importance as more citizens take advantage of outdoor opportunities.

In 1997-98 Pennsylvania was evaluated on its sustainable forestry practices. This “Green Certification” process consists of an independent scientific review that determines if a forest is managed in an environmentally responsible manner. It also provides a mechanism for linking consumers and producers in the marketplace. The certification process declared the state’s 2.1 million acres of forest as sustainable based on three major categories: timber resource sustainability, forest ecosystem maintenance, and financial and socioeconomic considerations. Pennsylvania’s state forest is now the largest certified forest in North America.

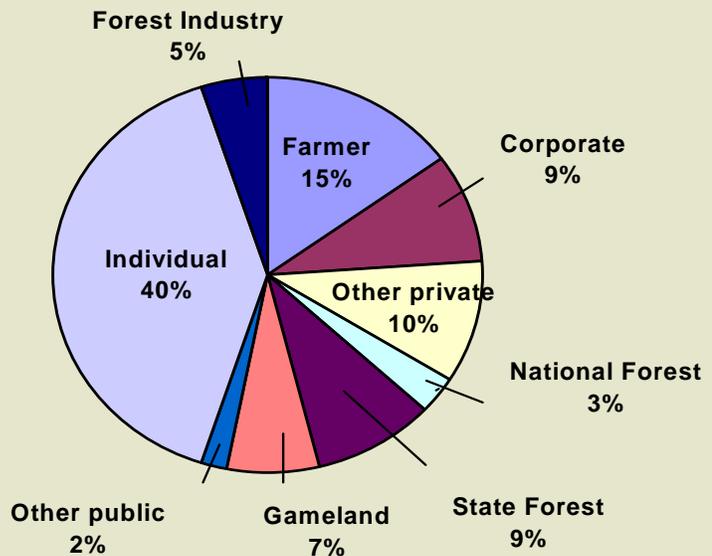
The effective management of public land, industrial ownerships, and privately owned land within the state has made Pennsylvania the leading hardwood producing state in the nation. Today, Pennsylvania has a thriving forest products industry that produces nearly 1.5 billion board feet of hardwood sawtimber annually.

ASSESSMENT OF FOREST RESOURCES



Today, in Pennsylvania, approximately 2 million acres of land is in State Forest Lands, 1.4 million acres is in State Game Lands, and 500,000 acres is in the Allegheny National Forest. The location of these public lands is shown in Figure 2. County and Municipal forestland holdings comprise nearly 250,000 acres, statewide. Of the nearly 17 million forested acres in Pennsylvania, 15,894,129 are classified as commercial forestland. Commercial forestland is defined as land capable of producing 20 cu.ft./acre/year, excluding reserved areas (natural and wild). Private landowners hold the largest portion of forestland in Pennsylvania. These private lands account for 12.5 million acres. FLP will help to conserve these private lands from conversion to non-traditional forest uses.

Commercial Forest Land Ownership in Pennsylvania



Although 59% of Pennsylvania is forested, 55% of the state is currently covered by commercial forestland capable of producing a sustainable yield of forest products. Of this 55%, almost three-quarters or 12.5 million acres are privately owned. While northwestern, southwestern and northcentral Pennsylvania are the most heavily forested sections of the state, forestland is the dominant land cover in most of Pennsylvania. However, the state of the forest is changing. Today's forests are adversely affected by air pollution, insect and disease infestations, and conversion to non-forest uses.

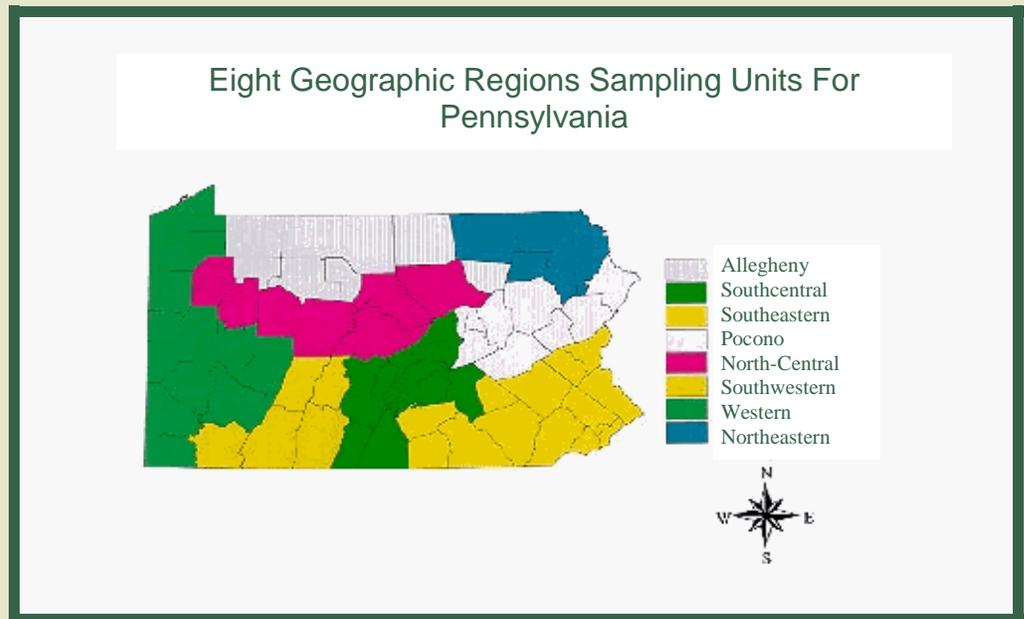
Over the last 100 years, public perception of these forests has changed dramatically. The public looks to the forest for recreational activities as well as valuable habitat for many terrestrial and aquatic species. These same forests enhance water quality. In addition, the forest is a source of raw materials for an expanding forest products industry. Conservation of these forests for traditional use is therefore of great importance to the citizens of Pennsylvania.



In Pennsylvania, traditional forest uses are defined as those that have a history of sustaining communities or industries such as, but not limited to: firewood cutting, special forest products gathering (i.e., medicinal herbs, maple sugar), timber or paper industries, forest recreation, or uses customary to an area (i.e., public access, recreation). Conservation is defined as the management of a renewable natural resource with the objective of sustaining its productivity in perpetuity while providing for human use compatible with continuity of the resource.

Pennsylvania’s forests are diverse and widespread. Most of the state is forested and much of the state’s history is founded on access to this huge resource. Fine hardwoods dominate the forest cover, providing wood for a forest products industry that employs 95,000 people. This 17 million acre resource is environmentally, culturally, and economically vital to the state. These forests are home to numerous forest-adapted plants and wildlife. Forestlands act as filters for water, as a location for recreation, and as a source of many types of forest products.

The USDA Forest Service, as a part of its mission to describe and track forest resources across the nation, identifies eight geographic units in Pennsylvania (Figure 3); Powell and Considine (1982). Most of the following species composition information is drawn from Powell and Considine (1982).



Species Composition

The Western Unit is primarily a matrix of farmland and woodlots. Urban development radiates along the rivers and transportation corridors linking to a hub in Pittsburgh. Less than half of it is forested (41%). The northern part near Lake Erie and south into Crawford County was glaciated and is now dominated by a maple-beech forest. The southern part was not glaciated and oak forest is more common. The primary species in this unit are black



cherry (15%), red maple (12%), northern red oak (10%) and sugar maple (10%). Interestingly, this unit along with the Allegheny Unit contains much of the world's commercial black cherry timber and some of its finest red oak.

The Southwestern Unit is mostly mountainous, containing the southern finger of the Allegheny Plateau as it borders the Ridge and Valley province to the east. This Unit is predominantly forestland (61%). Northern red oak (20%), chestnut oak (15%), and red maple (13%) dominate this region. It is a site of intense recreational use and an expanding primary forest products industry. Coal is also extracted from this unit.

The Allegheny Unit is mostly forested hill county (82%). Much of this area is managed for timber. Indeed, 60% of the area consists of industrial or public forestlands, although there is increasing conflict between commercial and recreational uses on public lands. The Allegheny hardwood type, red maple (22%), sugar maple (17%), and black cherry (16%), dominate the forestland in the area. The area is sparsely populated compared to other areas in Pennsylvania.

The North-Central Unit is mostly forested (71%) with significant agricultural development. The primary species present are sugar maple (16%), northern red oak (16%), white oak (10%), and chestnut oak (10%). The northern portion of this unit was glaciated and is dominated by Allegheny Hardwoods. The southern portion of this unit was not glaciated and is dominated by oak forests.

The South Central Unit is in the Ridge and Valley province. The forested sandstone ridges support chestnut oak (21%) and northern red oak (17%). Farmlands and development predominate in the limestone valleys. The area is 56 % forested.

The Northeastern Unit was glaciated. The forests are a mix of hardwoods: red maple (22%) and sugar maple (17%) with only a limited representation of oaks. The area is 59% forested. Numerous ponds and wetlands are present in this area as a result of glaciation.

The Pocono Unit was partially glaciated. The area is 60% forested. Numerous ponds and wetlands are also present in this area. These forests have been cut repeatedly for mining timbers and props, even into recent years. A fairly recent significant fire history exists. The primary species are chestnut oak (19%), red maple (15%), white oak (12%), and northern red oak (11%). It is a site of intensive recreational use.

The Southeastern Unit is only sparingly forested (22%). Farms and urban development dominate the area. Forests occur along small ridges with shallow soils or in stream bottoms, and in other areas unsuitable to agriculture. The main timber species are northern red oak (18%), and chestnut oak (13%) with many other hardwoods present.

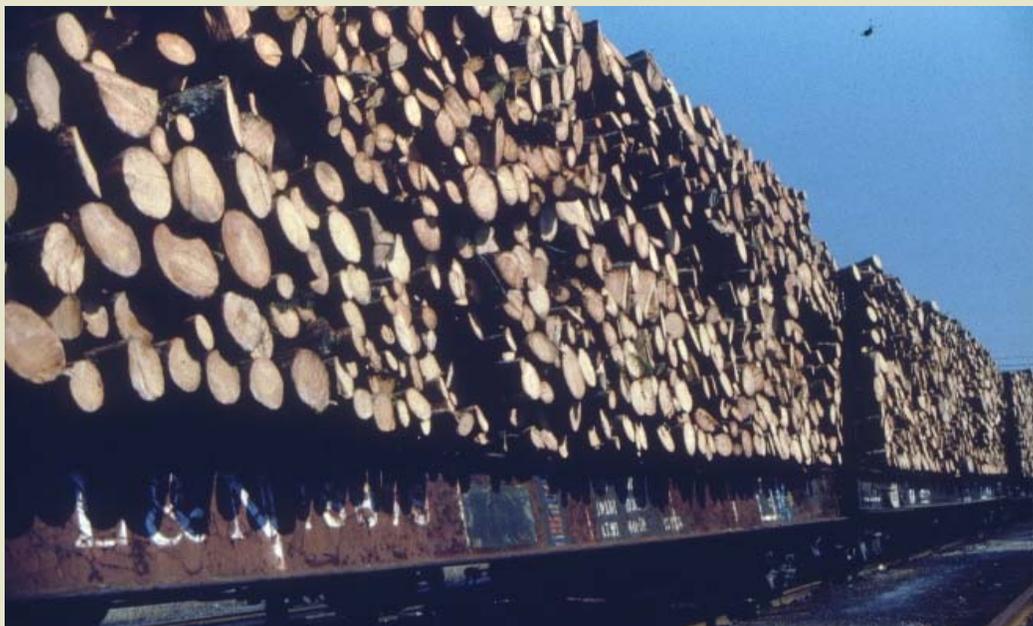
Timber and Other Forest Products

Pennsylvania's timber is approaching economic maturity. The stands are primarily 80-120 years old, having regenerated from cutting in the early 1900s. With 55% of Pennsylvania's land described as commercial forest (about 16 million acres), the potential wealth of this resource is immense. The estimated value of the standing timber is \$15.3 billion. Currently, the timber industry produces nearly 1.5 billion board feet of hardwood lumber annually. Such massive production obviously results in significant economic impact from the forest industry.



Annual Economic Impact of Pennsylvania's Timber industry		
		As a % of all Mfg. In PA
Number of Companies	2,483	13.7%
Number of Employees	88,089	9.3%
Payroll	\$2,582,548,000	8.2%
Value Added	\$5,330,900,000	8.2%

Pennsylvania's forests are rich in non-timber forest products such as firewood, maple syrup, Christmas trees, medicinal herbs, and mushrooms. Pennsylvania's forests also supply materials used to make craft items, including baskets and flower arrangements. While 247,587 cords of roundwood and 16,725 cords of residues were collected in 1997, the firewood potential from rough trees (non-commercial grade) is 12 million cords. Annual sales of wild ginseng average \$750,000, maple syrup, \$1.9 million, and Christmas trees, \$35 million. With the exception of Christmas trees, these products are traditionally harvested by cottage industries and sold in small cash transactions.





A county will be considered as rich in timber resources important for FLP purposes when it fits certain criteria. These criteria include ownership type, average parcel size, preponderance of recent management, the current and future value of the timber resource, and the number of forest products industries within the county.

Wildlife

In Pennsylvania, 174 bird and 50 mammal species use forested areas for part or all of their lives (Hassinger, 1977). In addition, numerous fish, reptilian, and amphibian species depend on habitat provided in or by forests. Many rare, threatened or endangered species are dependent on forested areas.

Highly adaptable, often common species thrive in fragmented forests. White-tailed deer populations benefit from fragmented forests where numerous edges provide them both with browse and cover. The overabundance of deer in eastern forests has an adverse affect on the diversity of plant life because rare and unique herbaceous and woody plants are consumed in order to sustain the growing herd.

What deer eat is as important as the amount they eat. In spring and summer, they eat a variety of young herbaceous plants, including wildflowers. In fall, deer graze on forest mast crops of acorns and beechnuts, removing a seed source from the aging forest. In winter, deer browse on the nutrient-rich buds found on stems and branches of woody plants. Since these buds form the beginnings of next year's growth, overabundant deer populations inhibit the renewal of our forests.



Contiguous (non-fragmented) forested land is critical to many rare or threatened species, including neotropical songbirds. Mammals, such as fishers, once extirpated because of habitat loss, are being reintroduced into Pennsylvania's mature interior forests. Maintaining contiguous forested areas is a prime concern in Pennsylvania, because while relatively large areas of fragmented habitats exist for edge species, fewer large, intact areas remain for interior species. In addition to providing habitat, contiguous forests provide travel corridors for resident and migrant populations, benefiting both edge and interior species.

It is difficult to quantify the economic impact of non-game animals in Pennsylvania; however, the economic impact of game species alone can be quantified and exceeds \$1.5 billion (International Association of Fish and Wildlife Agencies, 1996). Nearly one million hunters enter the forest annually in search of just one species: the white-tailed deer. In addition to hunters and trappers, thousands of anglers contribute to the economic well be-

ing of forest communities. Anglers spend 11 million days annually in pursuit of trout (Maharaj and Carpenter, 1996). The total economic impact of all fishing in Pennsylvania is greater than \$1.3 billion (Maharaj and Carpenter, 1996).



There are several criteria that cause a county to be designated as containing wildlife habitat important for FLP consideration. The number of species on the land that are found in the PA Natural Diversity Inventory, the importance of the area for forest nesting birds (referencing the Important Bird Area (IBA) information) and migratory species resting or feeding, the occurrence of any significant animal populations, any ecological communities that are not often found elsewhere, and high biodiversity are all important factors in FLP consideration.



Recreation

Non-consumptive use of forestlands is growing in popularity. Bird watching, hiking, skiing, and canoeing are examples of such activities. At least 28 commercial skiing areas and 300 miles of developed cross-country ski trails exist in Pennsylvania. Pennsylvania's streams and rivers provide 61 rated canoe and kayak routes. Private and public campgrounds abound and millions of acres of public and private lands provide backpacking opportunities. Nearly 5,000 miles of maintained hiking trails weave through public lands. Many of these trails are accessed from private lands. Pennsylvania is indeed an outdoor person's paradise.



In 1998, outdoor tourism in Pennsylvania contributed \$4.03 billion in direct travel expenditures to the state's economy (Shifflet, 1999). While Pennsylvania residents comprised a large portion of the state's outdoor travelers, 56% were from out-of-state. Nature-based recreation was the primary activity accounting for 58% of outdoor recreation vacations. Of this total, 20% was nature sightseeing, 19% camping, 9% hiking, and 5% boating and canoeing. Fishing, off-road motoring, hunting, wildlife watching and white water rafting each accounted for about 2% of the primary activities reported. Birding, bike touring, mountain biking, snowmobiling, horseback riding, and cross-country skiing were reported as the main activities in less than 1% of the cases.



Research on Pennsylvania’s recreation has concluded that strong growth rates in total visitation, combined with robust economic growth, indicate that the outdoor recreation market will become an increasingly critical component of Pennsylvania’s tourism and economic well being. The report further states that this segment of the tourism market warrants continued investment in resources and marketing efforts.

Opportunities for recreation within counties will add to their consideration for the FLP. Features such as scenic views, public access, trails, greenways, use by hunters and fishermen, and significant cultural/historic resources will be important in FLP acquisitions.



Watersheds

Pennsylvania's water resources include 83,000 miles of streams and rivers and thousands of acres of lakes and reservoirs. Much of this water supports viable fisheries. Forests protect headwater streams and improve the water quality along 25,000 miles of streams and rivers in the state. The decisions made in managing the state's forests directly affect the quality of the state's water. To this end, Pennsylvania has identified "exceptional quality" waters that are especially worthy of management consideration. Exceptional quality water is surface water that meets specific chemical and biological criteria. Waters are not required to meet these high-quality standards if they are considered to be of outstanding ecological significance (e.g., thermal springs and exceptional value wetlands) (Mark W. Deibler, DCNR Forest Resources Planner, personal communications). The state's exceptional quality waters, scenic rivers, and all major rivers are included in Figure 4.

Forested riparian areas contribute significantly to the quality of water resources regardless of whether adjoining land uses are urban, agricultural or forestry. Forested riparian areas can sequester excess nutrients, buffer pH, trap sediments, stabilize water temperature, provide energy to the aquatic food web, and improve in-stream aquatic habitat structure through the contributions of large woody debris in addition to providing a myriad of wildlife, timber and other benefits to mankind.

Logically, riparian forests should be managed to protect and enhance these contributions to the quality of the world's vital water resources. Management implies manipulation of the forested ecosystem through cutting, planting, and other activities to sustain and enhance these benefits. Further, it is important to note that while additional planning and oversight of activities may be necessary in riparian areas, "protection policies" advocating "keep-out" strategies are counterproductive to the protection and enhancement of water resources (Dave Welsch, USDA Forest Service Watershed Specialist, personal communications).

Thus, where water qualities are high, surrounding forests should be carefully managed to maintain the water quality allowing traditional forest uses. Where the water qualities are not as high, surrounding forests should be maintained to enhance the water quality.

In short, riparian areas have great value. They provide such essential functions as protection of water quality and groundwater recharge. The benefits provided by riparian areas affect not only humans but also aquatic organisms and wildlife in general. Counties with reservoirs and forested headwaters of rivers and streams will be noted for possible FLP consideration as well as areas containing exceptional fisheries, cooperative restoration projects, and a wilderness trout system.

Aesthetics and Scenic Values



The rugged topography of much of Pennsylvania is a scenic wonder in itself. Expansive views abound from the ridgelines and mountains of most of Pennsylvania. Over one hundred developed overlooks exist along Pennsylvania's highways, and hundreds more undeveloped overlooks are appreciated along Pennsylvania's hiking and cross-country ski trails. The undeveloped views of the "Grand Canyon of Pennsylvania" in Tioga County are regionally known. Views of the forested river valleys of the Susquehanna, Delaware, and Allegheny are breathtaking. Several scenic waterways with forested backgrounds exist in the state (Figure 4). The Delaware Water Gap National Recreation Area conserves some of this scenic beauty. An active effort by many state agencies to provide access to viewsheds along the state's transportation and trail systems has increased the appreciation of the unique beauty of Pennsylvania's topography.



The Pennsylvania Grand Canyon

Geologic Features (as a subset of aesthetic and scenic values)

A high degree of variability in topogeography and geologic history across Pennsylvania has created an array of geologic resources. Mountains, valleys, ridges, canyons, potholes, and marshlands are all characteristic geologic features of the state. Rivers eroded valleys over the ages resulting in sculpted contours. Evidence of glaciations in the northern parts of the state, such as remnant wetlands, ponds, outwashes, and terminal moraines, are a sharp contrast to the aging soils of the rest of the state. The "Grand Canyon of Pennsylvania" covers 300,000 acres and is one of the state's most well known geologic features.

Forestland bordering scenic roads and trails, lands visible from public places, landscapes with outstanding features such as lakes, rivers, rock outcrops, significant topographic, or geologic features constitute important scenic values for Forest Legacy purposes.



Geology

Fifteen topogeographic sections define Pennsylvania’s landscape. A rich geologic history of glaciation, mountain folding, and weathering molded the state’s landforms. These different areas, the counties in which they are found, and their characteristics are found in Table 3.

Soils

While soils themselves will not be part of the criteria for identifying possible FLAs, it is important to note that the variable topography and history of glaciation in Pennsylvania has resulted in dramatic differences in soil quality both within and between regions. In the unglaciated areas of the state, soils originating from acidic parent material dominate the ridge tops and mountains. The soils are usually very poor in nutrients, high in coarse fragments (rocks), and completely unsuited to agriculture. Many of the valleys have limestone/dolomite parent materials; these sites are often much richer. Rich valley soils have contributed to the great influence of agriculture in Pennsylvania’s economy. In the glaciated regions of the state, great variability in soils can exist in very short distances. Deposits of gravel or sand along ponds and marshes are often present here. While the soils of the state vary greatly, as a general rule, the forests are located on the worst soil, while agriculture dominates the best soils. Although the poor sites result in slower tree growth, the low soil quality serves to limit the conversion of this land to other uses. The forests of the state are therefore generally composed of species that have the ability to thrive under extreme soil conditions.

Mineral Resources Potential

Despite decades of extraction, Pennsylvania still contains vast coal, oil, and gas resources. It has the sixth largest coal reserves in the United States at 29 billion tons (Figure 5) and current mining annually produces \$1.5 billion dollars worth of coal. Small gas and oil industries still operate, especially in Northwestern Pennsylvania (Figure 6).





Under the Pennsylvania FLP Guidelines, mineral development may occur on no more than ten percent of the surface acreage. Once ten percent is reached, no further mineral development may take place until restoration or reclamation activities reforest the land. Reforestation is defined as land currently growing forest trees of any size with a total stocking value of at least 16.7 percent, or lands formerly forested, currently capable of becoming forest land, and not currently developed for non-forest uses.

Cultural Resources

Pennsylvania has a fascinating forest history. From the production of charcoal for the iron furnaces, to the lumbermen of the turn of the century, the forest played a fundamental role in Pennsylvania's development. The Heritage Parks Program selected nine areas of Pennsylvania warranting protection to preserve forestry's cultural history. A map of these is included in Figure 7. The FLP takes into account counties containing elements relating specifically to forest history.



Hartwick Camp at Lyman Run—Tioga County

OWNERSHIP AND LAND TENURE

Ownership Patterns

The average size of private forestland ownership in Pennsylvania is only 23 acres (Birch and Dennis, 1980). The majority of these land holdings are in the 20-99 acre size class (Birch, 1994; Table 4). Average tenure of ownership for private forests is less than 15 years. This short tenure on small plots results in highly diverse land management strategies.

Landowner Characteristics

In Pennsylvania, the average landowner is 43 years old. Ninety-eight percent are white and 53% are male (Luloff et al., 1992). In general, the older age groups own both more land and have more landowners (Table 4). In general, 75% of landowners live less than a mile from their closest holding of land (Birch, 1996).

Trends

Birch (1994) estimates that nearly 500,000 private forestland owners own about 12.5 million acres. Coupling tenure to Pennsylvania's ownership patterns suggests that 40-50 thousand parcels change hands annually. The parcel size of landholdings is decreasing dramatically. There have been increases in number of holdings in all the size classes from 1-99 acres (Birch, 1994). This means that the parcelization of larger holdings is occurring.

In Pennsylvania in 1994, workers and retirees owned more acreage than in 1978. Farmers owned less acreage than in 1978. However, when these data are viewed by number of landowners, only retirees increased in number (Birch, 1994).

The ownership shift from farmers to relatively affluent blue and white-collar owners will continue, especially in the current economic climate. These owners frequently consider the amenity values of forests as more important than income production. However, as timber values continue to increase, the potential to take "profits" will move some of these owners to harvest timber. Another consideration is that changes in societal or individual economic conditions may require owners to harvest or sell land.



THREATS TO FORESTLANDS



Today's forests are exposed to a number of threats. Many of these threats are temporal and are subject to change or remedial action. Transitional threats include drought, storm damage, air pollution, and overabundance of deer, insect, and disease outbreaks. Forest management values often change with the exchange of property, so poor forest management can be replaced by Best Management Practices, allowing a depleted forest to regenerate. The FLP concentrates on helping Pennsylvania deal with threats that can rarely, if ever, be reversed. For FLP purposes, threatened forestland is defined as land that is in imminent danger of permanent conversion to non-forest uses. This includes such situations as the creation of new transportation corridors, the encroachment of suburbs on forestland, and second-home development.

Commercial and housing development can significantly reduce the available forestland base. Rapidly developing transportation corridors encourage primary residences, commercial sites, and vacation homes to spread across forested landscapes. While these corridors are potential economic booms for some of the local population, uncontrolled development comes at a cost. The loss of forestland to development has potentially far reaching consequences. Development of forestland frequently reduces wildlife and fish habitat quality, decreases water quality, and limits regional forest products production capability.



Suburban Development

An additional factor adding to the problem of conversion to non-forest use is the extensive number of land transfers within the state. In Pennsylvania, the typical landowner holds the title to his or her property for an average of less than 15 years. This allows for significant changes in goals for the property, or for subdivision of property. With the high level of development pressures in some areas, landowners find it much more profitable to sell to developers than to perpetuate a working forest. This can cause devastating effects, both economically and environmentally, by fragmenting forests and crippling industries that depend on a wide array of natural resources.

Timber management provides net tax benefits to local governments. According to a recent study by the American Farmland Trust, timberland and farmland yield an average of \$3.00 in taxes for every \$1.00 in required governmental services. Data compiled by the Pennsylvania State Association of Township Supervisors (PSATS), indicate that residential land costs \$1.30 in services for every \$1.00 in tax revenues generated.

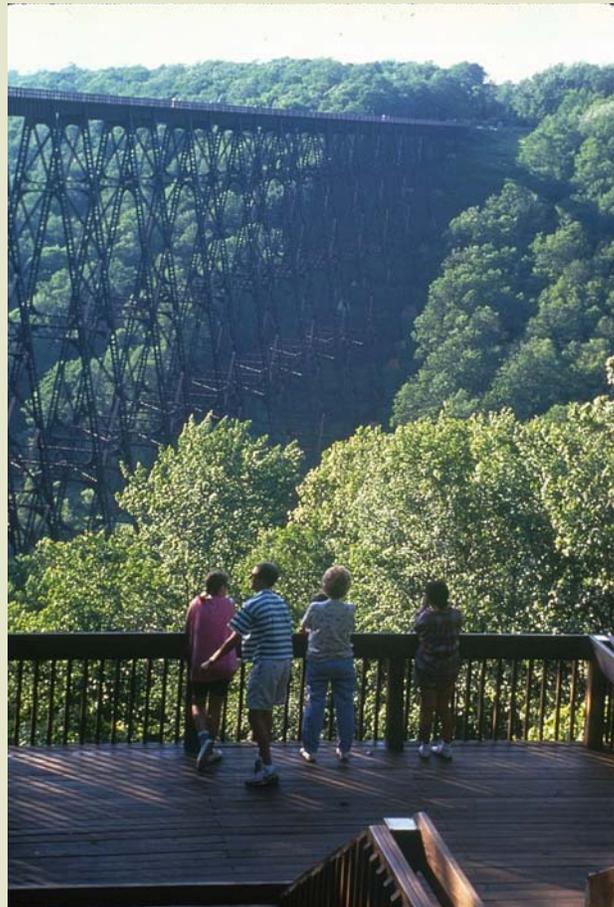


Reduced outdoor recreational opportunities are often associated with uncontrolled development, further punctuating economic losses due to such factors as closure of timber companies and loss of revenue from the tourism-based industries that depend on visitors interested in the region's natural resources. Sustainable forestry provides a mechanism for integrating preservation and protection concepts and is defined by the Bureau of Forestry as:

"The management of forests that ensure ecosystem health and productivity in order to provide present societal values such as high water quality, forest products, habitats, and recreational pursuits, while conserving forest systems for future societal needs and values."

Stated another way, sustainable forestry provides an opportunity to harvest timber that is not wasteful or destructive to the forest resource and, therefore, should be considered part of the landowners' planning strategies to protect and preserve their natural resources.

The FLP holds the potential to focus societal interests on conserving important forests and their associated environmental and economic benefits. Conscientious decisions to describe and keep critical forest elements in forested areas threatened with conversion to non-forest uses will serve Pennsylvania today and for years to come.



Kinzua Bridge



PUBLIC INPUT AND PARTICIPATION

An important part of the FLP is to seek public involvement in developing a program tailored to the needs of Pennsylvania. The DCNR-Bureau of Forestry utilized the Forest Stewardship Committee to gather a variety of concerns from the forestry community. Much of the discussion focused on issues of access to forest resources by industry and commercial interests. Another was a concern over increased government interest in privately held properties. These concerns and response to these concerns are located in the Appendix.

The Charter of the Forest Stewardship Committee

Forest Stewardship is a national program administered and funded by the USDA Forest Service State and Private Forestry Section through the State Forester of the individual states. The purpose of the Forest Stewardship Program is to assist private forest landowners to more actively manage their forests for all related resources, to keep their lands in a productive and healthy condition for current and future generations, and to increase the economic and environmental benefits of their lands.

In 1992, the Charter of the Pennsylvania Forest Stewardship Committee further defined their purpose: to provide advice, assistance, and recommendations to the Bureau of Forestry concerning the development, implementation, monitoring, and updating of the Pennsylvania Forest Stewardship Program Plan, development of Stewardship Incentive Practices and standards and implementation of the FLP, if funded, in Pennsylvania.

While constructing the FLP for Pennsylvania, the State Forest Stewardship Committee discussed several issues relating to the need for a FLP in Pennsylvania. The three major issues are as follows:

Issue: Parcelization/Fragmentation threaten working forests

For the purposes of the FLP, a threatened working forest is an area of forest and that exhibits potential for loss of traditional use (land use change) or loss of environmental value by its vulnerability to fragmentation and parcelization. Threatened forests may exhibit extensive land transfers or be proximal to newly developed or proposed transportation corridors.

Parcelization is defined as the reduction in size of forestland ownerships that frequently result from division of properties during land transfer. Fragmentation is defined as the reduced continuity of a forest ecosystem that results in reduced habitat for interior species and potential compromise of the integrity of the ecosystem. Birch (1996) has shown important increases in the numbers of landowners holding parcels between 1-99 acres. The increase in ownership of smaller properties reflects a decrease in average parcel size. This increased parcelization of land turns large contiguous forest tracts into a matrix of smaller landholdings with highly variable manage-



ment objectives. This reduction in parcel size reduces the likelihood of active forest management.

Because the frequency of income from forests is low, cutting is often done only when the landowner perceives an opportunity, especially at the time of sale or purchase, or when additional income is required. Long-term forest management or regeneration is often not considered. Because it takes timber species in Pennsylvania 80 to 120 years to reach economic maturity and the average tenure of ownership is less than 15 years, most forests will not produce an income over several tenures of ownership. A real or perceived lack of income from management decreases the likelihood of any management activities.

Increasingly, large parcels of land in Pennsylvania are being fragmented for recreational purposes. This parcelization often precludes traditional uses such as timber harvesting or hunting due to the proximity of residential properties. This suggests a reduction in the timber base as these forests are removed from production. Parcelization is therefore a threat to the continuity of the timber supply for the forest products industry. In addition, the small parcel size may lead to a laissez-faire attitude about forest management. With the constant reduction in parcel size and 72% of the forestland in private ownership, there is the potential for a depression in the timber supply.

Issue: Fee Acquisition versus Conservation Easement

Proper timber management is renewable and sustainable and can be the source of economic development and stability. Whether a landowner will be able to earn a profit from selling timber depends on many factors including volume, species, markets, and quality. It is difficult to anticipate the roles and interplay of these variables in the profitability of timber management for the landowner. On the other hand, many people own land for reasons such as recreation and aesthetic enjoyment and do not depend on timber harvesting income. Some people own forestland simply because it is part of the farm or residence and have no set objectives for their forestland. In such cases, a conservation easement will provide future landowners with the option to harvest timber. Where a landowner may not be willing to retain the ownership of the timber rights, full fee purchase under the FLP could be used to protect the land from development. The Forest Stewardship Committee suggests that full fee purchase be an option for forestland protection on a case-by-case basis.

Issue: Upland Forests for Groundwater Recharge



Historically, upland forests have been protected in order to control flooding and to enhance both the quality and supply of water to communities throughout their watershed. Forest trees, accumulated duff, and debris inhibit runoff, enhancing absorption into the groundwater supply.

These upland forests contribute to the water quality by buffering acid deposition and reducing sedimentation in riparian areas downstream. Exceptional quality waters provide habitat for many species of animals, both game and non-game.

In Pennsylvania, over one-quarter of the population uses ground water daily for drinking water purposes. Mining, waste management and storage, underground storage tanks, and agricultural activities have all contributed to the degradation of the groundwater quality (USEPA State Water Quality Report). The United States Geological Survey identified forested areas as one of the best tools for maintaining water quality. Thus, the State Forest Stewardship Committee recommends that although priority can be given to riparian areas, all forestland within a Legacy Area should be eligible for the FLP.



EXISTING MEASURES TO CONSERVE FORESTS

Over a three-year period beginning in 1998, the State Forest Stewardship Committee, representing 28 statewide conservation organizations, provided input into the development of this AON. The committee considered the several statewide programs that can help to conserve and establish forests in Pennsylvania. The major programs that affect forestry are:

Pennsylvania's Growing Greener Program: initiated in 1999, has broad parameters that can include conservation or enhancement of forest resources. The Pennsylvania Department of Conservation and Natural Resources (DCNR) manages the Community Conservation Partnership, which links DCNR and various private/non-profit organizations. DCNR provides assistance in the form of grants or technical assistance to organizations in the following areas:

- **Heritage Parks Grants:** to maintain resources, especially cultural resources, in designated heritage areas.
- **Community Grants:** for recreation, park, and conservation projects.
- **Land Trust Grants:** for acquisition and planning of open space.
- **River Conservation Grants:** to develop and implement river conservation plans.
- **Rails-to-Trails Grants:** to develop abandoned railroad corridors into trails.

The USDA Forest Service operates several programs, including some that are targeted more at forest health, including fire-fighting capabilities. These Federally funded programs, operated by Pennsylvania DCNR, Bureau of Forestry, include:

- **The Pennsylvania Forest Stewardship Program** provides technical, planning and management assistance to landowners to develop a forest management plan. This program encourages landowners to apply ecologic and economic resource management principals as they manage their forestland in order to produce forest benefits for present and future generations.
- **Urban and Community Forestry** enhances cities and towns through planning and managing urban forest resources in a manner that promotes their environmental, cultural, and biological health.
- **Cooperative Fire Management** installs dry fire hydrants in critical areas of need. Protects lives, homes, and property, as well as natural resources, from uncontrolled wildfires on state and private lands by building strong, efficient state and local fire protection programs. Some high priority areas are in rural forested areas where forest/brush fires are common.



- **Forest Health Management** provides expertise necessary to sustain the health and productivity of trees, forests, and forested watersheds in urban and rural areas. Includes forest health monitoring, insect and disease suppression and eradication. Assists landowners in development of management plans in the area of identifying non-native species invasion and pest assessment and management.
- **Economic Action Program** assists in planning and implementing initiatives that involve sustainable economic activity utilizing forest-based resources. This program strengthens the economic conditions of communities through the wise use of forests and related natural resources
- **Forestry Incentives Program** supports good forest management practices on privately owned forest lands nationwide. Eligible practices are tree planting, timber stand improvement, site preparation for natural regeneration and any other related activities. This program is administered by the USDA NRCS with technical assistance supplied by DCNR Bureau of Forestry.
- **Stewardship Incentive Program** provides financial incentives to support sound stewardship practices on their land, while providing public benefits such as improved water quality, forest health, and fire protection. This program is currently not funded.
- **Natural Resource Conservation Education** assists states in implementing their conservation education plans by promoting lifelong learning about natural resources and ecosystems, their interrelationships, sustainability, conservation, use, management, and value.

The U.S. Department of Agriculture operates several programs that may encourage forest growth on agricultural lands. The funding for the programs listed below is in the form of cost/share for the implementation of technical practices.

Conservation Reserve Program (CRP)
 Conservation Reserve Enhancement Program (CREP)
 Wetland Reserve Program (WRP)
 Small Watershed Protection Program
 Environmental Quality Incentive Program (EQIP).

The U.S. Environmental Protection Agency's Non-Point Source Program can assist with farming, riparian buffers, and treatment of abandoned-mine drainage.

PA Stream ReLeaf Program is funded through a cooperative effort with the Department of Environmental Protection and the EPA. The restoration of riparian forest buffers is a major component of this program.

The U.S. Department of Transportation's Transportation Enhancements Program can buy rights-of-way for rails-to-trails or land that contains historic or cultural resources, although the vast majority of the program's funding is used for construction or development. The U.S. Department of Interior's Abandoned Mine Reclamation Fund finances restoration of abandoned



coalmine lands and treatment of acid mine drainage. In recent years, a portion of this funding had been specifically set aside in Pennsylvania to reforest abandoned coalmine lands.

Non-Government Funding of Easements

Pennsylvania has a well-developed network of land trusts and conservancies. Land trust goals include acquiring or maintaining open space, conserving watersheds or parks, or in some manner preserving specific areas. The PA Land Trust Association represents the majority of these organizations.

State Tax Incentive to Conserve Forests

The Clean and Green Act, Act 319, encourages tax assessment based on current rather than potential land use. Owners with qualifying lands, either agricultural or forest, apply through county tax offices for current-use valuation. The landowner agrees to maintain uses with the understanding that they are subject to roll back taxes for up to seven years if they change land use. Eligible land falls into four categories: agriculture A (more than 10 acres), agriculture B (less than 10 acres), agricultural reserve (no current economic return from land, but could be farmed), and forest reserve. For the purposes of this FLP, only the forest reserve policy is of interest.

Industry Related Programs

The American Tree Farm System, sponsored by the American Forest Foundation, assists private landowners to manage their forests sustainably through conservation education and outreach. In order to be certified as a Tree Farm, the landowner must develop and adhere to a written management plan based on strict environmental standards and guidelines. Trained volunteers inspect each tree farm every five years to verify compliance with the American Tree Farm's sustainable forest management standards.

The Sustainable Forestry Initiative (SFI) program was initiated by the American Forest and Paper Association as a voluntary, industry-driven program to promote sustainable forestry through landowner education, public outreach, and logger training programs. The goals of this program are to protect and maintain the viability of the environment, to improve public perception of the forest products industry, to ensure continued access to the forest resource, and to minimize the justification for restrictive legislation/regulation through responsible forestry.

Extension Service

Penn State Extension faculty and five extension foresters assist private forest landowners in achieving their objectives for their land through educational workshops, seminars and publications. They also offer landowners referrals to service and consulting foresters. Seminars and programs offered through Penn State Extension help to keep professional foresters abreast of current trends and innovations in private forest management.



PENNSYLVANIA'S FOREST LEGACY PROGRAM



Currently there is no program that has accomplished what the FLP is designed to do. The Federal government has given Pennsylvania a unique opportunity to address current needs.

Governor Ridge designated the Bureau of Forestry as the lead agency to administer Pennsylvania's participation in the Federal FLP. Pennsylvania's FLP has three major elements consisting of the selection of local Forest Legacy sponsors, designation of Forest Legacy Areas, and conservation of important forest lands within Forest Legacy Areas through development of landowner forest management plans and the voluntary acquisition of forest conservation easements on these lands.

The Bureau of Forestry has developed guidelines explaining Pennsylvania's program, describing procedures and requirements for participation, and providing detailed information on how the program is to be implemented. The information is presented in the attached document-Assessment of Need Addendum: Pennsylvania's FLP Guidelines. The Legacy Guidelines have been developed as a step-by-step process to guide eligible sponsors through the process of becoming a sponsor and designating a Forest Legacy Area.

For FLA eligibility, the forestland must:

1. Be threatened by parcelization/fragmentation that will result in:

Loss of traditional use—Traditional uses such as timber harvesting, recreation, and supplying of clean water can no longer be performed.

Loss of environmental integrity—Fragmentation occurs as Pennsylvania's lands are converted to non-forest uses, as roads, utility lines and housing developments divide forested areas leading to loss of environmental integrity.

2. Be environmentally important, exhibiting one of the following values:

Scenic Resources—Lands bordering scenic roads and trails, and lands visible from public places. Scenic resources also include riverfronts, lakes, streams and ponds, open fields, and town centers. Landscapes with outstanding features such as lakes, rivers,



rock outcrops, and significant topographic or geologic features are also considered scenic resources.

Public Recreation Opportunities—Lands with established and potential recreation opportunities. Examples include areas where recreational opportunities are proposed, such as hiking trails and areas that contain a significant portion of public open space or access points to public areas.

Riparian Areas—Areas that provide groundwater recharge and water quality protection benefiting human water supplies and aquatic organism populations. Riparian areas extend into the groundwater, up above the canopy, across the floodplain, up the near-slopes that drain to the water, into the terrestrial ecosystem, and along the water at a variable width. Examples of valuable riparian areas are reservoirs protecting public water supplies and forested headwaters for rivers and streams.

Fish or Wildlife Habitat—Lands that 1) provide habitat for wildlife dependent on large interior forest and habitat for fisheries and aquatic organisms or 2) provide connectivity between distinct forest areas.

Known Threatened or Endangered Species—Federal or state-listed Threatened and Endangered species identified as occupying the forested area. This includes both flora and fauna species. Lists of Threatened and Endangered Species are located in Appendix IV.

Known Cultural Resources—Historic or archeological sites found in the area.

Other Ecological Values—Land with the existence of unique forest ecosystems. Ecological importance can include old-growth forests, uncommon or diminishing forest cover types, and fragile soils or forestland habitat necessary for the recovery or reintroduction of an extirpated or threatened species.

3. Provide opportunities for continued traditional uses:

Forest Management—The practical application of biological, physical, quantitative, managerial, economic, social, and policy principals to the regeneration, management, utilization, and conservation of forests to meet specified goals and objectives while maintaining the productivity of the forest. Forest management includes management for aesthetics, fish, recreation, urban values, water, wilderness, wildlife, wood products, and other forest resources.



Timber Harvesting—The felling, skidding, on-site processing, and loading of trees or logs onto trucks.

Other Commodity Use—Includes the use of forestland for herbs, maple syrup, food products (i.e. pine nuts, camas, and huckleberries), honey, pine straw, and mushrooms.

In order for a county to be considered for an FLA, a sponsor, previously approved by the state and the county, must submit an application for that county to become part of an FLA. State approved FLA applications will then be sent to the USDA Forest Service for approval and activation. A detailed description of this process is found in the Assessment of Need Addendum: Pennsylvania FLP Guidelines.

The FLP in Pennsylvania is a vehicle through which the USDA Forest Service, in conjunction with the Pennsylvania Bureau of Forestry, can assist industry, landowners, conservancies, and community groups in maintaining today's forests for future generations. Although the range of land programs available in Pennsylvania is broad, there are few tools for permanent land protection. This protection, under the FLP, will be effected through the use of accepted stewardship practices and by alleviating the economic burden that causes private forest landowners to parcel off their lands. Forests are essential to the culture, recreation, economic well-being, and quality of life in Pennsylvania. Parcelization and fragmentation negatively impact industries dependant on forest products, reduce the buffering capability of forests on water quality, and reverse the progress the state has made in reforestation since Rothrock's time. It has taken a century to grow the forests we see today. Protecting forestlands now will help to ensure that we will have forests in Pennsylvania throughout the centuries to come.

Table 1 contains information regarding criteria for possible qualification of counties as FLAs. Each county has been evaluated as to how it rates against the standards fully described on page 29. Table 2 ranks all of Pennsylvania's counties in order by the number of standards met in Table 1. These tables serve as a guide to help establish priority for FLA qualification across the state by reflecting which counties meet a greater or smaller number of criteria. Though these tables may be helpful guidelines, the Bureau recognizes the possibility of great variability within a county; therefore, any area within a county may be brought up for consideration and then evaluated by the Bureau for that particular area's suitability for the program. Pennsylvania's FLP is based on local initiative; consequently, the Bureau refrains from automatically delineating counties as FLAs. Thus, each proposed FLA is evaluated after an approved sponsor submits a Legacy Area Application.



The table on the following pages contains information on which counties fit the FLA criteria. Exact descriptions of each column are as follows:

- **Timber/Other Forest Products**
 - **Industry** – Counties in which over 1% of the working population (defined as ages 15-64 according to Census 2000) is employed by the forest/wood products industry.
 - **Maple** – Counties where the number of maple trees tapped is over 1,000 (according to 1997 data).
 - **Ginseng** – Counties with a wild ginseng harvest weighing 10 pounds, dry weight (2000 data).
- **Wildlife**
 - **Bird Areas** – Counties housing National Audubon Society “Important Bird Areas.
 - **Endangered Species** – Counties with sightings of endangered species verified after 1980 (according to the Pennsylvania Wild Resource Conservation Fund).
 - **Bear Harvest** – Counties in which the bear harvest is over 20 (2000 data).
- **Recreation**
 - **Rail Trails** – Counties with rail trails that are either complete or in-progress.
 - **Hiking Trails** – Counties with established hiking trails for public use.
 - **Hunting/Fishing** – Counties with BOTH 1) deer harvests of 10,000 or more deer AND 2) Fishing Licenses issued to over 10% of the county’s population (2000 data).
- **Watersheds**
 - **Imperiled Waters** – Counties with more than 5 imperiled waterways (as defined by the EPA’s Total Maximum Daily Load Program).
 - **Drinking Water** – Counties whose watersheds supply drinking water to more than 1,000 people.
- **Scenic Values – Geologic Features** – Counties with special geologic features such as overlooks, rock outcroppings, or scenic drives.
- **Cultural Resources – Lumber Heritage** – Counties listed by the DCNR Bureau of Recreation and Conservation as part of the state’s Lumber Heritage Region.
- **Proposed/New Transportation Corridors** – Counties with interstates or major highways slotted for new construction, rerouting, additional lanes, or new bridges (according to the Pennsylvania Department of Transportation 12-Year Plan).
- **Population Density** – Counties with a population density of greater than 200.1 people per square mile (according to Census 2000).
- **Projected Population Growth** – Counties with projected population growths of greater than +5% (according to Census 2000).
- **% Change in Pop’n** – Counties with a projected percent change in population greater than +10% for the years 1990 through 2020 (according to Census 2000).

Table 1. Summary of County Qualifications for the Forest Legacy Program. Counties marked with an X qualify for the program in the category listed at the top of that column.

County	Timber/ Other Forest Products			Wildlife			Recreation			Water- sheds		Scenic Values	Cultural Re- sources	Transpor- tation Corridors	Popula- tion Density	Protected Population Growth	% Change in Population
	Industry	Maple	Ginseng	Bird Areas	Endangered Species	Bear Harvest	Rail Trails	Hiking Trails	Hunting/Fishing	Imperiled Waters	Drinking Water	Geologic Features	Lumber Heritage	Proposed/New	Greater Than 200.1 people per square mile	Percent change greater than 5.0%	Greater than +10% for 1990-2020
Adams	X			X	X					X						X	X
Allegheny			X		X		X	X		X			X	X			
Armstrong			X	X	X	X	X	X		X							
Beaver			X	X				X		X					X		
Bedford	X	X	X			X		X	X	X	X					X	X
Berks				X			X	X		X			X	X	X	X	X
Blair			X		X	X	X	X		X					X		
Bradford	X	X	X			X			X							X	X
Bucks			X	X	X					X	X				X	X	X
Butler			X	X	X			X	X	X	X				X		X
Cambria			X			X	X			X	X				X		
Cameron	X			X	X		X			X	X	X					
Carbon				X	X		X	X		X	X					X	X
Centre				X	X		X	X		X	X		X	X		X	X
Chester				X	X		X	X		X	X				X	X	X
Clarion	X		X	X	X		X	X		X	X	X					
Clearfield	X		X			X	X	X		X		X					
Clinton	X			X	X		X			X	X	X				X	
Columbia	X					X				X	X		X				
Crawford	X	X		X	X		X		X		X						
Cumberland				X	X		X	X		X	X	X			X	X	X
Dauphin				X	X		X	X		X			X	X	X	X	X
Delaware				X	X					X					X		
Elk	X			X		X	X	X		X		X					
Erie		X		X	X					X					X		
Fayette			X	X	X	X	X	X		X	X						
Forest	X			X	X	X		X				X					
Franklin			X	X	X		X	X		X			X				X
Fulton				X				X			X					X	X
Greene			X	X	X			X		X							
Huntingdon			X		X	X	X	X	X	X	X		X			X	X
Indiana			X	X		X	X	X	X	X		X					

Table 1. (cont).

County	Timber/ Other Forest Products			Wildlife			Recreation			Water- sheds		Scenic Values	Cultural Re- sources	Transpor- tation Corridors	Popula- tion Density	Projected Population Growth	% Change in Population
	Industry	Maple	Ginseng	Bird Areas	Endangered Spp	Bear Harvest	Rail Trails	Hiking Trails	Hunting/Fishing	Imperiled Waters	Drinking Water	Geo. Features	Lumber Heritage	Proposed/New	Greater Than 200.1 people per square mile	Percent change greater than 5%	Greater than +10% for 1990-2020
Jefferson	X		X	X		X	X			X		X					
Juniata	X									X				X			
Lackawanna						X	X	X		X	X			X	X		
Lancaster	X			X	X		X	X		X	X			X	X	X	X
Lawrence			X				X	X		X					X		
Lebanon	X			X	X		X	X		X					X	X	X
Lehigh			X				X	X		X	X				X		X
Luzerne		X		X	X	X	X			X	X			X	X		
Lycoming	X	X	X			X	X	X	X	X	X	X		X			
McKean	X	X	X	X		X	X	X	X	X		X					
Mercer		X		X	X					X	X						
Mifflin	X		X			X	X	X		X				X			
Monroe				X	X	X	X	X		X	X				X	X	X
Montgomery				X	X		X			X	X			X	X		
Montour										X	X					X	X
Northampton					X		X	X		X					X	X	X
Northumberland	X									X					X		
Perry	X			X			X	X		X				X		X	X
Philadelphia					X					X					X		
Pike				X	X	X		X			X					X	X
Potter	X	X	X			X		X	X	X		X					
Schuylkill	X			X	X		X	X		X							
Snyder	X			X			X			X						X	X
Somerset		X	X	X	X	X	X	X	X	X							
Sullivan	X			X	X			X		X	X					X	X
Susquehanna	X	X	X				X			X						X	X
Tioga	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	
Union	X			X		X				X	X					X	X
Venango				X	X	X	X		X	X							
Warren	X	X		X	X	X	X	X	X	X		X					
Washington			X	X			X			X					X		
Wayne				X	X		X			X						X	X
Westmoreland			X	X	X	X	X			X					X		
Wyoming	X			X	X												X
York				X	X		X	X		X	X			X	X	X	X



Table 2. Number of Forest Legacy Area Criteria (from Table 1) Pertaining to Each County

Total Number of Criteria	County
14	Tioga
13	N/A
12	N/A
11	Huntingdon
	Lancaster
	Lycoming
10	Bedford
	Centre
	Cumberland
	McKean
	Monroe
	Warren
	York
9	Butler
	Chester
	Clarion
	Clinton
	Dauphin
	Lebanon
	Luzerne
	Somerset
8	Armstrong
	Berks
	Bucks
	Carbon
	Clearfield
	Fayette
	Franklin
	Indiana
	Jefferson
	Perry
	Potter
	Sullivan

Total Number of Criteria	County
7	Allegheny
	Blair
	Bradford
	Cambria
	Cameron
	Crawford
	Elk
	Lackawanna
	Lehigh
	Mifflin
6	Montgomery
	Northampton
	Pike
	Susquehanna
	Union
	Westmoreland
	Adams
	Forest
	Schuylkill
	Snyder
5	Venango
	Wayne
	Beaver
	Columbia
	Erie
	Fulton
	Greene
	Lawrence
	Mercer
	Washington
4	Delaware
	Montour
	Wyoming
3	Juniata
	Northumberland
	Philadelphia



Table 3. The Geologic and Soil Characteristics of the 15 Topo-geologic Regions in Pennsylvania Summarized from PA Topographic and Geologic Survey. [Http://www.dcnr.state.pa.us](http://www.dcnr.state.pa.us)

Region	Glaciated	Province	Topography	Counties Included at Least in Part
Glaciated Pittsburgh Plateau	Yes	Plateau	Broad uplands, thin valleys	Northern Warren, Erie, Crawford, Mercer, Lawrence
High Plateau	Yes	Plateau	Broad uplands, deep valleys	Forest, Venango, Warren, McKean, Elk, Potter, Jefferson, Clarion
Pittsburgh Low Plateau	No	Plateau	Smooth uplands, skinny shallow valleys	Greene, Washington, Armstrong, Beaver, Butler, Clarion, Jefferson, Clearfield, Westmoreland, Indiana, Lawrence, Venango, Elk, Cambria and Fayette
Deep Valleys	No	Plateau	Deep valleys, small uplands	Cameron, Clinton, Lycoming, Potter
Allegheny Mountain	No	Plateau	Round ridges and broad valleys	Somerset, Fayette, Cambria, Westmoreland, Indiana, Blair, Bedford
Glaciated High Plateau	Yes	Plateau	Variable uplands with steep cliff leading to the low plateau	Potter, Tioga, Lycoming, Bradford, Sullivan, Wyoming
Glaciated Low Plateau	Yes	Plateau	Variable, many wetlands	Bradford, Susquehanna, Wyoming, Wayne, Pike
Appalachian Mountain	No	Ridge and Valley	Long ridges and valleys	Bedford, Fulton, Blair, Huntington, Centre, Mifflin, Juniata, Perry, Dauphin, Lebanon, Schuylkill, Carbon, Monroe, Lackawanna, Luzerne, Columbia, Lycoming, Montour, Northumberland, Union, Snyder, Clinton
Great Valley	No	Ridge and Valley	Broad valley	Franklin, Cumberland, Dauphin, Lebanon, Berks, Lehigh, Northampton
Reading Prong	No	New England	Low ridges sharply rising out of lowlands	Lebanon, Berks, Lehigh, Northampton
South Mountain	No	Blue Ridge	Ridges with deep valleys	Franklin, Adams, Cumberland, York
Gettysburg-Newark Lowland	No	Piedmont	Rolling hills	Adams, York, Dauphin, Lancaster, Lebanon, Berks, Chester, Montgomery
Piedmont Lowland	No	Piedmont	Broad valleys and low hills	Lancaster
Piedmont Upland	No	Piedmont	Gently rolling hills and valleys	York, Lancaster, Chester, Delaware, Montgomery
Lowland and Intermediate Upland	No	Coastal	Flat with stream channels	Delaware, Philadelphia, Bucks

Table 4. Percentage of Landowners and Land by Size Class of Holdings
(Data from Birch 1996)

Land size class (Acres)	% Of land owners	% Of land
1-9	61	10
10-19	16	11
20-49	13	21
50-99	6	21
100-199	3	16
200+	1	21

Table 5. Percent of Land and Landowners by Age Class
(Date from Birch 1996)

Age class	% Of land owners	% Of land
<25	1	<1
25-34	6	2
35-44	11	7
45-54	15	12
55-64	21	17
65+	34	25
Other or no answer	11	37





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Appendix I: Members of the Pennsylvania Forest Stewardship Committee

John Buzzell *	Forest Stewardship Program VIP
Jack Byerly	Chief Forester, PA Game Commission
Renee Carey *	Executive Director, North Central PA Conservancy
Sam Cooke	Service Forester, DCNR Bureau of Forestry, Forest District 16
William Corlett	Member, Pennsylvania Forestry Association
John Daugherty	Chairman, PA Tree Farm Committee
Bill England *	Wood Buyer, Appleton Papers, Inc., Sustainable Forestry Initiative
James Finley	Assistant Professor of Forestry, Penn State University, School of Forest Resources
Linda Finley	Member, Tree Farm Committee
Josh First *	PA Representative, The Conservation Fund, PA Office
Bill Foose	Conservation Program Chief, USDA Farm Service Agency
Tom Ford	Resources Planning Coordinator, Pennsylvania Fish and Boat Commission
Ron Freed *	Policy Analyst, PA Audubon Society
George Freeman	Forest Stewardship Program VIP (volunteer)/ Tree Farmer
Robert Girvin	Forester, Lapp Lumber Company, Hardwood Lumber Manufacturers Association
Rance Harmon	Research Support Associate/ VIP Coverts State Coordinator, Penn State University, School of Forest Resources
Jeneal Hedman	Rural Development Coordinator, USDA Forest Service Allegheny National Forest
Stanley R. Hess	Service Forester, DCNR Bureau of Forestry, Forest District 15
Larry Hutchins *	Chairman of Policy and Legislation Committee, Pennsylvania Forestry Association
Keith Klingler *	President of the Board, Pennsylvania Landowners Association
Scott Kurtzman	Past President, Pennsylvania Forestry Association
Norman Lacasse	Member, PA Tree Farm Committee
Bernadine Lennon	Pike County Conservation District Director, PA Association of Conservation Districts
Paul Lyskava *	Executive Director, Hardwoods Development Council
Al Maass	Forest Stewardship Program VIP's Tree Farmer, Susquehanna County Landowners Association
Eleanor Maass	Forest Stewardship Program VIP's Tree Farmer, Susquehanna County Landowners Association
Ken Manno *	Sustainable Forestry Initiative of Pennsylvania

* Indicates Forest Legacy Sub-Committee Member



Appendix I: Members of the Pennsylvania Forest Stewardship Committee, Cont.

David F. Miller	President of Pennsylvania Chapter, Consulting Forester, Association of Consulting Foresters of America
Mark Miller	The Pennsylvania Tree Farm System, Forester, Glatfelter Pulpwood Company
Gene Odato *	Chief, Rural and Community Forestry Section, PA DCNR, Bureau of Forestry
Bill Ord Sr. *	Forest Commodity Committee, Pennsylvania Farm Bureau, President, Cornerstone Forest Products
Ed Patchcoski	District Conservationist, USDA NRCS, Wyoming and Sullivan Counties
Aryln Perkey	Field Representative, Forest Resource Management, USDA Forest Service, NA State and Private Forestry
Ronald Ramsey *	Director of Government Relations, The Nature Conservancy, PA Chapter
Richard Ring	County Inventory Coordinator, The Nature Conservancy
William Robie *	Executive Director, Hardwood Lumber Manufacturers Association
Roy Siefert *	President, Pennsylvania Forestry Association, District Forester, PA DCNR, Bureau of Forestry
Richard Shockey	Resource Conservationist, USDA Natural Resource Conservation Service
Aura Stauffer	County Inventory Coordinator, The Nature Conservancy
David Steckel *	Director of Stewardship, Natural Lands Trust
Jim Stiehler *	Coordinator, PA Forest Stewardship Program, PA DCNR, Bureau of Forestry, Rural & Community Forestry Section
Susan Swanson	Executive Director, Allegheny Hardwoods Utilization Group
Jim Thorne *	Director of Government Relations, The Nature Conservancy
James Wheeler *	Director of Member Services, PA Association of Township Supervisors
Mary Wirth *	Sustainable Forestry Initiative, Public Affairs, Rossi American Hardwoods

* Indicates Forest Legacy Sub-Committee Member

Appendix II

CONCERNS POSED BY VARIOUS INTERESTS AND INDIVIDUALS: SUBMITTED AT THE STEWARDSHIP COUNCIL MEETING ON JUNE 8, 2001



THE ISSUES AND CONCERNS RAISED WERE DIVIDED INTO THREE CATEGORIES: PRINCIPALS GUIDING THE PROGRAM, THE PROCESS FOLLOWED TO DEVELOP THE PROGRAM, AND THE CURRENT PROPOSAL AS WRITTEN.

Section I: Concerns Regarding Principles

Program Implications: This group of individuals states that the model easement language discusses uses far beyond the purchase of development rights including such things as recreation, forest management plans, aesthetics, etc. The group feels that the long-term implications of the easement and the program are not fully understood and that a complete assessment of long-term implications should be conducted prior to program implementation.

The committee recommended to the Department that the program should direct its efforts towards the purchase of development and recreation rights. According to the Federal program guidelines the conservation easement must consider all of the natural resources and not focus solely on timber. A Forest Stewardship plan is a comprehensive management plan and is required for any non-industrial Forest Legacy property. A Forest Legacy property owned by industry does not need a Forest Stewardship Plan, but must have a comprehensive management plan approved by the State Forester.

A complete assessment of the long-term implications is cost prohibitive and unnecessary. Pennsylvania's long-running Farmland Preservation Program stands as an outstanding example of how land conservation easements can help industry.

Conservation Message: This group of individuals' states that the FLP sends a loud, clear message that forest "protection" can only be achieved through public ownership or easement purchases, and that private ownership is a hurdle to environmental protection.

Public ownership of forestland affords a long-term sustained yield of forest products and benefits. Conservation easements will also serve in a similar capacity. History indicates that most lands change ownership every 10 years. In most areas of the state it takes more than eighty years to grow a sawlog-size tree. This means that a tree will have several owners, each with his/her own objectives. Multiple objectives over the long-term can lead to non-sustainable management of forest resources.

The Forest Legacy Program is designed for the landowner to enter his/her land into a conservation easement. The program is based on a willing seller/willing buyer basis and the landowner retains the title to the property. Only the development and recreation rights can be purchased under this program.



Lack of Objective Assessment: The group also states that there have been conflicting comments and verbiage defining the purposes and priorities of the program. They also state that differences of opinion on the true threat of development, the current status of forest protection, and other baseline information were prevalent with measurable data absent. The group stated a list of items that should be completed prior to implementation of Forest Legacy.

The goals of the Forest Legacy Program are clearly stated in the Guidelines. At the previous Stewardship Council Meetings, members were given the right to comment on the Forest Legacy Program Guidelines and Assessment of Need (AON) on behalf of themselves and the organizations they represent. The comments have been taken into consideration and the appropriate changes have been made to the program. The committee approved the Guidelines and the AON at the June 29, 2001 meeting.

Lack of Resource Assessment: The group is concerned that there has been a total lack of a comprehensive analysis of how environmental programs, including the Legacy Program, will impact resource availability.

The Bureau of Forestry in partnership with the forestry community is interested in the stewardship of our forest resources. With the aid of a professional forester, forest landowners develop a Forest Stewardship Plan that meets their objectives and management goals. Timber resources will be managed on a sustainable basis for future generations. This is clearly stated in the Assessment of Need and was discussed at length.

A review of the successful Farmland Preservation Program illustrates the beneficial aspects a conservation easement program. A costly comprehensive analysis of a forest conservation easement program is un-necessary.

Impact on Current Stewardship Program: The group has noted that because of limited cost-share funds for Stewardship Plans for private landowners the unintended outcome of the FLP will be that landowners not enrolled in the FLP will not receive funds for Stewardship Plans. They believe this would totally transform the Stewardship Program in PA to an easement program as well.

U.S. Forest Service funding is limited for both Stewardship and Forest Legacy. Since Forest Legacy is part of the Forest Stewardship Program a plan must be developed on every non-industrial conservation easement. This will make those properties a funding priority.

<i>Annual funding for Stewardship Plans</i>	<i>\$100,000</i>
<i>Proposed annual funding for easements</i>	<i>\$1,000,000</i>
<i>Average cost per acre for forestland easement</i>	<i>\$500</i>
<i>Average cost of a plan</i>	<i>\$5.50/acre</i>
<i>\$5.50 x 2,000 acres = \$11,000 needed for stewardship plans on forest legacy easements.</i>	

Amount remaining for non-legacy properties \$89,000

Plan funding is limited by the amount of funds received from the U.S. Forest Service. The FLP funds are also limited and State funds are not used to cost/share plan development. Since the FLP requires a Stewardship Plan the few easements that can be purchased each year will receive funding priority.



Section II: Concerns Regarding Process:

Committee Structure: The group stated that the Stewardship Committee was created to advise the Bureau on the implementation of the Stewardship Program. They have said that the committee has been fairly non-controversial in the past and was structured to be inclusive and participatory. However, the structure, make-up, and format of the committee, and subcommittees, are not appropriate to deal with a controversial issue such as the FLP and are not an effective forum for producing a collaborative outcome.

Federal Law states that the Forest Stewardship Committee of each state is the organization charged with the development and implementation of the Forest Legacy Program. The State Forester appointed 28 statewide organizations to the Stewardship Committee over the last ten years. Each of these organizations has an interest in the stewardship of Pennsylvania's forest resources.

Committee Make-Up: Concerns exist regarding membership, defined voting rights, and other procedures of the committees, which should ensure fair and effective deliberation and decision-making regarding the program. These concerns exist for deliberations and decisions concerning Legacy Areas, sponsors, and the inclusion of individual parcels in this program.

Again, the Pennsylvania State Forester chose the Stewardship Committee. It is necessary for state and federal employees to be on the committee to ensure that the committee understands the objectives and design of any government program. Voting takes place in a fair manner with each represented organization receiving a vote. Government organizations with more than one representative present are allowed only one vote per organization.

Government Employees: The concerned group feels that a large number of both state and federal employees are on the committee. They feel this creates a clear conflict of interest for voting members and creates an inappropriate forum for voting on government programs.

Forest Legacy is a federal/state program and it remains necessary for government employees to be on the committee to ensure that the entire committee understands the objectives and design of any government program. The Bureau is the lead agency for this program and the state employees are responsible for the language created in the documents. Therefore state employees must be present to hear concerns/requests and make appropriate changes.

Decision-Making: The group was concerned that even with the questionable makeup and format of the committee and subcommittee, it remained unclear what role the committee will play in the implementation of the FLP. The group feels that the decision making process, and the distinction between advisory and authoritative roles, remain undefined.

The committee has the responsibility to comment and improve the FLP Guidelines and Assessment of Need until approved by the US Forest Service. After that time the committee will then be responsible for approving Form I and Form II of the Forest Legacy Sponsor Application. After approval of a sponsor and Legacy Area, the committee will then be responsible for reviewing and ranking the landowner applications for submission to the State Forester.



Section III: Current Legacy Proposal:

Enforcement Language: The group was concerned that the proponents of the FLP have repeatedly assured individuals and groups who were skeptical of the program that the FLP would ensure working forests for the future. They also stated the Legacy Program has been modeled after the Farmland Preservation Program. They also state that although language is included to allow and promote timber harvesting, the Bureau has made it clear that they are unwilling to require enforcement language in the easement that will ensure land accepted into the program remain working forests. They believe this to be a large obstacle to support the program.

The Forest Legacy Program will ensure working forests for the future. Only the development and recreational rights will be bought under the conservation easement. The required Forest Stewardship Plan will ensure that the landowner, with help from a forester and planwriter, maintains a working forest. The model conservation easement states that, "By the granting of this Easement, Grantor commits to the practice of sustainable forestry on the subject land..." (Guidelines, Page 51).

Variability of Easement Language: The group was concerned that regardless of the content in the model easement, the language would serve only as a model, which would leave the easement language at the Bureau's discretion with undefined oversight. They stated that there are no defined procedures for writing easement language, so who will negotiate with landowners, who has the final approval of language and any absolutes regarding content.

The model easement serves as an example easement present in the Guidelines for use by the landowner and the Bureau. The Bureau expects the landowner will use the language of the model easement. However, it is at the landowner/Bureau's discretion to change the model easement to reflect the desires of both parties.

Forest Legacy Area Sponsors in partnership with DCNR will be fluent in developing easements and will have the lead at the local level.

Disclosure and Approval of Local Government Bodies: The group was concerned that there currently exists no formal, uniform, and mandated process to ensure local government bodies understand the pros and cons of the FLP, the liabilities to landowners, and the possible long-term implications of the program. They believe none of the program documents disclose any of the possible negative impacts of the program or the seriousness of these contractual agreements to landowners. There is also no formal, uniform process to document local government approval to participate in the program nor any mention of it and how a county can request removal from the program. The subcommittee agreed that an affirmative action on behalf of the county was required to be included in the area, not just notification. This is a critical issue at the subcommittee level that was never formalized as requested.

The Forest Legacy Program requires written approval from the counties and the townships before a Forest Legacy Area can be created. The Program will not be available to landowners if the local government agencies do not wish to participate.



Larger Parcels: The group was also concerned that other states have erred when enrolling larger parcels of land into the program. They felt that large forest landowners, mostly corporations, would use the program to lock up vast areas of forestland for their own use while pocketing considerable sums of public money, the net effect would then be to create a shorter supply of timber for smaller operators, a correspondingly higher price, and an increased and concentrated level of harvesting on remaining lands. The group was convinced that larger parcels are likely to be industrially held and located in parts of the state where development pressure is prevalent.

Nationwide the forest industry has embraced this program. To date, 50% of the Forest Legacy funds have been used to create easements on forest industry owned land. Several large PA forest industry landholders are interested in this program.

Previously Protected Lands: The group was concerned that the documents fail to address another issue in the implementation of the program and the selection of lands for easement protection. The group was concerned that the program permits acquisition of easements on lands that have been previously protected with public funds. Their view was that the FLP should be focused on lands genuinely threatened by development and conversion to non-timber uses. They felt land that have already been acquired and protected, in whole or in part, through the use of taxpayer funds are no longer threatened and should not be eligible for the program.

When a landowner submits their application it will be evaluated using a scoring system that will be used to rank the acquisition of tracts as they are proposed for the Legacy Program. By this method all lands eligible for the program will be evaluated to determine which lands are genuinely threatened by development and conversion to non-timber uses.

Sale of Lands to a Sponsoring Organization: The concerned group felt that in order to ensure against conflicts of interest in the monitoring and management of eased lands, the program should prevent the purchase by any Sponsoring Organization, of any lands or interests in lands, which are enrolled in the FLP.

As stated in the FLP Guidelines, the conservation easement will only be held by the state or county government in perpetuity. The Sponsoring Organization will hold no legal rights but will only be responsible to address public relations, work with landowners during the application and acquisition processes, and annually monitor tracts to ensure compliance with the terms of the easement.

Appendix III

ISSUES RAISED THROUGH THE PUBLIC INVOLVEMENT PROCESS



During the initial development of the PA Assessment of Need (AON), members of the Hardwood Lumber Manufacturers Association (HLMA) expressed interest in knowing more about the FLP. The organization was well represented on the State Forest Stewardship Committee and on the Forest Legacy sub-committee. After reviewing the 1999 version of AON the HMLA Board of Directors formally opposed the FLP in Pennsylvania.

The following is a list of HLMA's objections to the 1999 draft FLP AON:

ISSUE 1

The apparent motive of Forest Legacy is to control forest base from Harrisburg – not to save rural forests from development. When government buys development rights from farmers, it never dictates how those farmers go about farming their land – the farmers retain that exclusive right.

The Federal government is responding to public input by appropriating matching funds for use by private forest landowners, local organizations, State and local governments. The State Forest Stewardship Committee will advise the DCNR, DCNR-Bureau of Forestry or a county will hold the easement. BOF Service Foresters will assist forest landowners with the development of a Forest Stewardship Management Plan as part of the easement. The landowner continues to manage his/her forestland for sustainable forest products based on sound management decisions. Legacy Area Sponsors (local organizations) will assist the DCNR with the development and monitoring of the easements. Conservation easements will be developed with a willing landowner who wishes to maintain a working forest. This program has been fashioned after the successful PA Farmland Preservation Program.

The development of Clean and Green Program forest reserve use values clearly shows the difficulty of realizing a profit by solely growing timber over an eighty-year period. Selling the development or recreation rights can help to offset costs associated with long-term sustainable forest management.

ISSUE 2

Big government, working with land trusts, conservancies, and academia will seek control of the rural private forest base from willing sellers, and decide if, where, when, and how those forests are used in perpetuity.

The landowner is required to submit a management plan as part of the enrollment process, much the same as if the land were managed under a Tree Farm or Green Certification Program. The landowner determines the management goals and the plan writer devises a management plan to achieve those goals. Under the Pennsylvania Forest Legacy Program (FLP) harvesting operations cannot be precluded within this plan, although due to the short average length of ownership tenure in Pennsylvania's privately held forest lands, (average 15 years), the land may have several owners before a harvest is effected.

Nonetheless, under the FLP, the property remains forestland regardless of the owner's management goals and therefore, serves as a reservoir for forest products.



ISSUE 3

Over time, increasingly large sums of federal and state dollars will be merged with private conservation funds and used to buy or otherwise control the best, most productive forestland.

The primary objective of the FLP is to purchase development and recreation rights and to enter into conservation easements with private landowners. Another objective of the program is to effect a fee simple purchase if it is in the best interest of both parties. Whereas the county may purchase the development rights, only the State can enter into a fee simple purchase under the FLP. Pennsylvania State Forest Lands are Green Certified and managed for sustainability.

ISSUE 4

Prime land in closest proximity to existing federal and state owned property will be priority targets for acquisition.

Locating Legacy Areas in proximity to existing State and Federal lands will expand and stabilize the availability of forest products in areas where the industry is already established. This will potentially reduce the distance necessary for mills to travel to supply their needs. Placing Forest Legacy lands within already conserved areas will have the added benefit of expanding interior forests and forested corridors for wildlife and recreational resources.

ISSUE 5

Forest Legacy is tantamount to government's regulation of forest practices. Land titles and required easements and management plans will be governed by Harrisburg with compliance monitoring by conservancies.

The conservation easements will state the goal of allowing landowners to continue managing their forests. The State Forest Stewardship Committee (SFSC) will act as advisors to the Department of Conservation and Natural Resources (DCNR) and local entities in control of the program.

Monitoring by sponsoring conservancies and foresters will ensure compliance with the terms of the conservation easement and will assist the landowner in the achievement of the goals established in the management plan.

ISSUE 6

Private forests used for generations to produce essential supplies of raw material will be set aside and reserved for recreation, wildlife, scenic vista, and other forms of non-productive uses – uses already abundantly available on nearby lands owned by the government.

The purpose of the FLP is to prevent conversion to non-traditional forest uses, therefore ensuring a sustainable supply of raw material from working forests. The landowner drives the management goals. The ranking system established by the SFSC and endorsed by the State Forester will determine the properties selected for funding through the program.

While timber production is an important goal, private landowners may desire to manage their property for other resources.



ISSUE 7

The available supply of quality timber will shrink as land is removed from production or managed to excessive rotations, and timber prices will rise. Production costs will escalate, diminishing Pennsylvania's competitive position both domestically and abroad.

Under this program forestland will remain a working forest capable of producing forest products; timber supply shrinks when forestland is converted to other uses. Landowners whose properties are enrolled in the Forest Legacy program will benefit from the knowledge and support of professional foresters. The lands will be managed according to an approved management plan that will incorporate Best Management Practices (BMPs). Establishing Legacy Areas in the vicinity of existing mills will help to minimize transportation costs and may in fact improve the profitability of harvest operations. Forest Legacy ensures that existing forests will not be developed and will not thus be permanently removed from production. Rather than shrinking the available supply of quality timber, the FLP allows that supply to grow.

ISSUE 8

Land trusts, conservancies, preservation groups, tourists, and recreation interests will hold sway over which forest lands are acquired or controlled, along with how they are managed, and, as with the Allegheny National Forest, the industry and local communities will suffer.

It is the landowner who defines the management goals for the property. FLP simply precludes development and requires that a management plan be filed at enrollment and then updated every 10 years or at the sale of the property. The eased property is still privately held, but lacks one of the possessory rights.

ISSUE 9

The heavy-handed and intrusive agendas of federal and state land use planners should never be welcome in rural Pennsylvania. Rural forest use matters must be decided in local communities by residents of the area, not by "we know what's best" central planners in Harrisburg and Washington or by national or regional conservation organizations and academia.

Forest Legacy is a "willing buyer, willing seller" program. A landowner is under no obligation to enter into a conservation easement and to do so is solely their decision. FLP simply gives the landowner the opportunity to ensure their property will remain as forestland and to receive some compensation for their investment upfront.



ISSUE 10

The maintenance and sustainable management of Pennsylvania's private forestland base should be approached not by taxpayer-financed command and control strategies from Harrisburg, but through continued communication and education of forest landowners and local governments through locally driven planning and decision making and through programs like Tree Farm and the Sustainable Forestry Initiative (SFI).

The Bureau of Forestry promotes good forest stewardship through its Rural Forestry Assistance Program. Service foresters work in partnership with the forestry community through programs like Forest Stewardship, Forest Extension, Tree Farm, and SFI to assist landowners with the long-term management of forest resources. In the year 2000, the BOF and its partners conducted over 600 educational programs.

Forest Legacy is a component of Forest Stewardship and complements the Tree Farm and SFI programs because it provides the stable land base required to produce quality forest products. Forest Legacy ensures that sustainably managed properties will remain productive.

ISSUE 11

Government already owns and controls more than 25% of Pennsylvania's forested acreage, most of it in the targeted Forest Legacy area. These 4.25 million acres contribute a scant 8% of the industry's raw material needs, the balance being sourced from private owners. How much more of our source raw material needs can we afford for the government to own, control, strip from meaningful production and remove from the rural tax base?

Federal, State and Local governments own 21% of the total forestland in Pennsylvania. Public forestland is managed for forest products, as well as water resources, recreation and aesthetics. The DCNR pays in lieu of tax payments to local governments on every acre of state forest. The Federal Government contributes 25% of the timber revenues to the local schools. Pennsylvania's State and Federal lands are some of the best managed forests in the world. Corporate, Industry and other private concerns hold 24%, and farmers and private landowners hold the remaining 55%. Therefore, fully 79% of the forestland in Pennsylvania is privately held.

Finally, the Pennsylvania State Association of Township Supervisors, (PSATS), indicate the residential land costs, \$1.30 in services for every \$1.00 in tax revenues generated. Thus, maintaining forestlands for traditional use actually reduces county liabilities.

ISSUE 12

Pennsylvania's forest products industry is a mainstay of local communities throughout the proposed Forest Legacy area. Its growth and prosperity are central to the plans of many local economic development initiatives on-going throughout the targeted area. Because of declining accessibility of timber from the Allegheny National Forest and under production of material from the state forest system in the region the industry relies heavily on private forest landowner to meet the majority of its raw material needs. Any deterioration in this private base of supply will lead to economic decline for the industry and resultant distress in many rural communities.

Forest Legacy will create conservation easements on working forests thus ensuring a stable supply of forest products.



In response to the opposition to the FLP and the original large area, the Legacy Subcommittee tabled the draft AON at their September 1999 meeting. During that meeting the Conemaugh Valley Conservancy brought forth their intentions to propose a Forest Legacy Area for the Kiski-Conemaugh Watershed near Johnstown, PA. The Forest Stewardship Committee entertained this proposal and reviewed their letters of support. The Legacy subcommittee was instructed to review their proposal and to investigate the local support for the program.

The initial AON was developed during the spring of 1999. The AON was reviewed by the Forest Legacy Sub-committee (see Appendix p 69) and was accepted by the full State Stewardship Steering Committee. The original AON included a large Forest Legacy Area in north central and northeastern PA. It was agreed to accept a large area and allow local conservancies to concentrate their efforts in small areas within the larger area. DCNR, as well as, the Governor's office received several negative comments on the Forest Legacy program the day before the meeting in September 1999. The State Stewardship Steering Committee discussed the program for several hours and subsequently decided to table the AON until a time when questions could be answered concerning the program. Conversations with the forest industry and the Forest Service ensued during the next 12 months. The AON was revised to meet the requirements of the Forest Legacy Program. During this time frame the Conemaugh Valley Conservancy proposed the Kiski-Conemaugh Watershed as a Forest Legacy Area. This Legacy area was accepted by the full committee and is included in the AON. The Commonwealth of Pennsylvania has received several letters of support. Local policymakers and landowners are very interested in working with the Forest Legacy Program to conserve forestland in the watershed.

A conference call hosted by Bill England, Appleton Papers was held on May 31st, 2000 involving the PA Bureau of Forestry, the timber products industry in both Maine and Pennsylvania, and Penn State University. Participants included: Gene Odat, Chief, Rural and Community Forestry, DCNR, Bureau of Forestry, Mark and Dave Krumenaker, Bill England, Edwin Fosterm, Jay Brittom, Bill Robie from the Hardwood Lumber Manufacturers Association, Alan Hutchinson, Chip Bessey, Jim Robbins of Robbins Lumber from Maine, and Jim Finley, Penn State School of Forest Resources. Much of the conversation revolved around Robbins' placement of 20,000 acres in the Legacy program. Selling the development rights allowed the Robbins family to retain land without the necessity of conducting intensive high grading (a non-sustainable practice) harvests just to offset the taxes. The land remains a working forest owned by the family and managed for white pine. All of the participants from Maine emphasized the need to craft the easement carefully, stating upfront that the easement expressly preserved the forest as a working forest. Any rights which are retained, such as access to a gravel pit or other resource need to be clearly expressed.

Chip Bessey of Maine was asked by Bill Robie (HLMA) of Pennsylvania if he would put his own lands in Legacy, and he said no, at least not right now, because he wanted to retain all rights. HLMA has taken the position that this is proof that Legacy was a bad program. HLMA has voiced their opposition primarily based upon what they refer to as government control of the resource because the landowner must comply with the easement and a forest management plan.

There was a marked change in opinion among the sawmill representatives present on the call by the time the call ended. Though somewhat swayed by HLMA's linkage of Legacy with "government control," they all voiced a positive attitude toward Legacy given the alternatives of development and/or fragmentation.

Figure 1. Currently Protected Forestland in Pennsylvania

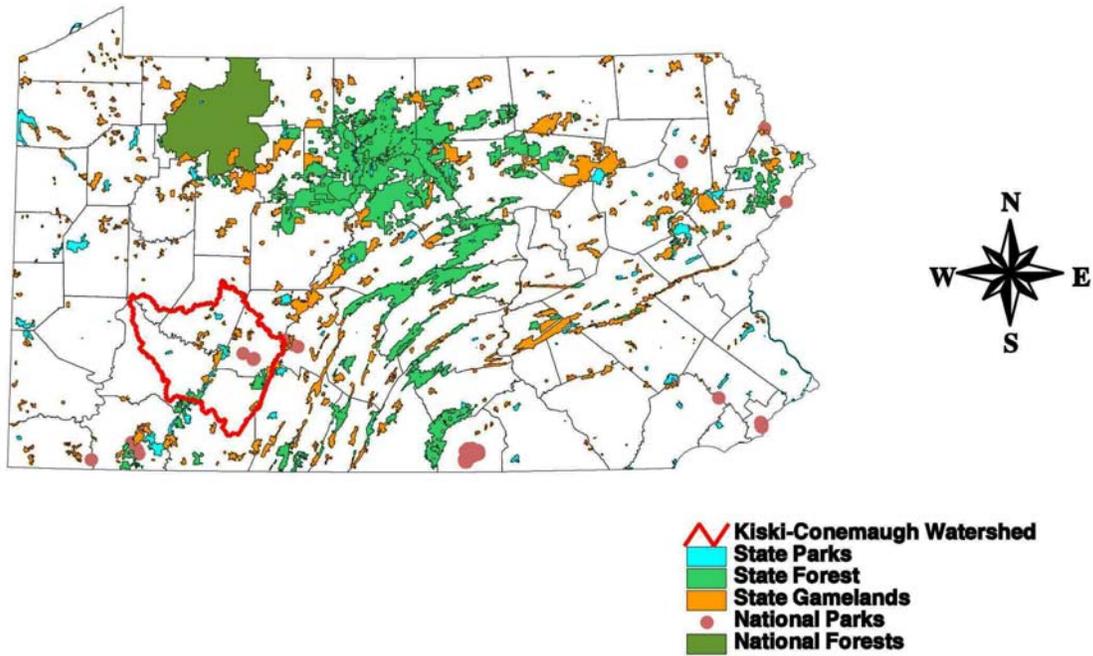


Figure 2. The Physiographic Provinces of Pennsylvania

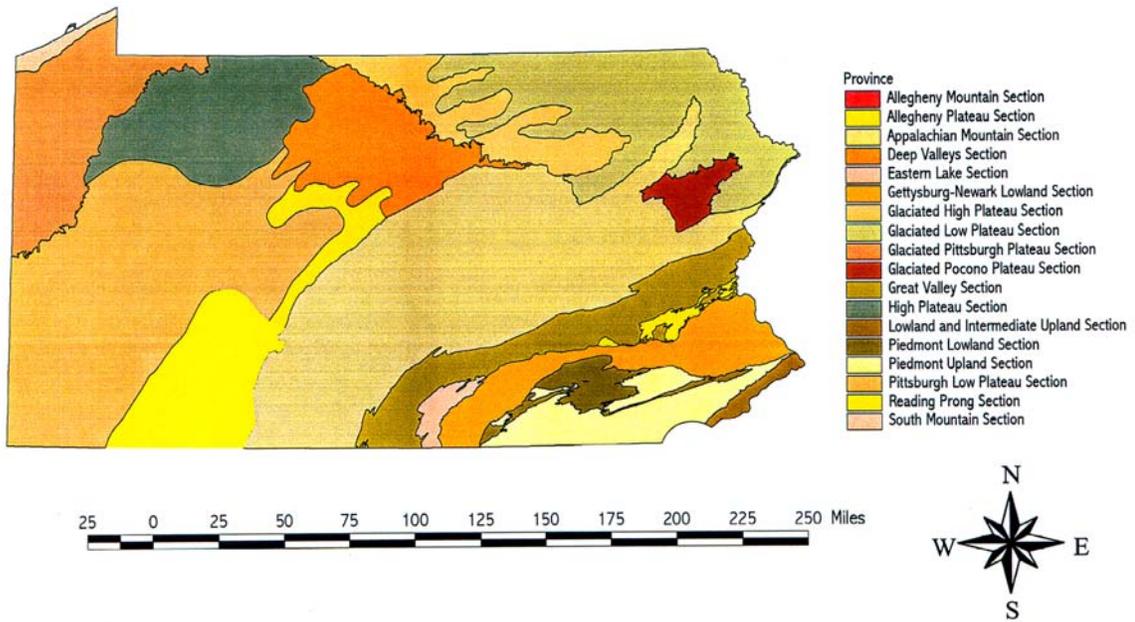


Figure 3. Eight Geographic Sampling Units for Pennsylvania

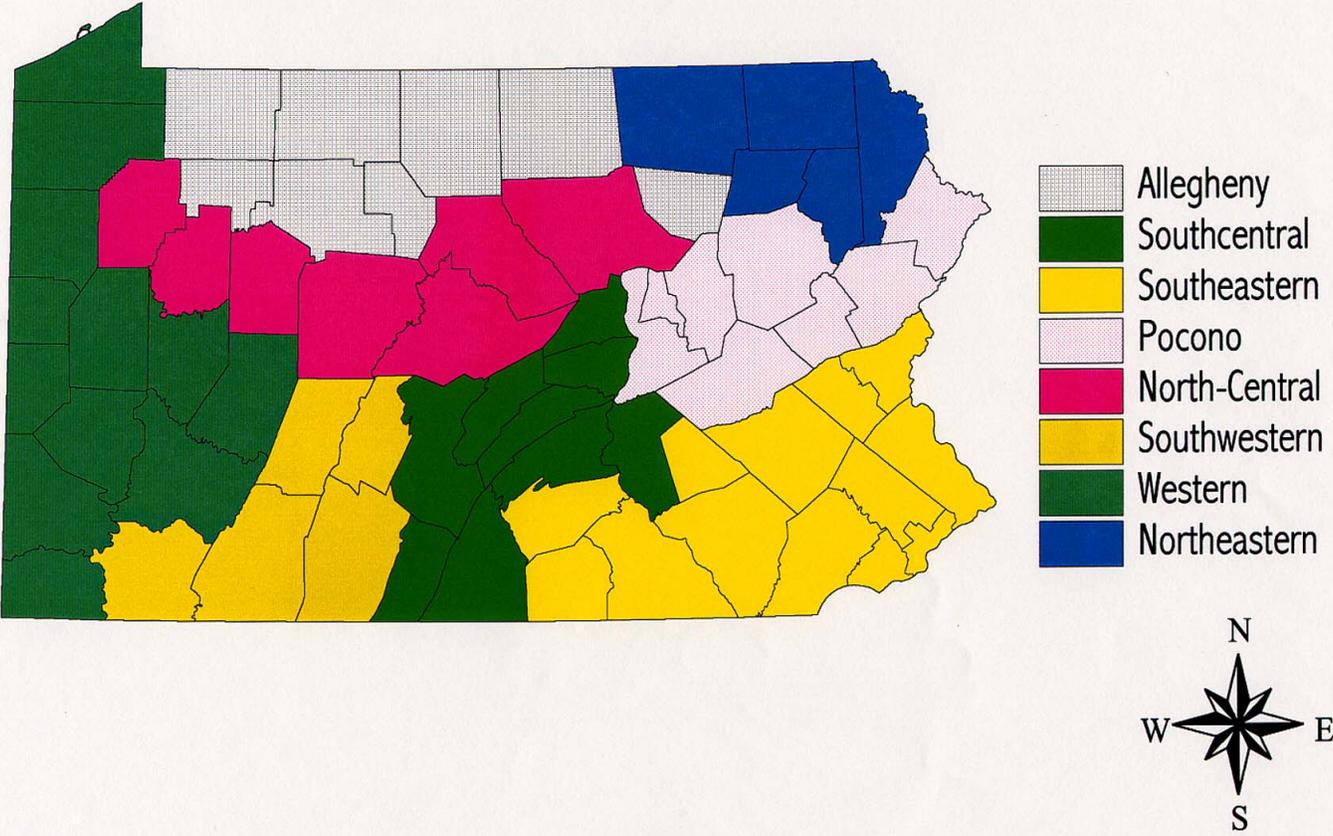
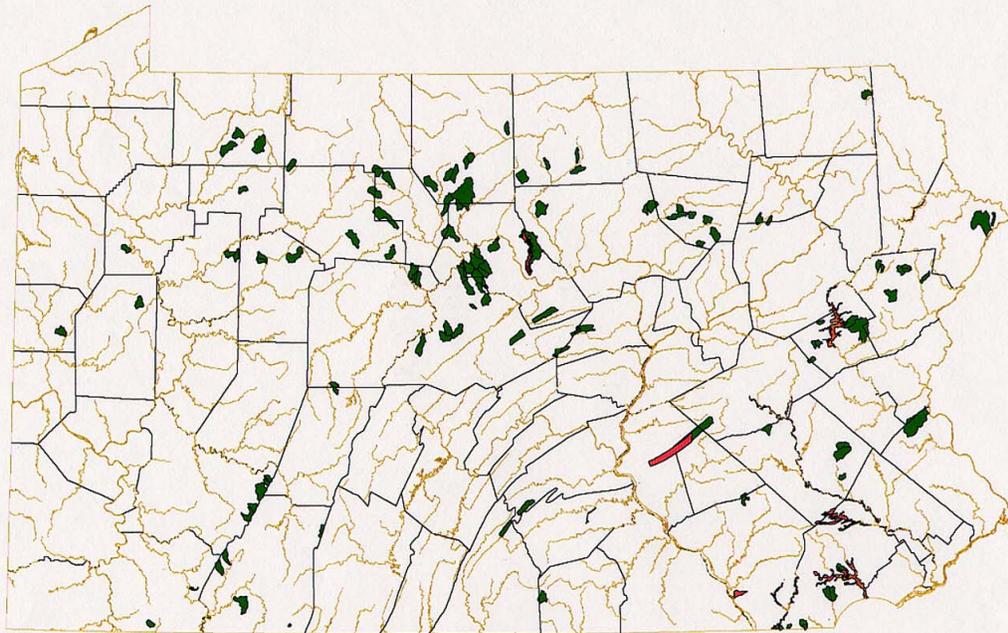
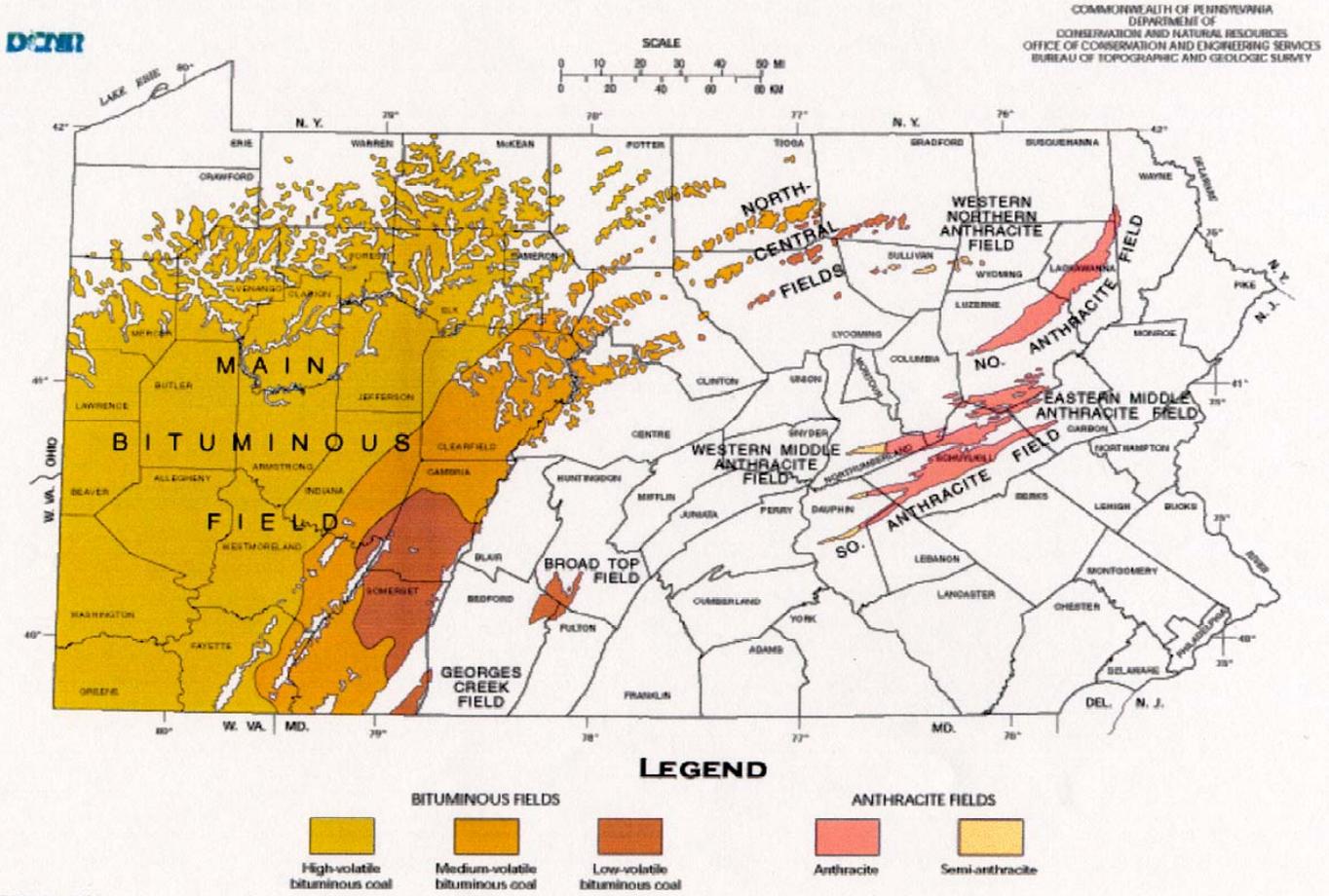


Figure 4. Exceptional Quality Watersheds and Scenic Rivers on the Major River Systems in Pennsylvania



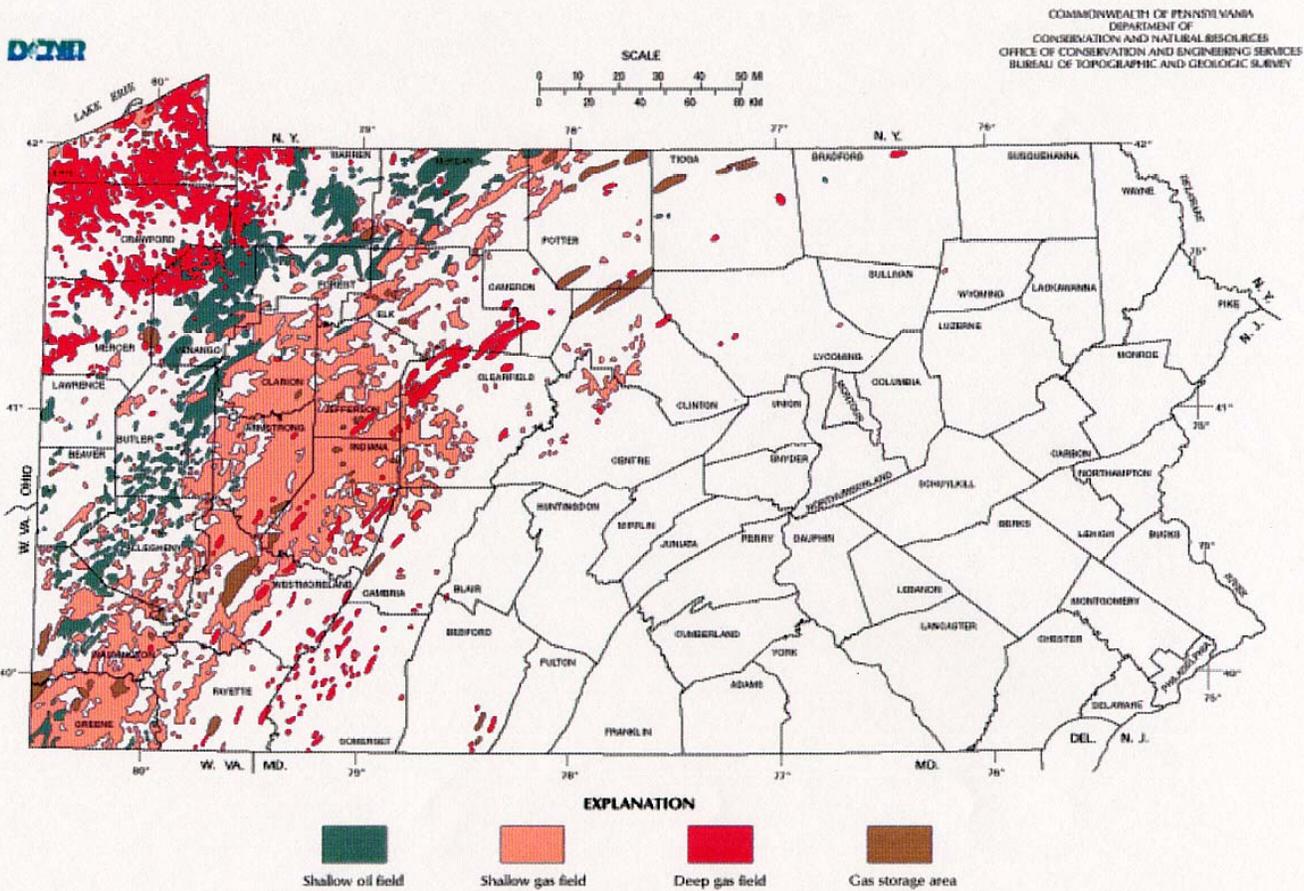
 Scenic Rivers  Exceptional Watersheds  Major Rivers

Figure 5. The Main Coal Fields of Pennsylvania



Third edition, 1992

Figure 6. The Main Gas and Oil Fields of Pennsylvania



Third edition, 1993

