

Forest Management History in the Central Appalachians 1900 to 2000

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Abstract:

In Maryland's Garrett County by the year 1900, one hundred-fifty years of settlement and intensive resource exploitation had created significantly degraded forest conditions typical of most of Appalachia. Forty-four percent of the county's landscape had been deforested by conversion to farmland. Less than six percent of the primary forest remained uncut, and cutover timberlands had been culled repeatedly for lumber, mine props and railroad ties. Poor or non-existent markets for residual slashings and low quality timber caused enormous amounts of wood to be left rotting on the ground. Ruinous wildfires burned over much of the cutover land. Knowledgeable persons lamented prospects for continued production of forest products in Garrett County. A series of inventory reports in the early twentieth century all called for a number of remedies, especially introduction of scientific forest management.

In 1906 Robert and John Garrett gave the State of Maryland 2,000 acres of forest land, including parcels of virgin hemlock forests, if a state forestry department would be established to manage the area. A state forest service was established immediately and soon a highly capable professional was hired as state forester. Besley's comprehensive and detailed inventory, measuring and mapping every woodlot 5 acres and larger, laid an important basis for setting priorities. Implementing scientific management on state lands was soon complemented with a program to assist private land owners to restore their forests' productivity. Later, CCC camps established facilities and restorative projects that became the core of ongoing forest conservation.

A legacy of tourism and recreational use begun in the late 19th century continued to evolve. Those uses dominate current attitudes and actions more than a century later, transforming the economics of land use and shaping management policy. Today Maryland controls over 70,000 acres of forest land in Garrett County. 69,500 acres in state forest. However, in Maryland's western region (Garrett and Allegany Counties) 74 percent of timberland is in private ownership with only one percent industry owned. The future of forestry in Maryland's western county is not clear.

Introduction

About Garrett County, Maryland, one late-19th century writer exclaimed "an unusually large portion of its soil is fertile, and much of it is covered with a splendid growth of timber. The mineral deposits are rich, the county is abundantly watered" (Scharf 1882, p. 1518). By the time that description was published, however, the abundance of primary timber had been

significantly reduced and the most fertile soils had largely been converted to agrarian uses. Exploitation of mineral deposits and pollution of the county's abundant waters were well under way. Settlement, consequent land conversion, and rapidly changing technologies depleted forest resources from the 1760s onward. Garrett County's geographic position practically guaranteed sequential events that transformed the natural landscape.

Studying Garrett County's forest history reveals the inescapable connectedness of human and natural systems, interacting over a relatively short time, but enhancing or constraining each others' capabilities. It represents transportation's impact on the dynamics of resource exploitation. It shows dramatic effects of progressive conservation thinking applied at the turn of the 19th century.

Location, Climate and Original Condition

Garrett County, Maryland's westernmost county, lies on the Allegheny Plateau, about 60 miles southeast of Pittsburgh and 160 miles west of Baltimore (Figure 1). Highest elevations along four flat-topped ridges range to 3,360 feet. Broad flats lie 500 feet below the ridge crests. River valleys are narrow, deep ravines typically 1000 to 1800 feet below surrounding peaks.

Two river systems drain the county: the Potomac and Youghiogheny. The Savage River drains about a third of the area, emptying to the North Branch of the Potomac. The Casselman River drains north to the Youghiogheny from the county's central section. The upper Youghiogheny drains area west of the Casselman watershed and empties to the Monongahela south of Pittsburgh.

The region's climate is humid, continental. The area experiences effects of the Great Lakes and storm systems that sweep northeast along the Appalachians. Average yearly precipitation totals 49 inches, with one in ten years less than 43 inches and one in ten years more than 55 inches. The total includes snowfall that averages 72 inches (Stone and Matthews 1974). Average daily temperatures for the year range between a 60.4 degree maximum and a minimum of 36.3 degrees Fahrenheit. Frost typically persists into late May and the growing season usually ends in late September, limiting average growing seasons to 122 days. The combination of climate and terrain situates the county well within the 25-125 year pre-settlement fire frequency zone (Frost 1998).

Originally Garrett County was almost entirely forested, part of the mixed-mesophytic forests that blanketed eastern North America. Hardwood forests of chestnut, sugar maple, oaks and hickories dominated ridges and side slopes. Hemlock and rhododendron grew in moist ravines and along water courses. Most valleys contained extensive bogs or fens supporting a mix of more northerly vegetation atypical for the latitude. The poorly drained areas originally supported black spruce, alder, witch hazel and related alpine vegetation. White pine grew in almost pure stands on moist level lands surrounding these bogs and mountain meadows. White pine and hemlock also grew as individual trees of substantial size within hardwood dominated stands.

Before 1900

Land use conversion started slowly in what would become Garrett County. Although numerous tracts were surveyed for speculators in the period 1768-1774, few surveyed tracts were actually occupied until later (Glades Star 1944a,b). A survey to allocate 50-acre lots to military veterans in 1788 found 323 families already residing on 636 of the lots. Assuming a modest level of “improvement” by these families, we can reasonably estimate that no more than 10,000 acres had been cleared by 1790.

Timber extraction began around 1790 when Philip Hare built Garrett County’s first sawmill on Meadow Run (Brown 1896). At Little Crossings, on the Casselman River, Jesse Tomlinson built a sawmill around 1815. Water-powered, these mills were located near stands of white pine and within a mile or two of the National Pike (Brown 1896). At first, white pine was the only species harvested (Besley 1916).

White pine stands reportedly yielded from 10 to 50 thousand board feet to the acre (Beachy 192-). The extent of the original white pine stands and their quality were often remarked. The fact that white pine grew on the flattest and most fertile ground hastened its liquidation. Typically when the pines were removed, conversion to cropland followed. Both timber production and land clearing rates ratcheted upward with the advent of steam technology and improving transportation. Brown (1896) notes that “the first steam saw mill in Garrett County was built in 1837 ... on the Red Run, two miles above the National road ...” (p.55). In three years it depleted 250 acres of white pine. The National Road itself, funded by Congress in 1806 and completed to Wheeling, Virginia, in 1818, provided improved means to transport sawn lumber and agricultural products. It also served as a vector for increased settlement pressure as immigrants swarmed through the region into the Ohio Valley during the early to mid-1800s.

At mid-century the B&O Railroad penetrated the county, augmented by a network of narrow gauge rail lines that quickly accessed once remote timber. Cumberland, 15 miles to the east, was Maryland’s second largest city in 1840. Mount Savage, just down the mountain from Garrett County, emerged as a thriving iron center (Silverman 1995). When mining interests began extracting anthracite coal from seams in the Georges Creek and Wills Creek Valleys, also to the east, demand for wood and agricultural commodities exploded. The regional growth of tanneries (Herget 1983) depleted hemlocks, literally stripping the forest bare and typically leaving the wood to rot. Altogether, through the 19th century land clearing in Garrett County averaged about 2.5 square miles per year.

Yet, another trend began in 1872. Vacation development, including resort hotels arose in the county’s southwest, where the B&O Railroad traversed the plateau after climbing out of the Potomac River Valley. The area was conveniently located a day’s train ride from Baltimore and Washington to the east and Cincinnati to the west, encouraging overnight stays. Depots at Mountain Lake, Deer Park, and Oakland gave travellers easy access to hotels, from which they were able to enjoy the mountain climate, and the area began catering to a wealthy urban clientele (Jones 1964, Hoagland 1978).

Situation in 1900

By 1900, 46 percent of Garrett County's landscape had been converted to cropland and pasture, leaving 235,200 acres forested (Curran 1902). Of the forested lands 89 percent were cut-over and only 25,000 acres remained in primary forests. Between 1000 and 3000 acres were being cut annually, but the cutting still took only the choicest material (Curran 1902). Of three timber types (ridge, slope and swamp), 80 percent of the remaining acreage was in the ridge timber type. Most of the ridge timber remaining was considered inferior, with short trunks stunted where exposed to wind (Curran 1902). Fire damage, insects, and disease typically rendered the chestnut component defective on these shallow, sandy or rocky soils. Only 4000 acres of the higher quality slope timber and 733 acres of swamp timber remained.

Cutover timberlands were culled (high-graded) repeatedly for lumber, mine props and railroad ties. As coal mining intensified, mine props were particularly demanded. Young timber stands yielded 35 to 50 mine props per acre, and growth in chestnut stands allowed cuttings every ten to fifteen years (Sudworth 1900). Sudworth determined that "annual consumption of mining props in the coal and fire-clay mines of western Allegany county [was] roughly estimated at about 1,000,000. This represent[ed] an annual culling of about 28,000 acres" (p.278). Much of the cutting occurred above mines on the eastern slopes of Backbone and Big Savage Mountains. Residual slash left from culling posed a severe fire hazard throughout the county. Ruinous fires frequently destroyed potential regeneration and scarred remaining trees.

Curran noted that the future seemed to hold little hope for increased fuelwood demand. He lamented the lack of charcoal kilns, acid factories, and tool handle or spool mills that might use the wood going to waste. Mineral coal's cheapness for heating purposes made "it impossible to dispose of the waste hardwood tops left by lumbermen. Thousands of cords of good oak, chestnut, and other hardwoods [were] left to rot" (Curran, p. 323). Potentially salutary effects of regenerating stands for charcoal were obviated by abundant mineral coal extracted from the rich veins in the nearby valleys.

Curran's inventory also characterized the timber subtypes natural to the area and tallied average stand data from remnants in each subtype (Table 1). The few acres of white pine he measured were completely eliminated before the report was published. But these few gave credence to the claims about the earlier harvests. Data indicated average white pine timber volume of 33,473 board feet (Doyle rule) per acre. The 40 white pines per acre averaged 25.9 inch dbh (Curran 1902). The stand also included hemlock, red maple, spruce, and yellow birch, with chestnut, white oak and red oak. The 72 trees per acre greater than 12 inches dbh totalled 44,727 board feet (Doyle rule) at an average dbh of 22.1 inches (Table 1).

Table 1. Stand Totals for Timber Subtypes in Garrett County Circa 1900 (Curran 1902).

Stand subtype	No. acres in sample	No. trees/acre >12" dbh	Average dbh	Volume/acre bd.ft. (Doyle)	# Tracts Remaining
Chestnut	15	61.82	18.6	19,691.39	2

White Oak	25	57.68	17.6	13,197.20	3
Hemlock and Hardwoods	29	72.71	18.3	23,374.14	3
Hemlock	25	63.60	19.6	29,466.29	1
White Pine	3	72.96	22.1	44,727.60	0
Spruce	20	64.40	18.1	25,162.80	1

Apparently few landowners recognized that they could sustain timber yields and perpetuate desired benefits from the forested landscape. Knowledgeable persons lamented prospects for continuing to provide forest products in Garrett County (Curran 1902). Yet, a conservation consciousness was emerging. Introducing Curran’s report, Sudworth recommended that the state acquire land to establish a forest reserve patterned after the federal forest reserves in the west. In particular he identified “rough, untillable mountain land suitable only for forest growth” as land that “should be concentrated in a state forest reserve” (p.304). Thus, at exactly the time when the very last primary growth was being liquidated, interest in Maryland’s forests heightened.

One Hundred Years Since

Though the situation in Garrett County forests typified central and northern Appalachia in 1900, singular individuals and events brought about significant change over the next century. In 1906 Robert and John Garrett, principal officers in the B&O Railroad, offered a deal the State of Maryland would not refuse. The Garretts offered 2,000 acres of forest land to the state on condition that a forestry department be established (Warren 1956). State Senator W. McCulloch Brown wrote a forest act that, with General Joseph B. Seth’s support, the General Assembly passed.

Establishing a state forest service was the first step toward addressing perceived forest management needs. The second step was hiring Fred Besley, one of Gifford Pinchot’s early proteges, as the first state forester. Maryland’s forests required action along several fronts, so Besley set priorities in four areas: fire control, forest inventory, public land management, and private landowner assistance.

Fire Control

One of Besley’s first concerns was appointing fire wardens throughout Maryland. For example, Abraham Lincoln Sines served in Garrett County from 1913 until his death in 1954 at age 89 (Warren 1956). The state forestry act provided for wardens to be compensated, but at first the only equipment issued to them was a badge. Besley’s first letter advised wardens that their best tools for fighting fires were rake, hoe, shovel and axe. These the wardens provided themselves. Later a torch for lighting back-fires was issued, but untrained wardens often touched off more destructive fires than ones they were attempting to control (Warren 1956). Then, in the early 1920s a Rich rake and knapsack back sprayer became standard equipment issued by the agency.

Despite the wardens' efforts, fires increased statewide through the 1920s (Warren 1956). Assumed causes were careless smokers, brush burning, incendiary fires and increased mobility because the population "was getting on wheels and roaming far and wide." However, a report based on a 1926 survey of wardens in the Western Maryland district also placed the blame on moonshiners and huckleberry pickers. In Garrett County a main cause was farmers burning the woods every spring to enhance pasture for livestock. Only after the General Assembly passed a statewide stock law, which removed the incentive to burn unfenced woodland, could wardens control wandering cattle and sheep (Warren 1956). By the 1940s, when the forest service had enlisted 600 wardens statewide, mobile fire-fighting units were developed and fire control began to prove effective (MWP 1940).

The toll fires had taken was lamentable. J.G. Friend, Forest Warden, in 1924 at a forest wardens' conference in Oakland summed up the loss: "Had our predecessors 50 years ago taken up the subject of forest preservation and the control of forest fires as zealously as you gentlemen, we would today have in Garrett County a white pine forest of 30,000 to 35,000 acres ready to harvest. This great loss has been caused mostly by fires which destroyed the defective trees left standing, which would have reseeded the ground" (Warren 1956, p.18).

Forest Inventory

The 1913 forest survey of Garrett County included all tracts of five or more acres (Besley 1916). Tracts were sketched on a topographic base map at a scale of one mile to the inch, and the general condition of each tract was observed. Hardwood stand classes included sapling, culled, and merchantable, with three sub-classes indicating relative stand per acre. By this time, timber volumes were seriously depleted (Table 2). The survey indicated that 98 percent of the timber in Garrett County was in hardwood stands, with 1 percent of the wooded area in pine, and 1 percent in mixed hardwood and pine (Besley 1916).

Table 2. Acres with Stumpage Above and Below 5,000 Bdft/ac in Garrett County, 1913.

Timber Type	> 5,000 Bdft/ac	< 5000 Bdft/ac
Hardwood	4,484	264,112
Pine and hemlock	1,464	617
Mixed hardwood, hemlock, and pine,	2,529	1,277

(Besley p. 84).

The total value of the timber cut in Garrett County during 1914 was \$1.4 million, the highest income in the State of Maryland (Table 3). Sixty-two mills, mostly portable, were cutting timber for a diversity of products: lumber, tanbark, mine props, mine ties, railroad ties, lath, piling, pulpwood, shingles, poles, cordwood and posts--listed in order of value. Only Wicomico County, on Maryland's Eastern shore, had more mills, but Wicomico's mills were cutting about 4 million cubic feet less timber, valued at nearly \$800,000 less.

Table 3. Area Wooded, Harvest Value, and Mills in Maryland, by County (Besley 1916).

County	Wooded Area		Harvest (cubic feet)	Value (\$)	Mills
	(acres)	(%)			
Allegany	163,832	62	3,141,400	440,150	45
Anne Arundel	92,266	34	1,099,610	130,099	22
Baltimore	103,515	24	2,119,584	308,186	30
Calvert	62,390	45	1,448,475	202,597	20
Caroline	62,834	30	1,546,000	178,654	61
Carroll	39,292	13	991,960	118,800	25
Cecil	53,543	24	716,780	96,893	24
Charles	171,547	59	5,838,080	484,866	30
Dorchester	138,291	37	2,231,160	352,405	37
Frederick	91,117	21	809,965	179,004	51
Garrett	274,483	63	7,750,245	1,379,937	62
Harford	81,872	29	774,555	118,342	27
Howard	38,644	25	599,455	64,696	12
Kent	33,776	19	382,870	53,047	10
Montgomery	68,821	22	1,215,545	175,422	28
PrinceGeorge's	127,200	41	1,388,000	161,939	32
Queen Anne's	59,270	26	690,205	83,363	26
St. Mary's	119,080	51	1,226,755	157,002	33
Somerset	68,387	25	2,742,423	363,174	46
Talbot	45,822	29	1,274,994	137,212	38
Washington	72,274	24	1,485,950	190,850	26
Wicomico	111,608	46	3,949,470	592,318	64
Worchester	148,182	47	3,525,700	467,191	51

Maple sugar production in Garrett County from 1927 to 1937 yielded 24,000 pounds of sugar and 26,000 gallons of syrup annually (Writers Project 1940). Approximately 57,000 trees were being tapped in groves across the county.

Managing State lands

With the Garrett's gift, the State of Maryland was in a position to demonstrate the emerging practices of forest management to landowners. Like other states during this period, Maryland was burdened with tax delinquent lands depleted of resources and private lands badly managed if at all.

By 1916 the State of Maryland owned just under 3000 acres of forest, more than 2/3 in Garrett County. The gift from the Garrett brothers constituted most of this land. Soon after the transfer of land to the state, about 500 acres of the Skipnish Reserve, 50 acres of the Swallow Falls Reserve, and the entire 206 acres of the Kindness Reserve benefitted from fire protection and improvement work (Besley 1916). At the time, improvement work was called liberation cutting and entailed removing trees of insufficient value to be removed during harvesting ten years before but interfering with proper development of younger growth. Besley is not specific about whether virgin hemlock stands included in the Garrett gift were left untouched amidst enthusiasm for mmapplying scientific management principles.

In 1929, the Maryland Forestry Department organized 50,000 acres in Savage River State Forest, and 12,000 acres became Potomac State Forest in 1931. A major portion of the Savage River State Forest was “submarginal land turned over to the state by the Resettlement Administration under a 99-year lease” (Warren 1956, p. 62). In 1933, Maryland qualified to receive 10 camps of 200 men each from the Civilian Conservation Corps (Widner 1968). CCC camps formed the basis for present day state forestry and parks facilities within the 73,000 acres of forest land Maryland controls in Garrett County (Table 4). CCC camps established facilities and restorative projects that became the core of ongoing forest conservation.

State management in the 1930s and 1940s mainly focused on timber preservation (Callcott 1985). In the 1950s state management sought to meet multiple objectives--timber production, erosion control, watershed protection, conservation of wildlife and recreation ... demonstrate the handling of woodlands crop land to produce regular and continuous income” (Warren 1956). In time restoration efforts gave way to custodial management of state lands and continued assistance to private forest landowners.

Maryland Timber Marking Plan--1913

Apparently Maryland was the first state to create a landowner assistance program. Besley created the Timber Marking Plan in 1913 when he “discovered that little was accomplished by examining woodlots and handing out advice when owners or operators did not have the knowledge or experience necessary to carry out recommendations” (p. 25). He arranged for a forester to select and mark harvest trees and to provide owners with estimates of stumpage volume and its dollar value. The resulting plan included copies of estimates on the size and availability of timber for sale. Landowners were also given a list of buyers and encouraged to seek competitive bids from buyers. Essentially, this program still exists, though the assistance focus has shifted.

Evidence of this shift can be found in three forest management plans written for a small private tract in eastern Garrett County called the Red Hill Lot. The first plan was written after the tract was examined by a forester from the Maryland Department of Forests and Parks in 1966. Revised in 1976 when a majority of the tract changed hands, the plan was again updated in 1992 when a service forester wrote a Stewardship plan.

The first examination covered 47 acres and was conducted a year after mixed-conifers had been planted on 14 acres. Plantation survival was evaluated in four stands, and spot planting recommendations were made for several. Harvesting/regeneration prescriptions were included for all hardwood areas, which were deemed of poor quality due to past culling (highgrading). The 1966 plan includes no statement about the owner’s objective, and its prescriptions are framed in terms of what the forest needs. No records exist to indicate whether spot planting was done. No hardwood areas were clearcut.

A timber re-examination done in 1976 resulted in a plan identifying its objective as being “to manage for timber production and wildlife.” The plan is not specific about which wildlife are of interest. It references the earlier (1966) plan, acknowledges the failure to implement clearcutting on the hardwood acreage, and notes progressive worsening of hardwood stand health and stem quality. A recommendation for cutting stand 1 addresses both timber and wildlife objectives. The plan’s prescription to construct a fence to keep animals out of woodlot was implemented. While the fence still exists it is not needed now because the goats on the property in 1976 and the ponies that came later are long gone. In the hardwood area (Stand 1) a half acre was clearcut by the owner and friends needing firewood.

The Forest Stewardship Plan for the Red Hill Lot identifies multiple objectives. Improved health of the watershed is to be reflected in increased productivity of a seepage pond. Improving wildlife habitat, harvesting firewood, and upgrading tree quality for timber harvest are secondary aims. Maintaining a road and trail system to facilitate woods work and recreation are included as well. The plan notes the soils on the site and makes a clear linkage of the tract’s forest to other contiguous forest features. This stewardship plan reflects a changed perspective that broadens the forester’s focus beyond just timber utilization.

The Modern Situation

Weak timber markets and a generally depressed economy in the central Appalachians prevailed through much of the twentieth century. From a height of economic prosperity, Western Maryland slid in a slow decline for decades during the 20th century. When deep coal mines began to close, signs of Appalachian poverty began to emerge throughout the region. Relative isolation gripped Western Maryland, and the isolation was underscored when the interstate highway system was routed north from Hancock, MD, to join the Pennsylvania Turnpike at Breezewood, PA.

Farmland abandonment, resulting in natural regeneration of hardwoods and planting of conifers, reversed the trend seen in the 19th century when farmland conversion had taken place. And for much of this period “Forestry was an especially popular state agency, and it cultivated its popularity. Its lands were available to hikers, it supervised the beautification of roadsides, and as the suburbs grew, it helped developers establish the proper shade trees”(Callcott 1985, p. 266).

Table 4. Reported Estimates of Forest Land in Garrett County, 1900 to 1986.

Author	Date	Forested	%	Uncut
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Curran	1902	235,200	56	25,000
Hu and Besley	1910	273,357	65	---
Besley	1916	274,483	65	8,477
Stone and Matthews	1974	290,076	69	---
Frieswyk and DiGiovanni	1986	299,300	71	< 1000

In the 1970s, the Garrett County soil survey noted that "nearly half of the area in farms was farm woodland. Almost all of the woodlands of the county [had] been cut over, and cutting for timber and especially for pulpwood continue[d] at a moderately high level" (Stone and Matthews 1974, p. 38). However, the only market for pulpwood was Westvaco's Luke Mill, located on the Potomac River, so the mill's fortunes dictated prices, hence opportunities for intermediate stand management. Pulpwood supply in the region has exceeded demand for decades. During this time, also, increasing degradation from stripmining for coal and the residual effects of mine acids released from deep mines into onetime trout streams began to dominate people's attention rather than forest issues in Western Maryland.

By 1986, 299,300 acres of Garrett County were classified as timberland, with another 2,800 acres in productive reserve (park lands, etc.) (Frieswyk and DiGiovanni 1988). Almost 65 percent of the timberlands in Garrett County were of the oak-hickory type and 24.5 percent were northern hardwoods. The nine percent of acreage in white or red pine occurred almost entirely in plantations. Nearly 62 percent of the timberland acreage was in sawtimber and another 28 percent was in the pole timber class.

In Maryland's western region (Garrett and Allegany Counties) 74 percent of the timberland remains in private ownership with only one percent industry owned (Frieswyk and DiGiovanni 1988). Maryland contains no national forest land, which seems to be a matter of distinction among chroniclers of forestry in Maryland (Widner 1968). Thus, today the State of Maryland owns and manages about 26 percent (76, 989 acres) of Garrett County's forested lands (Table 5).

Limited markets exist for low grade material—pallets, fuelwood. Some high quality sawtimber is cut and an occasional sugar bush still operates. But the most profound trend is the regional shift to non-commodity uses of forests and natural resources. Currently in Garrett County, recreation and tourism spur an active second home market for residents of distant urban centers: Baltimore, Washington, and Pittsburgh. Their growing presence impels conversion of land to residential and resort use. The protected watersheds surrounding the Youghiogheny and Savage Rivers and restoration of the trout fishery in the Potomac's north branch, and hiking and scenic drives attract tourists, recreationists, and vacationers from all over the Middle Atlantic states.

Attention has focused on the Youghiogheny watershed in recent years. Thirty years ago the state enacted a wild and scenic river law, and ever since tensions have mounted surrounding private landowner rights in the region. Since 1988 the state has bought over 3,000 acres of 4,700 designated as a scenic corridor along the Yough. In 1999 the state's Board of Public Works

agreed to purchase another 783 acres for \$2.7 million (McCord 1999). This purchase “substantially complete[s] the state’s program of preserving a stretch of nationally famous whitewater that attracts thousands of expert rafters and paddlers each year.”

Even more recently, the state agreed to buy Deep Creek Lake from GPU Inc for \$7.8 million. Control of water levels and release times from the dam have been an issue, with opposing recreational interests sometimes at odds over the flow released to the Youghiogheny. Rafters want releases to remain high during summer months, but boaters and property owners along the lake’s 70 miles of shoreline want the lake’s highest pool level to be maintained. During recent drought years such conflicting pressures have been especially difficult to address. Protecting water and visual quality of such highly priced acquisitions will probably remain a priority long into the future.

Table 5. State Forests and Parks in Garrett County, Maryland.

Name	State Park	State Forest	Scenic Corridor
	----- Acres -----		
Herrington Manor	365		
Swallow Falls	255		
Garrett		6,825	
Deep Creek	1,755		
Potomac		10,685	
Savage River		52,800	
New Germany	210		
Big Run	300		
Youghiogheny			3,794
Total Acreage	2,885	70,310	3,794

Conclusion

Christensen (1989) says “the most compelling reason to study the effects of past history on the current structure of ecosystems is our desire to make informed predictions about future changes in the ecosystem.” Garrett County experienced pulses of settlement, land use conversion, and extraction activity characteristic throughout North America’s development. Excesses and waste typical when abundant and cheap resources became accessible led to depletion and scarcity. Assessment at the turn of the 19th to 20th century led to subsequent remediation when foresters and other leaders with vision faced perceived challenges. Their pragmatic response to arguably negligent management of forest resources prompted a paradigm shift about institutional responsibility for the environment.

Foresters’ response resonated with an informed and somewhat sensitized public. Wealthy elites exposed to the charms of semi-wilderness (as perceived by the B&O’s urban

visitors) readily accepted abstract principles of forest management. Perhaps the public was vaguely commingling scientific management with preservationist tendencies. But, in any case, legislative and policy initiatives backed by influential citizens bore tangible results. As professional practitioners applied corrective action, forest conditions in Garrett County recovered notably.

However, the very success of Garrett County's forest recovery contained seeds of eventual conflict. As industrial dependency on the forest resource declined, new perceptions of forests' role in humans' interaction with landscapes emerged. Viewing the forest as recreational backdrop and leisure location prompts a new round of potentially detrimental actions. Leisure and recreational uses of the landscape have grown, as they will undoubtedly continue growing. Associated residential and commercial development seems inevitable.

Now, as value of sawtimber and pole-size stands increases, incentives to harvest increase as well. Whether harvested stands regenerate to forest or are converted to meet accelerating development demand depends on the circumstances of each transaction and each site's proximity to transportation routes. Whether the State of Maryland actively manages its own growing inventory and helps reinvigorate a traditional economic sector in Garrett County remains to be seen. Overall, forestry's future in Maryland's westernmost county seems unclear.

Considering Garrett County's forest history poses contemporary questions about changing land use and opportunities for ecosystem management in the 21st century. As Christiansen (1989) observes, "future land use depends in large part on the nature of ecosystem change, which, in turn is often initiated and affected by patterns of land use."

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