

The Conservation Movement in Pennsylvania:  
Developing a Historic Context and Guidelines for  
Evaluating State Forests and Parks

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## ABSTRACT

Title of Document: THE CONSERVATION MOVEMENT IN PENNSYLVANIA: DEVELOPING A HISTORIC CONTEXT AND GUIDELINES FOR EVALUATING STATE FORESTS AND PARKS

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The removal of timber by lumber companies during the Industrial Revolution caused wide spread environmental degradation and spurred a movement to preserve forests. At a time when conservation was a new concept to a nation that had a history of exploiting its resources, Pennsylvania led the way and helped shape a national policy of managed use of forests. This project creates a historic context for the conservation movement in Pennsylvania and develops guidelines to evaluate state forests and parks for eligibility to the National Register of Historic Places. In Pennsylvania, there are insufficient guidelines to evaluate these properties resulting in their underrepresentation on the National Register of Historic Places. Development of a thorough context for these properties will allow for the identification and evaluation of more resources and create a better understanding of the role that Pennsylvania's conservation movement played in preserving forests and developing parks, both in the state and nationally.

THE CONSERVATION MOVEMENT IN PENNSYLVANIA: DEVELOPING A  
HISTORIC CONTEXT AND GUIDELINES FOR EVALUATING STATE  
FORESTS AND PARKS

By

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## Chapter 1: Introduction

This project develops a historic context for the conservation movement in Pennsylvania to establish guidelines for evaluating state forests and parks for their eligibility to the National Register of Historic Places. There is little guidance for evaluating these properties, resulting in their underrepresentation on the National Register of Historic Places. By using Pennsylvania's conservation movement as a model, a historic context can be developed to provide the guidelines necessary to assess the significance and integrity of these properties, and to identify relevant property types and common characteristics.

Industrialization and the resulting exploitation of natural resources and damage to the environment was a common thread throughout the history of early America. By the mid-19<sup>th</sup> century, lumber companies moved into Pennsylvania after exhausting forests in New York and New England. A strategy of clear cutting caused large scale forest destruction, soil erosion, fires, and flooding, and sparked a conservation crusade to preserve Pennsylvania's forests at a time when conservation was a new concept to a nation that had a long tradition of exploiting its resources.<sup>1</sup> As forest policies were shaped by the states, Pennsylvania led the way towards a national policy of managed use, making the conservation movement in Pennsylvania a significant theme for evaluating properties for inclusion in the National Register of Historic Places.

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<sup>1</sup> "Pennsylvanians and the Environment," Pennsylvania Historical and Museum Commission, accessed December 21, 2014. <http://explorepahistory.com/story.php?storyId=1-9-E&chapter=1>



Both state forests and state parks have been demonstrated to be significant property types associated with Pennsylvania's conservation movement and many buildings, sites, and structures associated with the creation and development of state forests and parks are eligible for the National Register. Today, there is an ever increasing number of utility and infrastructure projects that intersect with these properties, requiring them to undergo federally-mandated review processes such as Section 106. Without guidelines to determine if they have a significant association with the conservation movement, it is difficult to determine if they are eligible for the National Register. A search of existing National Register listed properties shows that very few conservation related resources have been nominated and those that are, usually fall under activities of the Civilian Conservation Corps. One of the few existing examples is a Multiple Property Documentation Form for the *Conservation Movement in Iowa from 1857 to 1942*. This nomination, along with the *Appalachian Trail nomination*, served as models for this research.<sup>2</sup>

The methodology for this project included conducting historical research and consulting with experts in the preservation and forestry field. Parameters set by the National Park Service for constructing a Historic Context, Multiple Property Documentation Form, and for preparing Cultural Landscape Reports were used to guide this research.<sup>3</sup> Historical Research was conducted at institutions such as the

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<sup>2</sup> Virginia Adams, Jenny Scofield, Quinn Stuart, Kathleen Miller, Stephen Olausen, and Gretchen Pineo, *Historic Resources of the Appalachian National Scenic Trail*, National Register of Historic Places Multiple Property Documentation Form, (Rhode Island, 2014.)  
Rebecca Conard, *The Conservation Movement in Iowa, 1857-1942*, National Register of Historic Properties Multiple Property Documentation Form prepared for the State Historical Society of Iowa, 1991.

<sup>3</sup> Barbara Wyatt, *The Components of a Historic Context: A National Register White Paper*, (Washington, D.C., 2009.)

State Library of Pennsylvania, the Pennsylvania State Archives, and the Bureau for Historic Preservation, Pennsylvania's State Historic Preservation Office. Experts who were consulted included staff with the National Park Service, the Pennsylvania State Historic Preservation Office, Michaux State Forest, and the Forestry School at Penn State Mont Alto. This research was aimed at answering the following questions:

- Why is the conservation movement in Pennsylvania significant?
- What characteristics do these properties have in common?
- How will significance and integrity be evaluated?
- What resources represent these property types?

Chapter 2 develops a historic context focusing on individuals, organizations, and events that were important in developing Pennsylvania's conservation movement. This chapter recounts the contributions made by Dr. Joseph T. Rothrock, Gifford Pinchot, the Civilian Conservation Corps, and Maurice Goddard. Chapter 3 establishes the rationale for developing guidelines for evaluating these properties. It will identify and describe the property types associated with the conservation movement and the elements that make up those property types. Questions regarding registration requirements, and relating to issues of significance and integrity will be addressed.

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National Park Service, "How to Complete the National Register Multiple Property Documentation Form," 1999, Accessed May 2015, <http://www.nps.gov/nr/publications/bulletins/pdfs/nrb16b.pdf>. National Park Service, "Park Cultural Landscapes," National Parks Service, 2012, Accessed May 2015, [http://www.nps.gov/cultural\\_landscapes/Research.html](http://www.nps.gov/cultural_landscapes/Research.html).

With the development of a historic context for the conservation movement and of guidelines to determine which properties are eligible, an evaluation of resources located in Pennsylvania's state forests and parks can be undertaken. It is recommended that a Multiple Property Documentation Form be prepared and submitted to the Pennsylvania Historic Preservation Board and ultimately the National Park Service as the next steps to facilitate nominating historic properties in Pennsylvania associated with the state-led conservation movement.

## Chapter 2: Historic Context

King Charles II of England granted William Penn a charter to establish a colony in the New World. The grant served as payment for a debt the King owed to Penn's father, an admiral in the British Navy. Penn named his new lands "Sylvania," meaning woods or forest in Latin, and King Charles added "Penn" in honor of Penn's father. William Penn not only recognized the value of Pennsylvania's forests in its name, but also in the 1681 charter which instructed colonists to reserve one acre of trees for every five acres cleared. Penn's conditions or concessions to these first colonists was an attempt to preserve the oak trees for ship building and the mulberry trees for making silk.<sup>4</sup> This early conservation law linked management of forest resources with economic benefits. Although this law was widely disregarded, the forest remained intact until the mid-19<sup>th</sup> century.<sup>5</sup>

The American industrial revolution transformed the means of production from home and hand to factory and machine through the efficiency of water and steam power to run machine tools. The need for natural resources to fuel new technologies was paramount. Iron manufacturing was one of the earliest industries and was particularly prominent in Pennsylvania, growing from one forge in 1716 to more than 200 charcoal furnaces by 1840.<sup>6</sup> Large iron blast furnaces were fueled by charcoal,

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<sup>4</sup> Joe Kosack, *The Pennsylvania Game Commission, 1895-1995* (Harrisburg, PA: Pennsylvania Game Commission, 1995), 5.

<sup>5</sup> Richard R. Thorpe, *The Crown Jewel of Pennsylvania: The State Forest System* (Harrisburg, PA: Pennsylvania Forestry Association, 1997), 1.

<sup>6</sup> "The Pennsylvania Iron Industry: Furnace and Forge of America," Pennsylvania Historical and Museum Commission, accessed December 21, 2014.  
<http://explorepahistory.com/story.php?storyId=1-9-17&chapter=1>.

created by smoldering off water and other impurities found in wood to create carbon, a more efficient source of heat. Because production required an abundant supply of both iron ore and timber, as well as a stream to power machinery, furnaces and forges were located in rural forested settings along rivers and streams. To attract workers, many of these furnaces became self-sufficient plantations consisting of houses for workers, an owner's mansion, farms to feed both workers and animals, plants which typically housed a furnace or forge, charcoal storage house, grist mill, sawmill, blacksmith shop, store and more. As demand for iron products grew, ironmasters struggled to transport their products to the ever expanding markets, creating the need for improved roads and more transportation options. Railroads became an integral part of getting iron products to market, as well as in obtaining raw material for the furnaces. Furnace technology eventually evolved to burn coal instead of charcoal and, by 1840, new furnaces were being built near coal beds.<sup>7</sup> However, large tracts of forests had already been clear cut for the production of charcoal.

Timber was an important natural resource. While most early colonists saw the vast forests of America as inexhaustible, the demands for timber during the 19<sup>th</sup> century were staggering. It was estimated that four million acres of forest were harvested two to four times between 1760 and 1895 to fuel charcoal iron furnaces in Pennsylvania.<sup>8</sup> By 1850, the state had 145 iron furnaces, each requiring between 20,000 and 35,000 acres of forest to sustain it.<sup>9</sup> Railroads were also large consumers of timber, as one mile of tract used 2,500 wooden railroad ties that required constant

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<sup>7</sup> "The Pennsylvania Iron Industry."

<sup>8</sup> "Pennsylvanians and the Environment."

<sup>9</sup> "History of Parks and Forests: Pennsylvania's Natural Legacy," Pennsylvania Parks & Forests Foundation, accessed February 1, 2015, <http://www.paparksandforests.org/history.html>.

replacement.<sup>10</sup> An estimated 80 million crossties a year were needed for railroad construction and maintenance. The mining industry used timber to prop up walls and ceilings and was also a large consumer of lumber. The bark of the hemlock tree was a source of tannin, a necessary ingredient in processing leather. Pennsylvania's abundant hemlock forests attracted tanneries which also brought sawmills and pulp mills to process lumber and paper.<sup>11</sup>



**Figure 1: Loggers removing the bark from hemlock trees.<sup>12</sup>**

By 1870, Pennsylvania's timber crop was a \$29 million dollar industry and it led all other states in the production of sawn lumber.<sup>13</sup> Logging companies clear cut forests of all the trees before pulling up and moving on to a new forest. At first, transportation of logs was dependent on waterways, so logging followed major watercourses with boom towns established along the way.<sup>14</sup>

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<sup>10</sup> "Pennsylvanians and the Environment."

<sup>11</sup> "History of Parks and Forests."

<sup>12</sup> Lester A DeCoster, *The Legacy of Penn's Woods* (Harrisburg, Pa: Pennsylvania Historical and Museum Commission for Dept. of Conservation and Natural Resources, Bureau of Forestry, 1995), 17.

<sup>13</sup> William C Forrey, *History of Pennsylvania's State Parks* (Harrisburg, Pa.: Bureau of State Parks, Office of Resources Management, Dept. of Environmental Resources, Commonwealth of Pennsylvania, 1984), 3.

<sup>14</sup> DeCoster, *Penn's Woods*, 18.



**Figure 2: Logging in Potter County, Pennsylvania.<sup>15</sup>**



**Figure 3: A skidway of logs located near the Allegheny River.<sup>16</sup>**

The introduction of Shay and Climax locomotives changed the logging scene. These powerful steam engines were adapted for steep grades, sharp curves and rough construction and shifted the reliance of the logging industry to railroads for transporting logs.<sup>17</sup> The use of these locomotives also meant that logging companies could reach further into forests and haul wood to central mill locations, expanding the range of forest destruction.<sup>18</sup> Boomtowns developed throughout Pennsylvania to

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<sup>15</sup> DeCoster, *Penn's Woods*, 22.

<sup>16</sup> *Ibid.*, 59.

<sup>17</sup> *Ibid.*, 20.

<sup>18</sup> *Ibid.*, 18.

process the lumber. The timber industry rapidly consumed natural resources, leaving in its wake, tree stumps, small branches, and wood debris or slash that dried out and fueled forest fires. Fires were sparked in slashed areas and spread into standing forests, reducing much of Pennsylvania's forests to stumps and ash.<sup>19</sup>

Land stripped of trees contributed to soil erosion and caused siltation of rivers and streams, washing away the nutrient rich topsoil and exposing the poor underlying soils. The thick forest canopy had functioned to slow and deflect heavy rains, but lack of vegetation increased runoff from rain and melting snow and, along with siltation of the river beds, contributed to flooding. Wild fires, soil erosion and flooding caused such environmental devastation in the north central region of Pennsylvania, that it became known as the "Pennsylvania Desert."<sup>20</sup>



**Figure 4: Stumps left behind after removing timber.<sup>21</sup>**

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<sup>19</sup> Dan Cupper, *Our Priceless Heritage*, (Pennsylvania: Commonwealth of Pennsylvania, Pennsylvania Historical and Museum Commission for Dept. of Environmental Resources, Bureau of State Parks, 1993), 1.

<sup>20</sup> Ibid.

<sup>21</sup> Cupper, *Our Priceless Heritage*, 10.





**Figure 5: Deforested hills at Kettle Creek 1909.<sup>22</sup>**

The idea of conserving natural resources was a new concept in the 19<sup>th</sup> century, especially for a nation that saw its resources as inexhaustible and had a tradition of exploiting these resources since the beginning of colonialization.<sup>23</sup> The national debate over forest conservation did not begin until the late 19<sup>th</sup> century. The American Association for the Advancement of Science created a committee in 1873 to advise Congress and state legislatures on the conservation of forests and the promotion of timber cultivation. That same year, the U.S. Department of Agriculture appointed a special agent to study forest conditions in America, who concluded that a national forestry policy was needed. The American Forestry Congress, the predecessor of the American Forestry Association, was organized in 1875 and also made advances in forest conservation on a national level.<sup>24</sup>

Forest conservation became one of the many Progressive Era causes. Between 1890 and 1920, the Progressive Era brought with it a period of social activism and a deep passion for nature that was fostered through literary works, such as Henry David Thoreau's *Walden*, which highlighted man's relationship with nature. Progressives believed that efficiency was paramount and deemed wastefulness a sin.

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<sup>22</sup> Cupper, *Our Priceless Heritage*, 1.

<sup>23</sup> Thorpe, *Crown Jewel*, 3.

<sup>24</sup> *Ibid.*, 4.

Many were familiar with the concept later termed the “tragedy of the commons.” The idea was based on a pamphlet written in 1833 by William Forster Lloyd, which pointed out the issues of overgrazing a common area by cattle. The tragedy of the commons developed into an economic theory that argued that if everyone acted in their own self-interest instead of the interest of the whole group, then common resources would become depleted.<sup>25</sup> The detrimental impact of this behavior was amply illustrated by the damage caused by logging companies in their desire for timber.

By the early 20<sup>th</sup> century, two opposing theories of environmentalism had emerged. The preservationists, led by John Muir and the Sierra Club, were concerned with preserving wild areas as objects of beauty, scientific curiosity, and recreation, and believed in minimal interference from man. Under this theory, the wilderness itself has intrinsic value.<sup>26</sup> The conservationists, led by Gifford Pinchot, believed in the managed development of forest land and use of natural resources by humans in a responsible manner. Pinchot believed in the concept of the greatest good for the greatest number.<sup>27</sup> The National Park Service has simplified this dichotomy by concluding that conservationists seek *proper use of nature* while preservationists seek *protection of nature from use*.<sup>28</sup>

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<sup>25</sup> W. F. Lloyd, *Two Lectures on the Checks to Population*, (Oxford: Printed for the Author, 1833.)

<sup>26</sup> Samuel Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge, MA: Harvard University Press, 1959), 189.

<sup>27</sup> Donald Worster, *Nature's Economy: A History of Ecological Ideas* (New York: Cambridge University Press, 1977), 266.

<sup>28</sup> "Conservation vs. Preservation and the National Park Service," National Parks Service, accessed April 10, 2015, <http://www.nps.gov/klgo/learn/education/classrooms/conservation-vs-preservation.htm>.

The preservationists first emerged as leaders. The Organic Act of 1897, one of the first pieces of legislation concerning the establishment and care of national forest reserves, was considered by preservationists as an opportunity to protect reserves from commercial exploitation.<sup>29</sup> Pinchot disagreed with this protectionist viewpoint and emphasized the difference between scientific forestry and preservation, pointing out the use of reserves for grazing cattle and selective harvesting. Pinchot's position eventually won acceptance. The Adirondack State Park conflict in New York was another early victory for preservationists, who convinced voters to include a provision in their state constitution prohibiting logging in the park. Pinchot and other conservationists advised the state that it would be giving up the ability to cut mature timber, construct roads for fire accessibility, or carry out a timber management program, but preservationists prevailed and prevented Pinchot's scientific forestry approach in the Adirondack Park.<sup>30</sup>

The final argument between preservationists and conservationists came with the debate over the future of the Hetch-Hetchy Valley of California. The valley is located within Yosemite National Park, and was considered by preservationists as a "recreational spot of rare beauty." The Valley was also deemed a potential reservoir site for supplying water to the city of San Francisco, which contended that it could not tap other sources and that flooding the valley represented the best public interest. Pinchot agreed and in 1908 he persuaded President Roosevelt to support the project. The flooding of Hetch-Hetchy signaled the nation's move towards conservation as an

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<sup>29</sup> Hays, *Conservation*, 190.

<sup>30</sup> *Ibid.*, 191-192.

acceptable policy in support of the national goal of managing natural resources for the benefit of all.<sup>31</sup>

Pennsylvania adopted the conservation approach to managing its forest reserves years before it became a national policy. In addition, Pennsylvania was quick to recognize the destructive results of clear cutting, and began to implement a system of land acquisition for the purpose of reforestation and to preserve areas with outstanding scenic or natural value. By 1922, Pennsylvania ranked number two in the nation for acquisition of public land with more than 1.1 million acres. New York ranked first with 1.9 million acres and Wisconsin came in third with less than 400,000 acres.<sup>32</sup>

Dr. Joseph T. Rothrock, known as the Father of Pennsylvania Forestry, was instrumental in preserving this land and in developing a state conservation plan. While often citing New York's Adirondack and Catskill Forest Preserves as examples of successful protection of water sources. Rothrock's plan contrasted greatly with New York's approach. He believed there "could be no forestry without lumbering," a position in opposition to New York's designation of the Adirondacks as forever wild.<sup>33</sup> Rothrock believed in a managed-use philosophy for forest reservations that included management of lumbering and mining operations to produce revenue as well as recreational use. This divergence between New York and Pennsylvania in their

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<sup>31</sup> Hays, *Conservation*, 192.

<sup>32</sup> DeCoster, *Penn's Woods*, 63.

<sup>33</sup> Thorpe, *Crown Jewel*, 8.

treatment of forest reserves foreshadowed what was to come in the debate over the management of federal lands.<sup>34</sup>



**Figure 6: Joseph T. Rothrock, Photo from the Library of Congress Online Digital Collection**

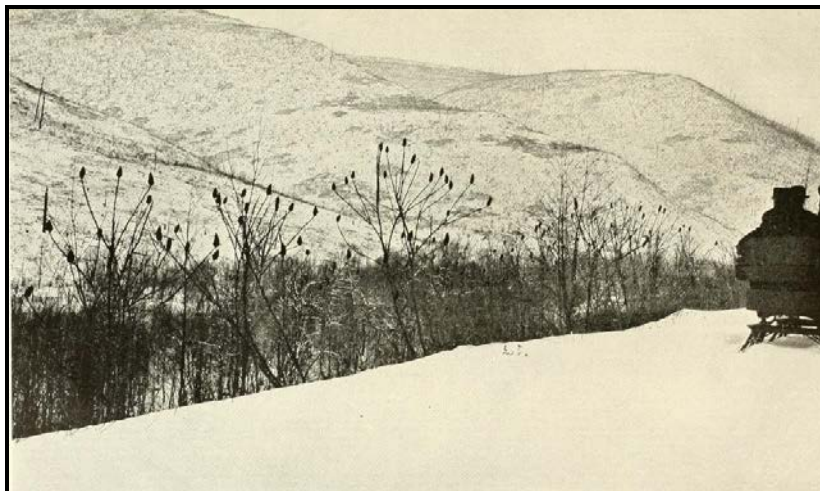
### **Joseph T. Rothrock: The Father of Pennsylvania Forestry**

Born in McVeytown, Pennsylvania, in 1839, Joseph T. Rothrock attended Harvard University and studied botany under the direction of Dr. Asa Gray, a renowned American botanist. Rothrock took a break from his studies to join the Pennsylvania Volunteer Cavalry during the Civil War, rising to the rank of Captain. In 1864, Rothrock entered medical school at the University of Pennsylvania. After serving with the Smithsonian Institution as a member of a scientific expedition to survey British Columbia and Alaska, he returned to the University in 1866 and

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<sup>34</sup> National Association of State Foresters and Ralph R. Widner, *Forests and Forestry in the American States: A Reference Anthology* (Missoula, MO, 1968), 29.

completed his medical degree. He worked as a professor of botany and human anatomy and physiology and later established his own medical practice. In 1877, Rothrock became a member of the American Philosophical Society of Philadelphia, which became the custodian of the Michaux Fund, a legacy left by French botanist, Andre Michaux, who traveled and studied the early American Forest. The Fund was used to finance a series of lectures on botany and the new science of forestry and Rothrock was chosen as a Michaux lecturer. Rothrock illustrated his presentations with images of ravaged forests, showing damage from the practice of clear cutting, erosion, flooding, and fire. In his article “On the Growth of the Forestry Idea in Pennsylvania,” he described the nation as lapsing into barbarism because of its illusion of the existence of unlimited natural resources, and warned readers that if trees continued to be cut without restraint, the resources would be diminished beyond recovery.<sup>35</sup>



**Figure 7: Photo of deforested hills taken by Dr. Rothrock.<sup>36</sup>**

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<sup>35</sup> Joseph T. Rothrock, 'On the Growth of the Forestry Idea in Pennsylvania', *Proceedings of the American Philosophical Society* 32, no. 143 (1894): 339.

<sup>36</sup> Joseph T. Rothrock, *Areas of Desolation in Pennsylvania* (Philadelphia, PA, 1915), 4-5.

Like most Progressive Era causes, forestry conservation was supported by women and women's groups. In 1886, the Pennsylvania Forestry Association was formed by a group of prominent Philadelphia women who were interested in promoting conservation practices and in lobbying for a state agency devoted to forestry. The association targeted residents who sought the health benefits and clean air of the mountains, as well as industry owners who were destroying the resources they needed to stay in business, along with sportsmen forced to hunt game beyond the boundaries of the state, and government officials who were compelled to provide a safe public water supply. Dr. Rothrock was appointed the first president and contributed to their publication, *Forest Leaves*. In July of 1886, Rothrock wrote,

*The Forests of our state are being destroyed at such a rate as will, before many years, lead to a dearth of timber. With the removal of timber from our mountain ranges and ridges, also will come such an irregular distribution of water as will produce freshets on the one hand, and drought on the other. . . the preservation of extensive woodland areas is one of the most important duties the citizen owes to the future. Forest fires destroy each year . . . from two to three million dollars worth of timber. Lumbermen of experience declare that in thirty years, with the present alarming destruction of trees, Pennsylvania will not have any saleable timber within her borders.*<sup>37</sup>

This was a time when land conservation was just beginning to gain public attention. While land acquisition for the creation of Philadelphia's Fairmount Park had begun in 1812, the development of city parks did not fully catch on until the mid-19<sup>th</sup> century. By the late 1800s, parks were viewed as a manifestation of the forestry movement and part of the Progressive Era's drive towards improving cities.<sup>38</sup> The

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<sup>37</sup> Pennsylvania Forestry Association, *Forest Leaves* (Philadelphia, PA: Pennsylvania Forestry Association, Vol. 1, No. 1, July 1886.)

<sup>38</sup> Cupper, *Our Priceless Heritage*, 2.

parks movement gained national attention in 1872, when a Congressional act designated Yosemite, established as the first state park by California in 1865 as America's first National Park. By 1890, the Pennsylvania Forestry Association lobbied Congress to help purchase and set aside Valley Forge as a national park. In 1893, Pennsylvania's Governor Pattison signed Act No. 130 authorizing the acquisition of Valley Forge. Valley Forge was the first official park designated in Pennsylvania and did not become part of the National Park system until 1976.<sup>39</sup>

Pennsylvanians were generally more concerned with water resources and flooding than timber depletion, and saw forestry conservation as a means to prevent flooding, provide water flow for waterpower and navigation, and to protect the water supply for consumption. The state was particularly motivated by the economic benefit provided by water-powered production. This changed after the 1889 Johnstown flood, which reinforced the dangers of deforestation by demonstrating its role in flooding and the risk to human life and property. Although not the sole cause of the flood, deforestation was seen as a contributor to the disaster and motivated Pennsylvania to evaluate the state of its forests. Johnstown was built in a valley where two rivers converged, draining more than 657 square miles of watershed. Deforestation of the surrounding mountains contributed to excessive water runoff from heavy rains and rapid snow melt, flooding the surrounding rivers and the manmade lake held back by the South Fork Dam. Pressure from the excess water caused the dam to fail, sending a wall of water through Johnstown that killed more

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<sup>39</sup> Cupper, *Our Priceless Heritage*, 4.



than 2,000 people.<sup>40</sup> Rothrock had advocated for protecting the headwaters with forest reservations and the Johnstown flood brought these issues to the forefront. Although this flood may not have been avoided, Governor James Beaver recognized the importance of rehabilitating Pennsylvania's forest to protect against annual flooding and acknowledged that without the state's ownership of the property, they could not adequately promote reforestation.<sup>41</sup>

The year following the Johnstown flood, a joint resolution by the Pennsylvania legislature authorized appointing a committee to report on the condition of the state's forests. The resulting study proposed forming a forest commission, but this idea was rejected by the legislature. In 1893, Public Law 115 established a two-person commission to study forest conditions and to suggest actions; Dr. Rothrock was appointed the botanist on this commission and most of the work fell to him. The commission's report, delivered in 1895, helped create public understanding of forestry issues.<sup>42</sup>

In the report, Rothrock noted that the only land owned by the state was located around public buildings. In addition, forested land had decreased in value by 90 percent, falling below a safe level for wood supply, water protection, and public health, and some of this was caused by the practice of clear cutting land for agricultural purposes. The risk of fire and excess taxation that resulted in retaining forested land, caused some owners to clear cut more than was necessary for personal wood production or agriculture. The report proposed that the state fund and staff a

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<sup>40</sup> "History of the Johnstown Flood," Johnstown Area Heritage Association, accessed February 21, 2015, <http://www.jaha.org/FloodMuseum/history.html>

<sup>41</sup> Cupper, *Our Priceless Heritage*, 3.

<sup>42</sup> *Ibid.*

state forestry commission to deal with the forest problems. Rothrock envisioned that the commission would be tasked with five responsibilities: 1) acquire land suitable for reestablishing forests to protect headwaters, ensuring future wood supply, and demonstrating the benefits of forestry to the public; 2) form an organization to address fire protection and prevention that would enforce laws, educate the public, and detect and diminish fires to minimize damage; 3) work with industries and landowners to grow and utilize wood from the state's forests; 4) continue to monitor and report on the forest situation; and 5) establish guidelines to address the tax burden of forest land that motivate cutting and abandonment of the forest.<sup>43</sup>

The Division of Forestry was established in 1895 under the Department of Agriculture and Dr. Rothrock was appointed forestry commissioner and Robert S. Conklin became his clerk. The agency name changed several times, becoming the Department of Forestry, and then the Bureau of Forestry under a larger agency. A major issue was the clear cutting and abandonment of forests by timber companies. These firms clear-cut land until all useable timber was removed from an area. They would then dismantle their sawmills and move on to another tract, leaving behind a desolate landscape. Since the trees had been removed there was little value left in the land and lumber companies simply defaulted on the property taxes. Rothrock proposed purchasing these lands at tax sales at a reduced cost. An act of March 30, 1897, authorized the state to purchase unseated lands for the creation of Forest Reservations and Rothrock started a land acquisition program that allowed the most sensitive lands, such as major forests and watershed zones, to be controlled by the state. Several acts followed that allowed the Commissioner of Forestry to acquire

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<sup>43</sup> DeCoster, *Penn's Woods*, 7.

tax lands and consolidate forests since many of the acquisitions were initially isolated tracts spread over the landscape.<sup>44</sup>

The Department of Forestry was created by an act of February 25, 1901, which also established a five-person State Forest Reservation Commission. The commission had the authority to purchase lands in any county for forest reservations. It also imposed penalties for illegal fires, forest damage or timber theft on forest reservations. The act exempted forest reservations from taxation, and empowered the Commission to sell timber and execute contracts for mining where one-half of the net revenue derived from state land was to be paid to the township in which it was set. This legislation was important not only because it raised forestry to a departmental level and allowed the acquisition of land in any location in the state, but it established a management policy for forest reservations.<sup>45</sup> The only missing element was the lack of professional foresters to manage the forest reservations.

Rothrock wanted a head forester for every 25,000 acres of State Forests with two assistant foresters and one ranger for every 5,000 acres. He decided creating a forestry school within the state was the best way to train foresters, establishing a forestry school at the Mont Alto Reservation, with the assistance of George H. Wirt, a graduate of the Biltmore Forestry School, the first forestry school in America, and Pennsylvania's first professional forester.<sup>46</sup>

Mont Alto was the site of a charcoal iron furnace established in 1857, and by 1875, it had also become a popular resort area. In that year, the Mont Alto Iron company and the Cumberland Valley Railroad joined together to build the Mont Alto

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<sup>44</sup> Thorpe, *Crown Jewel*, 7.

<sup>45</sup> Thorpe, *Crown Jewel*, 7.

<sup>46</sup> *Ibid*, 8.

Park, which brought visitors from as far away as Washington DC.<sup>47</sup> Progressive Era reformers, concerned with public health, saw mountain getaways like Mont Alto as an escape from the unhealthy cities to the fresh air of the mountains. The Mount Alto Ironworks was destroyed by fire in 1889, and, although it was rebuilt, it struggled to survive and was later dismantled in 1892.<sup>48</sup> Iron furnaces were some of the early acquisitions of the state for forest reservations and many of them had recreational facilities already in place. Caledonia State Forest, purchased in 1903, was the location of an iron furnace established in 1837 and was burned by Confederate soldiers marching to Gettysburg in 1863. When acquired by the state, it included picnic grounds, a dance hall, and an inn. Mont Alto was acquired by the state in May of 1902 and Rothrock used part of the site as a tuberculosis camp where “those afflicted with respiratory ills could breathe fresh, unpolluted air.”<sup>49</sup> The camp was eventually handed over to the health department and became the South Mountain tuberculosis hospital.

Rothrock established the forestry school at Mont Alto because of the lack of trained foresters and schools in the United States. While he established the school without the help of legislative authorization or appropriations, in May of 1903, the Pennsylvania legislature provided for the school and authorized its funding. The Pennsylvania State Forest Academy was the first forestry school established by a state to produce foresters to manage their own forest reservations.<sup>50</sup> By 1916, sixty-eight foresters were employed by the Division of Forestry and eighty-five forest rangers

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<sup>47</sup> DeCoster, *Penn's Woods*, 6.

<sup>48</sup> DeCoster, *Penn's Woods*, 6.

<sup>49</sup> *Ibid.*, 6-7.

<sup>50</sup> Thorpe, *Crown Jewel*, 8.

were located on forest reservations.<sup>51</sup> Forestry work was dedicated to fire prevention through the construction of access roads, trails, fire lanes, and fire towers; the water sources necessary for fighting fires were established nearby and telephone lines were strung to be able to spread the alarm. Legislation in 1915, under Public Law 797, established a Forest Protection Act which established effective and comprehensive forest fire protection policies throughout Pennsylvania.<sup>52</sup>



**Figure 8: Old Growth Hemlock tree.<sup>54</sup>**

Most of the land acquired by the commission was clear cut and burned over, however, there were a few tracts that had remained untouched. Rothrock recommended that these lands be set aside and preserved to represent Pennsylvania's original forest.<sup>53</sup> The concept of preserving old growth forest was an idea that was far ahead of its time and these areas are now protected and known as State Forest Natural Areas.

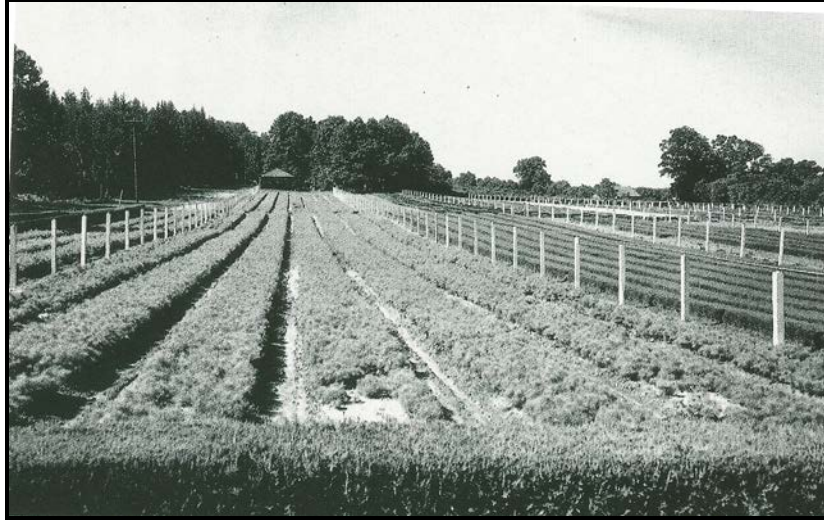
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<sup>51</sup> Thorpe, *Crown Jewel*, 10.

<sup>52</sup> *Ibid.*, 11.

<sup>53</sup> *Ibid.*, 10

<sup>54</sup> DeCoster, *Penn's Woods*, 79.



**Figure 9: Tree nursery at Mont Alto.<sup>55</sup>**

Programs for tree planting trees and for tree nurseries were established on many reservations, such as Mont Alto, to regenerate native hardwood and conifer species to restore a balance of Pennsylvania's former forest. Rothrock's multi-use vision of forest reservations also included recreational use especially camping, hunting and fishing. In 1910, he wrote to the Pennsylvania Forestry Association urging them to secure a law that would authorize setting apart portions of forest reserves as recreational grounds for citizens.<sup>56</sup> This led to the adoption of rules to govern the use of forest reservations by visitors. Rothrock also recommended that areas that proved to be exceptionally scenic should be considered for outdoor recreation and scenic preservation. For example, in 1912, fifty-two acres in Pike County containing three picturesque waterfalls were gifted to the commonwealth by the widow of George W. Childs, with the stipulation that the property become

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<sup>55</sup> DeCoster, *Penn's Woods*, 42.

<sup>56</sup> Harry Shoemaker and Joseph Illick, *In Penn's Woods* (Harrisburg, PA: Pennsylvania Department of Forest and Waters, 1928), 34-35.

“forever a park or public recreation ground for the use of the people of the Commonwealth.”<sup>57</sup>

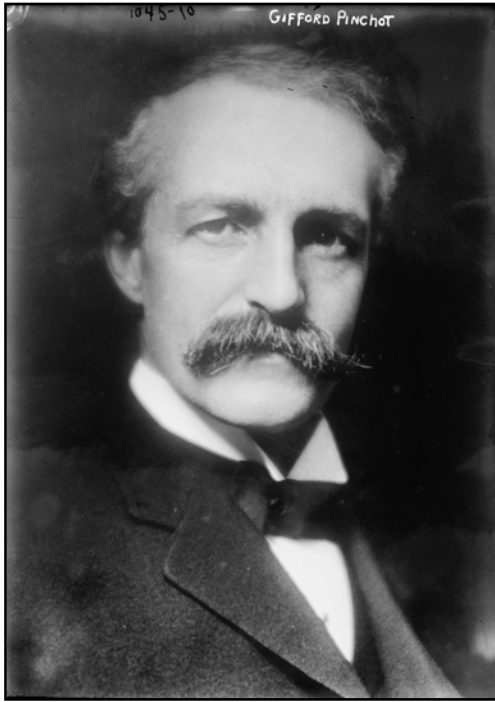
Dr. Rothrock had resigned as State Forester in 1904 but he served on the State Forest Commission until his death in 1922. Rothrock was replaced by his former clerk, Robert Conklin, who continued to acquire forest lands for public benefit. By the time of Rothrock’s death, the state had acquired over one million acres of forest reservation, nearly half of all the state forests located in Pennsylvania today. His management practices made Pennsylvania stand out in the world for its forestry program. In 1898, the renowned European and world forestry leader, Sir Dietrich Brandis, wrote to Dr. Carl Schenck, a German forester working with Gifford Pinchot to establish the Biltmore Forestry School in North Carolina. In the letter Brandis observed that the capital invested in the lumber and paper pulp industries will “do more for the cause of forestry than either the federal government or the governments of the individual states. I will except Pennsylvania where, under Professor Rothrock, matters seem to be progressing on correct lines.”<sup>58</sup> Rothrock’s forestry conservation program was outpacing not only other states but the federal government as well, and had gained an outstanding reputation among forestry leaders worldwide.

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<sup>57</sup> Pennsylvania Forestry Association, *Forest Leaves* (Philadelphia, PA: Pennsylvania Forestry Association, Vol. XV, No. 6.)

<sup>58</sup> DeCoster, *Penn’s Woods*, 28.

## Gifford Pinchot, State Parks and the Rise of Recreational Use



**Figure 10: Gifford Pinchot, photo from the Library of Congress Online Digital Collection**

The 1920s brought many organizational and administrative changes to Pennsylvania's Department of Forestry. One such change was the appointment of nationally-known forester Gifford Pinchot as forest commissioner in 1920. Pinchot had played an important role in the American conservation movement. After graduating from the world famous French forestry school in Nancy in 1890, Pinchot became the first professionally trained forester in America. He served as head

of the Division of Forestry beginning in 1898 and was named Chief Forester under President Theodore Roosevelt when he redefined the role of the U.S. Forest Service.<sup>59</sup>

Pinchot was the moving force behind the conservation theory of environmentalism, which called for an efficient use of natural resources.<sup>60</sup> Pinchot defined his utilitarian conservation view as “the development and use of the earth and all its natural resources” for “the greatest good of the greatest number in the long run.”<sup>61</sup> This was to become the prevailing theory behind a national conservation

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<sup>59</sup> DeCoster, *Penn's Woods*, 58.

<sup>60</sup> Neil M. Maher, *Nature's New Deal: The Civilian Conservation Corps and the Roots of the American Environmental Movement* (Oxford: Oxford University Press, 2008), 157.

<sup>61</sup> Worster, *Nature's Economy*, 266.



movement. The Progressive Era conservation movement may have been the most comprehensive program to evolve in response to industrialism and Gifford Pinchot was the movement's chief architect.<sup>62</sup> Pinchot served as Pennsylvania's forestry commissioner until 1922 when he was elected Governor of Pennsylvania; he was elected to a second term in 1930. One of the more significant events to occur under Pinchot's watch was the passage of Public Law 258 in 1921 which allowed the U.S. Government to acquire land in Pennsylvania to create the Allegheny National Forest.<sup>63</sup> This was the first application of the Weeks Law in Pennsylvania which allowed the federal government to acquire land in the east, as well as in the western states.<sup>64</sup> As a result, implementation of the law provided for the protection of rivers and streams as navigable waterways, and secured a nationally strategic wood supply.

During Pinchot's term as commissioner, he also divided the state into twenty-four forest districts, each run by a district forester. Pinchot required all forestry positions to be filled by trained foresters and he upgraded the forest academy at Mont Alto to a four-year school with a bachelor's of science degree in forestry.<sup>65</sup> Pinchot acquired a five million dollar special appropriation from the General Assembly to expand the fire detection system. He erected fifty steel fire towers strategically located throughout Pennsylvania and connected them by telephone and road access, the basis for a network that eventually grew to include one hundred and sixty fire lookout towers.<sup>66</sup> Pinchot was outspoken against importing lumber into

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<sup>62</sup> Lewis L. Gould, *The Progressive Era* (Syracuse, N.Y.: Syracuse University Press, 1974) 119.

<sup>63</sup> Thorpe, *Crown Jewel*, 12.

<sup>64</sup> DeCoster, *Penn's Woods*, 64.

<sup>65</sup> *Ibid.*, 58.

<sup>66</sup> *Ibid.*

Pennsylvania, a practice which he believed led to a declining interest in both fire prevention and in maintaining the local wood supply through reforestation.<sup>67</sup>

By this time, the national park movement was well on its way with the National Park Service Act signed into law in August of 1916. At the signing of the act, approximately three hundred thousand people a year visited national parks, but by 1930, that number ballooned to more than three million.<sup>68</sup> With the success of national parks, states began reviewing their own programs which led to the National Conference on State Parks in 1921. This was at the onset of automobile use and more people were traveling farther distances for recreational pursuits. In addition, many people hoped to escape the dirt and disease of the city for the clean air of the forests. Stephen Maher, director of the National Park Service, told delegates at the conference that he, “believed we should have comfortable camps all over the country, so that the motorist could camp each night in a good scenic spot, preferably a state park.”<sup>69</sup>

The demand for public land for recreational use was growing in Pennsylvania. The Forestry Department in 1920 began classifying its properties by types to better manage its holdings and increase recreational opportunities. These types included state forest monuments and scenic areas, state forest parks, private leases, public campgrounds and temporary camping permits. Each of these classifications designated areas of distinctive recreational use.<sup>70</sup> In 1900, Governor William Stoner declared that, “Forest Reservations were to be parks and outing grounds for the people forever” with five parks, to include Mont Alto, Caledonia, Promised Land,

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<sup>67</sup> DeCoster, *Penn's Woods*, 59.

<sup>68</sup> Cupper, *Our Priceless Heritage*, 13.

<sup>69</sup> *Ibid.*, 14.

<sup>70</sup> Thorpe, *Crown Jewel*, 13.

George W. Childs, James Buchanan and Pine Grove Furnace State Park considered state forest parks.<sup>71</sup>

A concerted effort to establish recreational facilities in these parks began in the 1920s. Many of the recreational structures were designed in the rustic style, defined by using native materials in proper scale, and avoiding rigid, straight lines. This gave the appearance of having been executed by pioneer craftsmen using hand tools, seemingly achieving a balance with natural surroundings and the past. Rustic style became an important park style linked to the National Park Service and the Civilian Conservation Corps.<sup>72</sup>



**Figure 11: Recreation offered at Fuller Lake in Pine Grove State Park.<sup>73</sup>**

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<sup>71</sup> Thorpe, *Crown Jewel*, 13.

<sup>72</sup> Linda Flint McClelland, *Building the National Parks: Historic Landscape Design and Construction* (Baltimore, MD: Johns Hopkins University Press, 1998), 434.

<sup>73</sup> Cupper, *Our Priceless Heritage*, 12.

In 1923, the Department of Forestry was changed to the Department of Forests and Waters with a Forestry Bureau within the department.<sup>74</sup> The following year, Pennsylvania began a statewide inventory of recreational resources geared toward developing more state forest parks. At the time, over 1.1 million acres of state forests had been purchased and were rapidly being developed with construction of 1,232 miles of roads, 2,500 miles of trails, 7,445 miles of telephone lines, and 530 buildings.<sup>75</sup> One of the most significant acquisitions was the Cook Forest, which held both a virgin stand of white pine trees, and a second-growth forest of white pine, hemlock, and hardwoods. The 8,000 acre forest was owned by the Cook family who had operated a lumbering business on the site. The virgin forest was between 300 and 400 years old and trees rose 125 feet before the first branches emerged from the main trunk. The Pennsylvania legislature authorized \$450,000 for the purchase of the forest but required matching funds of \$200,000 which were raised by public donations. This purchase was significant not only because it demonstrated the growing public interest in conservation, but was the state's first site acquired explicitly to conserve an outstanding natural resource.<sup>76</sup>

### **The Great Depression and the Civilian Conservation Corps**

At the onset of the Great Depression in 1929, Governor John S. Fisher reorganized the Department of Forests and Waters to form a Bureau of Parks, or Bureau of State Parks as it was alternatively known, laying down the framework for operating state parks in Pennsylvania. The state government continued to seek

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<sup>74</sup> Thorpe, *Crown Jewel*, 12.

<sup>75</sup> *Ibid.*, 14-15.

<sup>76</sup> Cupper, *Our Priceless Heritage*, 18.

additional park sites, especially those with outstanding natural features. By 1930, the Pennsylvania Parks Association was formed by forestry and park advocates with the goal to develop parks within thirty miles of major populated centers. This was a policy change which saw parks evolve from forest lands located in remote areas. Some of this interest was due to civic groups that wanted the state to take over parks sites that had been previously owned by private entities, some of these sites were successfully transferred to the state, such as Conrad Weiser Memorial Park and Bucktail Park. Another shift saw states acquire parks that were completely unrelated to forest land or conservation, such as Roosevelt State Park, located along an abandoned portion of the Pennsylvania Canal system, and Fort Necessity, a French and Indian War site. This was a time when agencies were redefining their mission and the jurisdiction of parks was often transferred between agencies as needed; thus not all parks have been officially known as state parks since their creation. For example, a flood control dam project may have created a lake and provided a new water resource that led to the creation of a recreation site, such as the case of Pymatuning Dam and Reservoir, which created a 17,000-acre lake that stretches for 17 miles. The original flood control project was under the jurisdiction of the Water and Power Resources Board before being transferred to the Bureau of State Parks and becoming Pennsylvania's largest state park.<sup>77</sup>

By 1933, the Great Depression was in full swing and many Americans were jobless. That year, President Franklin D. Roosevelt signed the Emergency Conservation Act as part of his New Deal program for unemployment relief. The agency known as the Civilian Conservation Corps (CCC), created in April 1933, and

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<sup>77</sup> Cupper, *Our Priceless Heritage*, 21.

operated until June of 1942, greatly benefitted forests and state parks throughout the country. Pennsylvania in particular benefitted from this program. The CCC employed young, unmarried, unemployed, U.S. citizens to work in forestry and park development projects. Robert Stuart, who had been the first secretary of the Department of Forests and Waters under Governor Pinchot and was well versed in Pennsylvania's conservation movement, was now serving as the chief forester of the U.S. Forest Service. He successfully argued for the inclusion of state parks into the program since only western states would have benefited if the program was restricted to federal property.<sup>78</sup>

With its large inventory of state-owned property and connections to Secretary Stuart, Pennsylvania benefited from the money and manpower provided by the CCC. At its high point in 1935, the CCC occupied 136 camps in Pennsylvania, 96 of them in State Forests, second only to the 155 camps located in California.<sup>79</sup> The work performed by the CCC in Pennsylvania included constructing 329 foot bridges, 518 vehicular bridges, and 551 public camp buildings, 77 overnight cabins, 34 lookout cabins, 49 lookout towers, and 1,159 other buildings.<sup>80</sup> Other projects completed by the CCC included fire suppression and prevention, road and trail clearing, forest, wildlife and stream improvements, water systems, installation and maintenance of telephone lines, truck trails, horse trails and foot trails. They developed lakes and ponds, built fishing and recreational dams and assisted with reforestation efforts. The CCC developed or expanded several state parks to include Big Spring, Black Moshannon, Clearcreek, Colonel Denning, Colton Point, Cowans Gap, Little Pine,

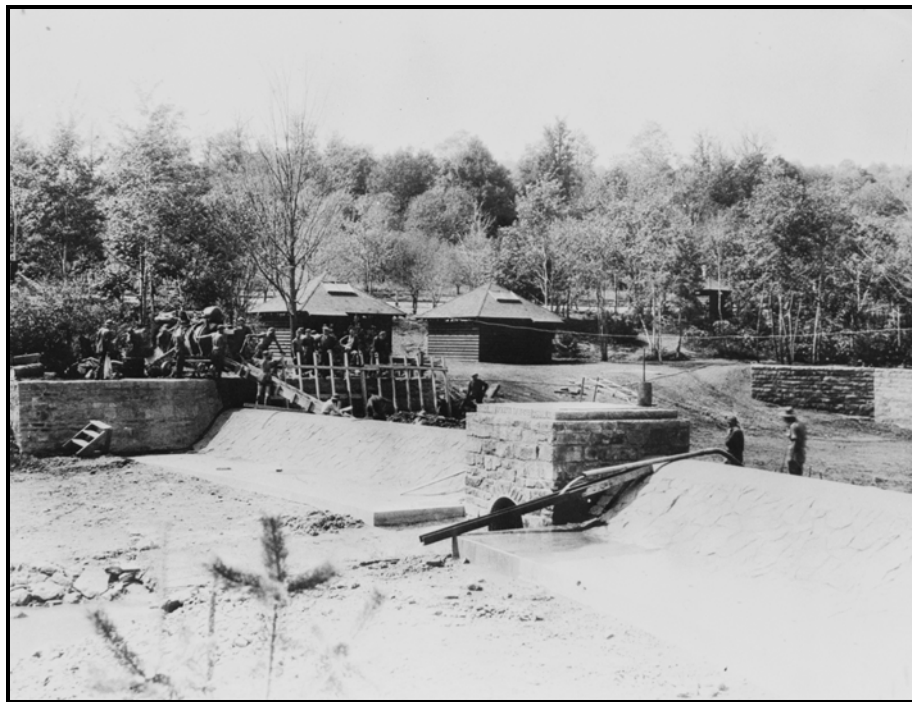
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<sup>78</sup> Cupper, *Our Priceless Heritage*, 23.

<sup>79</sup> Thorpe, *Crown Jewel*, 16.

<sup>80</sup> *Ibid.*, 16-17.

Parker Dam, Poe Valley, R.B. Winter, Reeds Gap, Trough Creek, Whipple Dam and Worlds End. Many of the buildings, cabins, bridges, dams, roads and trails constructed by the CCC are still in use today; some of these have been replaced over time.<sup>81</sup> So many buildings were constructed by the CCC in Pennsylvania that a thematic resources study of Emergency Conservation Work Architecture in Pennsylvania State Parks: 1933-1942 was accepted by the National Register of Historic Places in 1987 and can be referred to when evaluating CCC properties.



**Figure 12: CCC building a recreational area at Lolita in Pennsylvania. Photo from the Library of Congress Online Digital Collection.**

Another reorganization of the department in 1936 created the Bureau of Parks, removing it from the Bureau of Forestry and putting it under the supervision of the Secretary of Forests and Waters. With this came an effort to categorize all property

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<sup>81</sup> Thorpe, *Crown Jewel*, 17.

according to its assets. These categories were state parks, state monuments, recreational reserves, wayside areas, forest monuments, and forest lookouts.<sup>82</sup>

The CCC work was described as accomplishing more in ten years than normal events would have allowed in fifty.<sup>83</sup> The CCC represented a new policy on conservation, strongly linking conservation and recreation. The desire for recreation sent the CCC into parks to build recreational amenities which the government promoted as a “new type of work as conservation in its own right, albeit of a different sort.”<sup>84</sup> A CCC pamphlet from the time linked parks as social resources in need of conservation by stating, “in recent years an even broader concept of conservation has developed which has made clear the justification and necessity of preserving and conserving scenery for its social value,” so scenic view sheds became important elements to consider.<sup>85</sup>

### **Post World War II and Maurice Goddard**

CCC programs were phased out as war escalated in Europe and the depression ended with the increase in jobs created as America prepared to enter World War II. With gasoline rationing, visitation to state parks and forests was down and land acquisition crawled to a stop, only Ricketts Glen State Park, consisting of a natural area that contained 22 waterfalls, was acquired during the war.<sup>86</sup>

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<sup>82</sup> Cupper, *Our Priceless Heritage*, 29.

<sup>83</sup> *Ibid.*, 23.

<sup>84</sup> Maher, *Nature's New Deal*, 161.

<sup>85</sup> *Ibid.*

<sup>86</sup> Cupper, *Our Priceless Heritage*, 30.



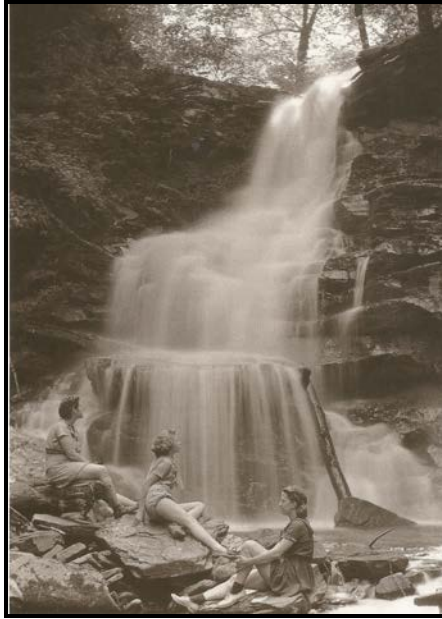


Figure 13: Scenic waterfall at Ricketts Glen State Park.<sup>87</sup>

Timber production increased as the war caused a greater demand for wood products. European forests were exhausted during World War I and American forests were needed to supply wood for the war effort. The Pennsylvania Timber Production War Project coordinated wood industries as timber sales were increased in state forests. Most forestry staff had joined the war effort leaving few people to undertake a complex harvesting system; therefore the harvesting program was carried out under simple criteria based on the diameter of the trees.<sup>88</sup>

Following the wars, Governor James Duff issued a directive that prohibited further state forest timber sales until a scientific timber management plan was in effect. In 1950, a team of specialized foresters prepared a timber management plan for Michaux State Forest which became a model and was adopted for all state forests by 1955.<sup>89</sup> The team undertook one of the most extensive inventories and growth

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<sup>87</sup> Cupper, *Our Priceless Heritage*, 66.

<sup>88</sup> DeCoster, *Penn's Woods*, 77.

<sup>89</sup> Thorpe, *Crown Jewel*, 19.

studies ever attempted by mapping and inventorying all state forest lands by forest types, size, and site location. New technology, such as aerial photos and computers, helped with data collection and analysis. Soon after the plan was completed, forest resource plans were developed to more clearly understand uses such as wildlife, endangered species, and wetlands, and various forms of recreation such as snowmobile trails, biking trails and wilderness areas.<sup>90</sup> This was an important policy change that brought the Bureau of Forestry from 50 years of fire protection, reforestation, recreation and road construction to a scientifically based multiple use forest resources management plan.<sup>91</sup>

During the CCC years, five Recreational Demonstrations Areas were established in Pennsylvania by the National Park Service in an effort to bring parks closer to urban areas. It was perceived that parks could help alleviate social ills, such as poverty and crime, found in crowded urban areas. The parks, Blue Knob, Hickory Run, Raccoon Creek, Laurel Hill and French Creek were transferred from the federal government to the state in 1945-46, the Tobyhanna Military Reservation was transferred in 1949. Postwar prosperity saw the acquisition of automobiles by more people than ever, and when combined with a growing highway network and a switch from a six day to a five day, 40 hour standard work week, meant Pennsylvania citizens had more leisure time and more opportunities to visit recreational sites as a result, state park attendance multiplied. A 1945 State Planning Board study on Pennsylvania's recreational needs, titled, *Towards a State Park Program*, noted the increase in automobile ownership but recognized that people still tended to visit parks

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<sup>90</sup> Thorpe, *Crown Jewel*, 20D.

<sup>91</sup> *Ibid.*, 20E.

close to where they lived, which supported an earlier study by Markley Stevenson.<sup>92</sup> This finding drove the acquisition of even more park land concentrated around urban areas.



**Figure 14: Dr. Maurice K Goddard.**<sup>93</sup>

In 1954, Governor George Leader appointed Dr. Maurice K. Goddard as Secretary of the Department of Forests and Waters; he continued to serve for 24 years under five different governors. Under his tenure, Goddard was able to bring the department under the Civil Service system which allowed for hiring based on professional qualifications instead of political party appointment. One of Goddard's most important goals was to establish a state park within twenty miles of every Pennsylvanian, an ambitious goal which would require increased funding. Fortuitously, the discovery of natural gas in northcentral Pennsylvania in 1950 created a new industry which provided revenue to acquire more park lands. The Oil

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<sup>92</sup> Cupper, *Our Priceless Heritage*, 30.

<sup>93</sup> DeCoster, *Penn's Woods*, 84.

and Gas Lease Fund Act 256, signed into law in 1955, established that royalties from oil and gas taken from state-owned land be spent for conservation, recreation development and land acquisition.<sup>94</sup> Additional legislation also approved the underground storage of gas on state land which meant if Pennsylvania's natural gas became exhausted, the state could still collect revenue from gas brought in from other states and stored in tanks under Pennsylvania State Forests.<sup>95</sup>

With a new funding source, the search for new park land began in earnest. Goddard outlined the criteria for acquiring these properties. They were to have clean bodies of water suitable for swimming and level ground for picnicking and camping and for constructing roads, parking lots, and boat ramps. They also were to have historic or scenic value, be large enough to accommodate 25,000 visitors a day, and be located near highly populated areas. The first of the new parks were McConnell's Mill, Gifford Pinchot State Park, Moraine State Park, and Prince Gallitzin, with more parks opening in the following years. In his speech on opening day, Governor Lawrence noted that Gifford Pinchot State Park was the first park intentionally designed for a metropolitan area, giving the surrounding community access to rural recreation.<sup>96</sup>

Goddard's administration also established new policies, to include refining the criteria for clear cutting. Prior to this, only improvement cutting was allowed, which stipulated that only designated trees could be cut from a given stand. But this practice created a shade environment which encouraged less desirable species of trees to grow and compete with more valuable tree species. Goddard established an even-age

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<sup>94</sup> DeCoster, *Penn's Woods*, 84.

<sup>95</sup> Thorpe, *Crown Jewel*, 21.

<sup>96</sup> DeCoster, *Penn's Woods*, 85.

management plan which allowed for clear cutting practices in certain stands of forest. The objective of Goddard's clear cutting policy was to regenerate the stand with the most valuable and high quality tree species, which was akin to a tree farming monoculture. Another policy change occurred in 1970. Rather than designating forest monuments and scenic areas in state forests, the State Forest Commission changed to a more ecologically based designation of special areas which established "natural or wild areas" much like New York's forever wilderness.<sup>97</sup> Natural areas were defined as "an area of unique scenic, historic, geologic or ecological value which was to be maintained in a natural condition by allowing physical and natural processes to operate without direct human intervention."<sup>98</sup> This recognition of natural and wild areas helped to solidify a special areas status as a living monument.

When funds from the oil and gas leases became inadequate, Goddard proposed Project 70, a state bond issue to raise \$70 million dollars by 1970, for the support of forestry, conservation, parks, and improved water quality and pollution control. The goal of Project 70 was to preserve prime recreational sites around urban areas before commercial development occurred in order to place "green belts" of parks and open space around populated centers, to save fish, wildlife, and boating areas from commercial development, to "build the foundation for a new American vacationland by diversifying recreational facilities on existing state lands in twenty-four mountain counties," and to establish three large federal parks near important watersheds.<sup>99</sup> Goddard justified creating recreational parks on an economic basis and noted the 500 percent increase in the value of properties adjacent to Gifford Pinchot

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<sup>97</sup> DeCoster, *Penn's Woods*, 86.

<sup>98</sup> *Ibid.*

<sup>99</sup> Cupper, *Our Priceless Heritage*, 38.

State Park. The bond was approved by voters in 1963 and signed by Governor Scranton as Act 8 in June of 1964.<sup>100</sup>

Park visitation increased drastically over time. The number of visitors rose from eight million in 1955 to twenty-four million in 1961 and would reach 39 million by 1977.<sup>101</sup> This demand kept park officials busy acquiring more land. The Project 70 bond was so successful that Goddard launched another bond called Project 500 to raise \$500 million for land acquisition, recreational facilities, and a variety of environmental projects to include the reclamation of strip mines and the construction and improvement of sewage treatment plants.<sup>102</sup> Project 500, called the Land and Water Conservation and Reclamation Act, was signed into law by Governor Shafer in January of 1968. The first park completed with Project 500 funds was Codorus State Park which opened in 1970. The park was part of a public/private partnership between the state and P.H. Glatfelter Company. Glatfelter needed a water supply for its pulp and paper mill and spent \$5 million to build a dam on their property to create Lake Marburg. The state was given land by Glatfelter to create the park facilities which were constructed with state funds. Glatfelter maintains the dam and citizens have access to the lake and park facilities.<sup>103</sup>

Project 500 required that \$200 million be used to reclaim abandoned strip mines, control subsidence above abandoned shafts, fight surface and underground fires, and treat acid mine drainage pollution.<sup>104</sup> An example of reclaimed land used for recreation is Moraine State Park which also opened in 1970. Moraine was the site

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<sup>100</sup> Cupper, *Our Priceless Heritage*, 30.

<sup>101</sup> *Ibid.*, 40.

<sup>102</sup> DeCoster, *Penn's Woods*, 84.

<sup>103</sup> *Ibid.*, 85.

<sup>104</sup> Cupper, *Our Priceless Heritage*, 43.

of a former glacial lake bed that had been used for gas and oil wells and coal mining. The state used Project 500 money to plug 422 gas and oil wells, seal deep mines and backfill strip mines to create Moraine State Park.<sup>105</sup> This represented a new environmental approach, one that connected to the reclamation of clear cut forests in the early 1900s. While lobbying for Project 500, Governor Scranton stated that 200,000 acres of strip mine land in Pennsylvania lay un-reclaimed causing 900,000 million gallons of acid mine drainage to seep into the state's waterways.<sup>106</sup> This led to Governor Shafer signing ACT 275 in 1970, which created the Department of Environmental Resources by merging the Departments of Forests and Waters with the Mines and Mineral Industries and by redefining some duties previously held by the Departments of Agriculture, Health, Labor and Industry and the State Planning Board.<sup>107</sup> The creation of this new department illustrates the evolution of conservationism into modern day environmentalism. What began as the use of forests as a consumable, shifted to a managed approach making forests renewable and further evolved into making recreation a form of conservation, ending with the modern day environmental movement that strives to preserve the environment as a whole. The Pennsylvania Environmental Bill of Rights was added to the State Constitution in 1972 stating that,

*The people have a right to clean air, pure water, and to the preservation of the natural scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources the Commonwealth shall conserve and maintain them for the benefit of all the people.*<sup>108</sup>

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<sup>105</sup> Cupper, *Our Priceless Heritage*, 44.

<sup>106</sup> *Ibid.*, 43.

<sup>107</sup> DeCoster, *Penn's Woods*, 85.

<sup>108</sup> Pennsylvania Constitution Article I § 27.

## **Chapter 3: Guidelines**

The evidence of Pennsylvania's conservation movement is apparent in many aspects of the landscape of state forests and parks, but determining what constitutes significance can be complicated. For example, evidence of the conservation movement can be seen in the regrowth of the forest. Human intervention designed to replant clear-cut forests is physical evidence of the conservation movement, but if this alone were sufficient in nominating these areas to the National Register, then much of Pennsylvania's state lands would be eligible. Another complication is that many places associated with the conservation movement are natural areas set aside because of their outstanding scenic value and they have no associated cultural resources. We must also look beyond the physical setting to identify people or organizations that were influential in conserving these natural areas. These complications result in guidelines that seem loosely construed when viewed alone, and necessitate extensive site-specific research to establish the link between history and the resource. It is not the purpose of this paper to research every forest and park in Pennsylvania to determine which have significant associations to the conservation movement, but rather to give a comprehensive historic context that provides a first draft of guidelines to spark conversation about how to evaluate these resources.

These guidelines are intended to help inform a future National Register Multiple Property Nominations, and consider the buildings, sites, structures and features that link state forests, and state parks with the Pennsylvania conservation movement. It is important to note that these property types often overlap, as is the



case with Michaux State Forest which includes Mont Alto State Park, Caledonia State Park, and Pine Grove Furnace State Park within its boundaries. Michaux State Forest exemplifies a resource that is eligible for nomination to the National Register for its association with the conservation movement in Pennsylvania, and it will be examined in further detail. The property types will be identified, described, and assessed as to their potential significance with initial thoughts about possible registration requirements. Each property type identified could be expanded in the future to include sub-types.

**Property type:**

State Forests

**Description:**

State forests are mostly represented by large tracts of woodland that were clear cut for industrial use and replanted. Due to the natural topography of the land, some areas may have never been cut, producing forests that more closely represent the original native forests of Pennsylvania, with old stands of hemlocks, hardwoods and pine species. These areas may have been designated originally as monuments and are now designated as natural or wild areas. Many state parks developed from state forest lands and were historically termed state forest parks. State forests may contain early park buildings as well as rustic architecture, which may be attributed to the many CCC camps that were located in Pennsylvania's state forests. Table 1 identifies the themes in Pennsylvania's conservation movement and the possible resources that may be associated with each theme.

**Significance:**

Industrialization saw the destruction of most of Pennsylvania's forests. Through the concerted efforts of individuals such as Dr. Joseph Rothrock and organizations like the Pennsylvania Forestry Association, the state began acquiring land with the purpose of reforestation so that timber could be a renewable resource. This policy evolved to include land for preservation of outstanding resources such as scenic vistas and stands of old growth forest. Forestry conservation was seen as multiple use and the managed harvesting of timber held economic value for the state. Pennsylvania's early policy for acquisition of land called for creating forest reserves managed through a multiple use policy. This allowed for preservation of the forest, managed timber removal, and recreational use, and the program was in place before a national conservation policy had yet to be established. As such, the history of Pennsylvania's pioneering conservation movement is significant for evaluating these lands for National Register eligibility.

**Consideration for Registration Requirements:**

- Under criterion A, resources may be eligible if they have a strong association with one or more of the themes identified with state forests and the conservation movement (Table 1):
  - Former industrial sites located in an area with a history of clear cutting
  - Properties acquired for the purpose of reforestation or the protection of an outstanding natural resources such as an old growth forest.

- Properties associated with individuals and organizations prominent in the conservation movement.
  - Properties associated with fire prevention and suppression.
  - Properties associated with teaching forestry science.
- Under criterion B, to be eligible resources must be directly associated with individuals who played an important role in the creation of state forests or the conservation movement. Eligible buildings, structures, sites or features must be associated with one of the following individuals or organizations:
  - Dr. Joseph T. Rothrock
  - Forestry Conservation Association
  - Gifford Pinchot
  - Civilian Conservation Corp
  - Maurice Goddard
- Under criterion C, eligible resources reflect the design, aesthetics, and principles associated with park rustic style, or designed by individuals that contributed to the development of the style, or were constructed under the New Deal relief program.
- Under criterion D, eligible sites must contain intact surface or subsurface deposits of cultural material in an undisturbed physical setting and have the potential to provide information that is not otherwise obtained through the documentary records.

**Integrity:**

Integrity of a property is recognized through seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association. Buildings, structures, sites, and features associated with the conservation movement must retain integrity. Many of the areas associated with the conservation movement are natural areas, set aside because of their outstanding scenic value and have no associated cultural resources. Therefore, when evaluating a natural area, setting is paramount. Although the forest is ever changing, it retains its integrity of setting if it is still a managed resource, and holds much of the historic characteristics. A change in the composition of the forest through the growth of invasive species would diminish the setting and the integrity of the forest would be compromised. Because many of these natural areas lack cultural resources, it is important that the association with the conservation movement is strong. It is also important to note that many of the properties linked to forestry conservation may have been lost, so resource rarity should be considered when evaluating integrity.

**Property type:**

State Parks

**Description:**

Many state parks started out as forests and were reclassified as state forest parks because of their distinctive recreational use before finally being designated as state parks. Table 1 identifies themes in the conservation movement that are associated with state park development and the possible resources associated with

each theme. Resources located in state parks created prior to 1920 may be ornamental and commemorative in nature and are not associated with any one architecture style. These early buildings represent the importance society placed on leisure and civic improvement instead of recreation and protection of natural scenery and can embody the early aesthetic dimension of the conservation movement. Resources after 1920 usually reflect rustic style architecture, which blends architecture and landscape. By the 1930s, rustic architecture dominated park design which emphasized native material such as stone, log, and rough cut wood siding and shingles with minimally intrusive placement into the natural setting.<sup>109</sup> Albert Good's three volume book, *Park and Recreation Structures*, has become the standard reference for building types associated with park rustic architecture, and is divided into categories by their function. Table 2 identifies these categories and lists possible resources associated with them. Not all of these structures may be found in Pennsylvania state parks, while there may be structures found in Pennsylvania that are not classified by Good. A study of each park is necessary to determine what resources are extant. Good's *Park and Recreation Structures* includes photographs of some structures built in Pennsylvania.<sup>110</sup> In addition, the thematic resource study, *Emergency Conservation Work Architecture in Pennsylvania State Parks*, may be useful in describing eligible structures.<sup>111</sup>

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<sup>109</sup> Conard, *The Conservation Movement in Iowa*, F10-F11.

<sup>110</sup> Albert H. Good, *Park and Recreation Structures*, Vol. 1-3 (Washington: U.S. Government Printing Office, 1938), V.

<sup>111</sup> Patrick O'Bannon and William R. Henry, Jr., *Emergency Conservation Work Architecture in Pennsylvania State Parks: 1933-1942, Thematic Resources*, National Register of Historic Properties Multiple Property Documentation Form, Pennsylvania Bureau for Historic Preservation, 1987.

## **Consideration for Registration Requirements:**

### **Significance:**

Like the state forests, most of Pennsylvania's state parks were once clear cut forests, leading to a cycle of forest fires, soil erosion and flooding. As Pennsylvania's conservation movement moved forward and began reforestation efforts, many of these areas became state forest parks. Through the efforts of individuals such as Gifford Pinchot and Maurice Goddard and organizations such as the Civilian Conservation Corps, these areas were developed into recreational areas that included lakes, trails, camping and overnight facilities. Many of the structures were part of the rustic design aesthetic that used locally available material to build structures that blended into the landscape. The merging of resource protection, managed use, and recreational development was significant in park development in Pennsylvania. This coincided with economic changes that gave people increased access to automobiles and leisure time. In addition, the creation of parks near urban areas was believed to help ease social ills that were found in overcrowded cities. This push towards recreation and the desire to create more parks closer to urban areas is significant in the development of state parks in Pennsylvania.

## **Consideration for Registration Requirements:**

- Under criterion A, resources may be eligible if they have a strong association with one or more of the themes identified with state forests and the conservation movement:
  - Former industrial sites located in an area with a history of clear cutting before being purchased by the state

- Properties acquired for the purpose of reforestation or the protection of an outstanding natural resources such as an old growth forest.
- Properties associated with individuals and organizations prominent in the conservation movement.
- Properties associated with fire prevention and suppression.
- Properties associated with teaching forestry science.
- Properties associated with park construction to include:
  - Early ornamental and commemorative structures
  - Rustic park architecture
- Under criterion B, eligible resources must be directly associated with individuals who played an important role in the creation of state forests or the conservation movement. Eligible buildings, structures, sites or features must be associated with one of the following individuals or organizations to be eligible:
  - Dr. Joseph T. Rothrock
  - The Pennsylvania Forestry Association
  - Gifford Pinchot
  - Civilian Conservation Corp
  - Maurice Goddard
- Under criterion C, eligible resources may reflect the design, aesthetics, and principles associated with park rustic style, or have been designed by individuals that contributed to the development of the style, or were constructed under the New Deal relief program.

- Under criterion D, eligible sites must contain intact surface or subsurface deposits of cultural material in an undisturbed physical setting and have the potential to provide information that is not otherwise obtained through the documentary records.

**Integrity:**

Buildings, structures, sites, and features associated with the conservation movement must retain their integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity of setting and natural areas are discussed in more detail under the state forest property types. State parks contain both natural resources, such as scenic vista's and old growth forests. These natural areas are much like forests and must retain their integrity of setting. Integrity is compromised if vista's become closed in from surrounding tree growth, or old growth trees are harvested. When evaluating buildings and structures associated with the conservation movement it is important to analyze the resources according to the seven qualities of integrity. These resources must remain in their original location, and comprise elements that constitute the original form, plan, space, structure, and style of the resource. Integrity of material and workmanship provide evidence of a craft from a historical period and much be evident in the building or structure. These resources must convey its feeling and association to the themes of the conservation movement.



## **Case Study: Michaux State Forest**

Michaux State Forest is located along South Mountain in Adams, Cumberland, and Franklin Counties of Pennsylvania, and is considered the “cradle of conservation” for the role it played in creating a conservation model for America.<sup>112</sup> Dr. Susan Rimby, chair of History and Philosophy at Shippensburg University, describes Pennsylvania citizens of the Progressive Era as instrumental in conserving the local forests that were to become Michaux State Forest. Organizations such as Pennsylvania State Federation of Women’s Clubs and the Pennsylvania Forest Association lobbied for the funds to reforest South Mountain, create the Mont Alto Forestry School, and establish a state park system.<sup>113</sup> Michaux is the location of Caledonia State Park and Pine Grove Furnace State Park, with Mont Alto State Park located adjacent to the forest. This is the location of the Mont Alto Charcoal Furnace which was built in 1807 and through a partnership with the Mont Alto Railroad Company became a popular mountain retreat with recreational facilities. Mont Alto was the location of the state’s first professional forestry school and became the first state park in Pennsylvania in 1902. Much of the conservation work done by Dr. Joseph T. Rothrock occurred at Mont Alto, to include establishing a tree nursery and a forest fire training facility. Michaux State Forest was the site of the first wood and steel fire tower and was home to four Civilian Conservation Corps camps, many work projects took place there, such as the construction of barracks in the area of the Pine Grove Iron Furnace. During this time, CCC men built roads, bridges and trails,

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<sup>112</sup> South Mountain Partnership, "Speakers Series," 2015 Schedule, accessed April 23, 2015. <http://southmountainpartnership.org/speakers-series/schedule>.

<sup>113</sup> Susan Rimby, “South Mountain: The Cradle of Conservation,” Keynote Speaker, South Mountain Speakers Series from South Mountain Partnership, Chambersburg, PA, February 18, 2015.

installed telephone lines, and constructed buildings at Michaux; but the primary work done by the CCC consisted of reforesting the land. Recreation played an important role at Michaux State Forest with hiking trails and campgrounds throughout Caledonia and Pine Grove State Parks. Pine Grove is also the location of two lakes with beaches for recreational swimming. The CCC is credited with constructing a park office, a building for the pool, restroom facilities, a maintenance building and picnic pavilions at Caledonia State Park. At Pine Grove, CCC men constructed buildings and, a decorative fountain, and converted an old water-filled quarry into a swimming hole. During World War II, extensive lumber sales were conducted at Michaux and the first scientific management plan for the state forests was developed there in 1950.<sup>114</sup> Many of these resources are still extant and represent an important part of Pennsylvania conservation history.

Michaux State Park may be considered for registration on the National Register under the following criteria:

- Under criterion A, the Michaux State Forest may be eligible for the National Register for its association with the following themes related to the conservation movement in Pennsylvania:
  - Former Industrial Site: Michaux is the location of several former charcoal furnaces.
  - Land Acquisition/Reforestation: Pennsylvania Forestry Association lobbied for funds to reforest the area that was to become Michaux. It was the location of a tree nursery at Mont Alto and the location of the first scientific management plan for state forests

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<sup>114</sup> Thorpe, *Crown Jewel*, 40.

- Forestry Education: Michaux is the site of the state's first professional forestry school.
- Individuals and Organizations: Michaux was associated with Dr. Joseph T. Rothrock, the Pennsylvania Forestry Association and the CCC.
- Fire Prevention and Suppression: Site of the first wood and first steel fire towers.
- Recreational Development: Location of three state parks that were developed for recreational use. Contains early ornamental park structures such as the dance pavilion at Mont Alto and rustic park architecture associated with the CCC
- Under criterion B, Michaux State Forest may be eligible for the National Register for its direct association with Dr. Joseph T. Rothrock, the Forestry Conservation Association, and the CCC. Eligible resources may be forests; land features, fences, and sheds associated with the Mont Alto tree nursery; and rustic park style buildings constructed by the CCC.
- Under criterion C, Michaux State Forest may be eligible for CCC-constructed buildings that reflect the design, aesthetics, and principles associated with park rustic style as well as early ornamental park structures such as the dance pavilion at Mont Alto.
- Under criterion D, Michaux State Forest may be eligible for the National Register for its archeological resources relating to former CCC camps and iron furnaces.

Michaux State Forest's multiple resources associated with the conservation movement in Pennsylvania may make it an ideal property for nomination to the National Register.

**Table 1: Identification of Conservation Themes**

<b>Conservation Themes</b>	<b>Resource Description Buildings, Structures, Sites, or Features:</b>	<b>Potential Resources Associated with these Themes</b>
Former Industrial Site	Former industrial site, clear-cut forest	Houses, inns, industrial buildings, ruins, charcoal pits, archeological remains, land features associated with railroads
Land Acquisition/ Reforestation	Acquired for the purpose of reforestation or the protection of outstanding natural resource	Forests, old growth forests, scenic vistas, waterfalls, reforested areas; fence rows, tool sheds, and land features of tree nurseries
Individuals and organizations	Associated with individuals and organizations that were prominent in Pennsylvania’s conservation movement such as Rothrock, Pinchot, Goddard, and the CCC	Archeological remains from former CCC camps, tree nurseries associated with Rothrock
Fire prevention and suppression	Associated with protection and suppression of forest fires	Fire Towers; roads
Forestry education	Associated with teaching the science of forestry	Original forestry school buildings located at Mont Alto
Recreational Development	Associated with the conservation movement; developed to provide recreational opportunities	See early park and rustic park construction below

**Table 2: Resources associated with Recreational Development**

<b>Recreational Development Theme</b>	<b>Resource Description Buildings, Structures, Sites, or Features:</b>	<b>Potential Resources Associated with these Themes</b>
Early Park Construction	Resources that are ornamental and commemorative and do not reflect any one particular architectural style	Dance pavilions, bandstands, fountains, statues, formal gardens, decorative benches
Rustic Park Architecture	Administrative and Basic Facilities	Entranceways, checking stations, barriers, walls, fences, signs, administrative buildings, custodian and staff housing, equipment and maintenance buildings, comfort stations, and privies
	Recreational and Cultural Facilities	Picnic tables; fireplaces; picnic shelters and kitchens; concession buildings; trailside seats, shelters and overlooks; dams, pools and artificial lakes; bathhouses, boathouses and dependencies; miscellaneous sports structures, markers, shrines, and museums; and campfire circles and outdoor theaters
	Overnight and Organized Camp Facilities	Tent and trailer campsites; cabins, lodges, inns, and hotels; washhouses and laundries; any combination of residential, dining service and recreational buildings arranged for organized group use

## **Chapter 4: Conclusion and Recommendations**

There are currently 120 state parks and 2.2 million acres of state forests in Pennsylvania. This is a dramatic increase from the days when lumber companies had clear-cut the majority of the state creating what was known as the “Pennsylvania desert.” Pennsylvania accomplished this at a time when there was no national policy to guide them and other states were modeling a preservationist approach to forests and creating wilderness areas. Through the efforts of Dr. Joseph T. Rothrock, Pennsylvania developed a managed approach policy to natural resources such as timber. Under Rothrock’s supervision, Pennsylvania began the acquisition of clear-cut land with the purpose of reforestation and management of timber growth to provide for the future needs of the state. His plan also included recreational use of the forests foreshadowing a national policy that would be developed later. As the use of automobiles increased and people found they had more leisure time, recreational use of parks took on a more important role. Through the efforts of Gifford Pinchot and the Civilian Conservation Corps, the development of state parks changed with the increase in construction of park facilities. The number of state parks continued to increase through a plan by Maurice Goddard to build parks closer to urban cities in an effort to decrease the social ills found in overcrowded cities.

Many of Pennsylvania’s parks have a close association with the conservation movement and are potentially eligible for the National Register of Historic Places. As utility and infrastructure projects continue to intersect with state parks and forests requiring federally mandated review, it is important to use these guidelines as a

starting point to evaluate historic properties for their association with Pennsylvania's conservation movement.

It is recommended that a survey of each park be undertaken to determine which resources are linked with the conservation movement. The creation of a database with site-specific research detailing each resource's association would be instrumental in determining properties that meet the criteria for eligibility. The database should also include an assessment of the eligible resources, which will be a key factor in determining the integrity of the resource. Through the use of these guidelines and the creation of a database of resources, this information can be used to begin crafting a Multiple Property Documentation Form to nominate property types associated with Pennsylvania's forest and park system for the National Register of Historic Places. This will lead to a better representation of properties associated with Pennsylvania's conservation context to be included on the National Register of Historic Places. In addition, this context provides initial guidelines to help determine eligibility of properties when a federally mandated review is triggered. Through the creation of this context and the use of these guidelines, it is hoped that these properties and their contribution to history will be better understood and that a program of stewardship will be created to preserve these important places for the future.

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