

The First Gardeners: Native Americans and New Jersey's Environment at First Contact**By Matthew D. Knoblauch****DOI: <http://dx.doi.org/10.14713/njs.v5i1.171>**

This work examines the region's physical environment around 1600 using contemporary observations of extant fauna and flora as well as a historiography of scholarship on Native American land management, and concludes not only that there was never a primeval forest in the east, but that European intrusion actually caused the forests to grow thick with neglect. Upon European arrival, the forest was a widely-spaced, open landscape that was frequently burned and actively managed by the Native Americans. After European arrival, epidemic disease devastated indigenous populations such that the forests grew wild outside of the agrarian corridors in the Delaware Valley and Piedmont. This, combined with long-standing dehumanizing racism against Native Americans, cemented the notion of the pristine myth into popular history. The argument begins with a description of early European observations from the seventeenth century, progresses to an assessment of the evolution of modern understanding of how Native Americans managed the forest through fire and other techniques, and concludes with an analysis of the persistence of the pristine myth balanced with the reality that, as Natives were killed by epidemic disease or otherwise vacated the region, there truly was an unmanaged forest growing at the periphery of the colonial world for a brief moment in history.

The idea that the woodlands of what is presently the northeastern United States were an untouched, virgin, primeval forest before European intrusion, where a squirrel could travel a thousand miles by "leaping from one giant tree to the next"¹ and the light of day never touched the ground, is a thought that has persisted for centuries, despite being thoroughly routed by many

¹ Gordon M. Day, "The Indian as an Ecological Factor in the Northeastern Forest," *Ecology* 34, No. 2 (April 1953): 329.

historians and ecologists.² Many in the past and present, from poets and travel writers to historians and ecologists, have envisioned the pre-colonial landscape of the east to be a wilderness, or some primeval forest,³ loosely defined as a place that is dominated by the absence of human activities. As some academics have long noted, the evidence demonstrates that this forest region, stretching from about the Kennebec River in Maine in the north,⁴ south to Florida, and west past the Mississippi, was intentionally managed by Native peoples through consistent, regular burning as well as selective tree girdling and planting.⁵ Yet, while particular groups of academics have long known this, they have not adequately communicated it to the general public nor other academic

² A non-exhaustive list includes: William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill & Wang, 1983). Day, "The Indian." William M. Denevan, "The Pristine Myth: The Landscape of the Americas in 1492," *Annals of the Association of American Geographers* 82, No. 3 (1992): 369-85. William E. Doolittle, "Agriculture in North America on the Eve of Contact: A Reassessment," *Annals of the Association of American Geographers* 82, No. 3 (1992): 386-401. Sheppard Krech III, *The Ecological Indian: Myth and History* (New York: W.W. Norton & Co., 1999), 101. Melanie Perreault, "American Wilderness and First Contact," in *American Wilderness: A New History*, ed. Michael Lewis, 23. Daniel Q. Thompson & Ralph H. Smith, "The Forest Primeval in the Northeast- A Great Myth?," *Proceedings: Tenth Tall Timbers Fire Ecology Conference* (1970). Omer C. Stewart, *Forgotten Fires: Native Americans and the Transient Wilderness*, eds. Henry T. Lewis and M. Kat Anderson (Norman: University of Oklahoma Press, 2002), 70-113. Michael Williams, *Americans and Their Forests: A Historical Geography* (Cambridge: Cambridge University Press, 1992), 32-33.

³ Examples of the pristine myth in popular writing as well as academic publications include: F.E. Bear, "Soil Scientist Tells What has Happened to Our Soil," *New Jersey Agriculture* 33 (4): 4 (1951) (cited by Day, this soil scientist put forth the idea a squirrel leaping from tree to tree for thousands of miles). Beryl Robichaud Collins and Karl H. Anderson, *Plant Communities of New Jersey: A Study in Landscape Diversity*, (New Brunswick: Rutgers University Press, 1994), 87 (these ecologists, in the most widely-read book on New Jersey's plant communities, referred to the destruction of the "virgin forest"). Edward Gertler, *Garden State Canoeing: A Paddler's Guide to New Jersey* (Silver Spring: Seneca Press, 2002), 167 (a travel writer, and truly splendid resource on paddling New Jersey, he wrote of a time "maybe four centuries ago" when the "Green Brook was a clear rivulet gushing through the twilight of a primeval forest."). Robert Grumet, *The Munsee Indians: A History* (Norman: University of Oklahoma Press, 2009), 3 (an anthropologist and retired National Park Service archaeologist, he referred to the environment of the northern New Jersey region at First Contact as "a land of dense forests"). Herbert C. Kraft, *The Lenape-Delaware Indian Heritage 10,000 BC to AD 2000* (Lenape Books, 2001), 208-09. (an archaeologist, he noted the "dense forests" in the mountainous portions of the region). Henry Wadsworth Longfellow, *Evangeline: A Tale of Acadie* (Boston: Houghton Mifflin, 1847) (cited by Day, this poet wrote about "the forest primeval"). Glenn R. Matlack, Four Centuries of Forest Clearance and Regeneration in the Hinterland of a Large City, *Journal of Biogeography* 24, No. 3 (May, 1997): 283 (a biologist, Professor Matlack argued that "[a]boriginal peoples... left no recognizable traces in the vegetation [of New Jersey and the northern Chesapeake Bay]."). For historic sources on this idea, see Peter Kalm, *Travels in North America*, Volumes 1 and 2, (Warrington: William Eyres, 1770); Alanson A. Haines, *Hardeystown Memorial: A History of the Township and North Presbyterian Church, Hardyston, Sussex County, New Jersey* (1888).

⁴ Cronon, 38.

⁵ Stephen J. Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire*, (Princeton: Princeton University Press, 1982), 44-66.

disciplines, as “the pristine myth” remains intact.⁶ When one looks to the writings of the earliest arriving Europeans, the realization becomes clear that the Mid-Atlantic landscape was no wilderness, but rather a cultivated garden created by generations of Native American active land management. After First Contact, however, the inland forest grew to be thick in the post-epidemic landscape of the interior as Native peoples were exterminated by disease and their fields and forests ceased to be burned or cultivated. As a result, the pre-colonial Mid-Atlantic forest was a wilderness only in the minds of second generation colonists and subsequent thinkers alike, while the post-contact secondary forest grew wild in the absence of human management.

The written records of early European colonists and the determinations made by ecologists, foresters, and historians who have researched Native American land use practices and the forests of centuries ago demonstrate that the physical environment of New Jersey and the wider Mid-Atlantic region of the United States was a cultivated landscape of large, widely-spaced trees with frequent but small meadows and old fields rather than a dense, wild forest before European intrusion. “The pristine myth” has been so persistent for two major reasons: European-American racism and cultural bias against Native Americans and epidemic-disease fueled Native American depopulation followed by vegetational regrowth. In brief, European-Americans from the outset of colonization have viewed Natives as inferior, so the trend has long been to drastically underestimate what Native peoples were capable of doing. Simultaneously, the interior of the continent was depopulated after epidemic diseases swept through the land, and by the time post-First Contact European-Americans observed an inland region, an unmanaged forest had risen from the ashes of Native civilization. Calling the post-contact forest a wilderness may be misleading in that its existence was caused by humanity – or the lack of humanity all at once. It was not a

⁶ *Supra*, Note 3.

wilderness that had never seen the human hand. The Romantic notion of America as “a pristine, primeval land in which an unbroken, vast, tangled, and impenetrable forest,” espoused by both Hudson River School painters and poets such as Henry Wadsworth Longfellow, is wrong.⁷

The first portion of this article analyses the earliest European observations of the environment at First Contact, the second portion assesses the impacts of Native Americans and the development of a modern understanding of their impact, and the third portion dissects the origins and bases of “the pristine myth.”

Part I: The Fruitful Garden

One of the most effective methods for determining how a place looked in a given time is to assess the writings of those who were contemporaneously there to observe it. To understand the historical context of these European newcomers, a brief overview of New Jersey’s colonial period is helpful. The first Europeans to see New Jersey were those accompanying Florentine navigator Giovanni da Verrazano, whose crew dropped anchor near Sandy Hook in 1524 during his voyage along the eastern coast of North America while sailing for France.⁸ For the next eight decades, the only Europeans who may have visited the northeastern coast of North America were fishermen and fur traders who probably traded with Native populations;⁹ but there is no evidence that they set foot on New Jersey soil.¹⁰ Then, in 1609, Henry Hudson (an Englishman sailing for the Netherlands) landed at Sandy Hook and began a trade effort that led to the creation of the colony of New Netherlands in 1614 and the Dutch West India Company in 1621, centered around New

⁷ Krech, 101.

⁸ Giovanni da Verrazano, Letter from Verrazano to King Francis 1 of France, 1524, in *Verrazano’s Voyage Along the Atlantic Coast of North America, 1524*, 5-15, (Albany: The University of the State of New York, 1916).

⁹ Francis Jennings, *The Invasion of America: Indians, Colonialism, and the Cant of Conquest* (Chapel Hill: University of North Carolina Press, 1975), 23.

¹⁰ John P. Snyder, *The Story of New Jersey’s Civil Boundaries 1606-1968* (Trenton: Bureau of Geology and Topography, 1969), 1; Peter O. Wacker, *Land and People: A Cultural Geography of Preindustrial New Jersey Origins and Settlement Patterns* (New Brunswick: Rutgers University Press, 1975), 72.

Amsterdam, present day New York City.¹¹ But, relatively few of these Dutch colonists crossed the Hudson River (then called the North River) into New Jersey; the only permanently occupied areas were near Jersey City, acquired by the Dutch in 1630 and permanently settled as a village, rather than intermittent settlement or sparse inhabitation, in 1660.¹² There had been Dutch settlement across the Hudson from New Amsterdam after 1630, but it ebbed and flowed, often as a result of conflict with Native Americans.¹³ Prior to that, there was a Dutch settlement in Gloucester County constructed in 1623, “but by 1631 the settlement had mysteriously disappeared.”¹⁴

In 1638, Swedish colonizers founded their own settlement primarily along the western shore of the Delaware Bay and Delaware River (then called the South River): New Sweden.¹⁵ By 1641, New Sweden had acquired the land on the east bank of the Delaware River and built Fort Elfsborg near Salem Creek in 1643.¹⁶ In 1655, the Dutch attacked and conquered New Sweden and took its portions east of the Delaware River over as part of New Netherland.¹⁷ The English had tenuous claims to the region since John Cabot’s ‘discovery’ that they claimed occurred in the 1490s¹⁸ and actually had some temporary settlements along the Delaware River in the 1640s, but English colonization efforts in New Jersey truly began in 1664 when the English conquered the Dutch “without firing a shot.”¹⁹ Thereafter, the English settled at Elizabeth, Woodbridge, Piscataway, Middletown, and Shrewsbury²⁰ and a decade later along the Delaware River.²¹

¹¹ Snyder, 4.

¹² Ibid., 4.

¹³ Wacker, 130-197.

¹⁴ Snyder, 4.

¹⁵ Alfred P. Muntz, “The Changing Geography of the New Jersey Woodlands, 1600-1900” (PhD diss. University of Wisconsin, 1959); Snyder, 4.

¹⁶ Snyder, 4.

¹⁷ Ibid., 4.

¹⁸ Kraft, *The Lenape-Delaware Indian Heritage*, 357 (noted that there was no evidence for Cabot sailing near the Mid-Atlantic states); Carl O. Sauer, *Sixteenth Century North America: The Land and the People as Seen by the Europeans* (Berkeley: University of California Press, 1971), 5-7.

¹⁹ Snyder, 6.

²⁰ Ibid., 6.

²¹ Ibid., 7-9. Note that New Jersey was two proprietary colonies from 1676 to 1702, East Jersey and West Jersey.

Fish, Wildlife, Fruits, and Nuts

Whether Dutch, Swedish, or English, Europeans collectively remarked about one thing during the seventeenth century when describing the region: the inexhaustible wild bounty of natural resources, including fish, game, fruits, nuts, berries, and other foodstuffs that seemingly grew in such a great quantity purely from the land.²² These European intruders had various theories about the region's abundant flora and fauna; they perceived it to be a wild garden of fantastic bounty. Although they knew Natives managed the land by burning it, they did not necessarily understand that Native management was precisely what made the land so bountiful.

In the 1630s and 1640s, David De Vries (a Dutch colonist) described the incredible variety enjoyed by the Native peoples in New Netherland as he detailed their agriculture,²³ wild game,²⁴ fowl,²⁵ fish,²⁶ and other aspects of life.²⁷ De Vries noted that "[t]here are great quantities of deer, which the Indians shoot with their bows and arrows" and hunt en masse by driving them into a river to drown them,²⁸ "elks, chiefly in the mountains..., foxes in abundance, multitudes of wolves, wild cats, squirrels- black as pitch and gray, also flying squirrels,- beavers in great numbers, minks, otters, polecats [probably a skunk, weasel, or opossum], bears, and many kinds of fur-bearing animals, which I cannot name or think of."²⁹ Regarding fowl, De Vries noted that "[p]igeons, at the time of year when they migrate, are so numerous, that the light can hardly be discerned where

²² See Wacker, *Land and People*, 18-55, for an expert analysis of the earliest writings regarding New Jersey.

²³ David Peterson De Vries, *Voyages from Holland to America, 1632 to 1644* (1655), trans. Henry C. Murphy (1853), 156-58 (hereinafter "De Vries 1"). Note that some of De Vries's excerpts are sourced from *Narratives of Early Pennsylvania, West New Jersey & Delaware 1630 - 1707*, ed. Albert Cook Myers (New York: Charles Scribner's Sons, 1912) (hereinafter "De Vries 2") and others are from *Narratives of New Netherland 1609 - 1664*, ed. J. Franklin Jameson (New York: Charles Scribner's Sons, 1909) (hereinafter "De Vries 3").

²⁴ De Vries 1, 158-59.

²⁵ Ibid., 1, 160-61.

²⁶ Ibid., 1, 161-63.

²⁷ Ibid., 1, 163-66.

²⁸ Ibid., 1, 158-59.

²⁹ Ibid., 1, 159.

they fly.”³⁰ De Vries observed 84 blackbirds killed in one shot and over 30 pigeons killed at a single shot.³¹

Other contemporary observers of the region’s condition during the Contact Period are alike in their observations. Peter Lindestrom, a Swedish engineer, lived in New Sweden for a brief period from 1654 to 1655 and remarked at the wild bounty as well. He noted that “valuable trees and fruits,” such as oak, peach, walnut, mulberry, plum and chestnut “exist in great abundance in the wild forest” and “are exceedingly large in height and thickness.”³² He noted that along the Delaware River south of the Rancocas Creek, there were “several creeks, remarkably rich in all kinds of fish.”³³ Lindestrom listed the animals in New Sweden, including “[l]arge lions but smooth, bears, coal-black, large and grim... wild hogs, wolves, lynxes, polecats, wild cats [bobcats], elks, fishers, raccoons, minks, fijrfooter [perhaps a lizard or other quadruped], beavers, otters” and many others, including rattlesnakes, which he described as “large, horrible and abominable snakes.”³⁴

Around 1670, Englishman Daniel Denton provided details of England’s newly acquired province that matched much of what had already been written.³⁵ Denton did not hide his praise for the region, as he declared that “no place in the North of America” was better for livestock “by reason of the large and spacious Meadows or Marches [marshes] wherewith it is furnished.”³⁶ He also wrote about the area around the Raritan River, which was

adorn’d with spacious Medow, enough to maintain thousands of Cattel, the Wood-land is likewise very good for corn, and stor’d with wilde Beasts, as Deer and Elks, and an innumerable multitude of Fowl, as in other parts of the Countrey... upon this River is no town settled, but one at the mouth of it... The Countrey is full of

³⁰ De Vries 1, 160-61.

³¹ Ibid., 1, 161.

³² Peter Lindestrom, *Geographia Americae*, trans. Amandus Johnson, (Philadelphia: The Swedish Colonial Society, 1925), 177.

³³ Ibid., 163.

³⁴ Ibid., 185-86.

³⁵ Daniel Denton, *A Brief Description of New-York: Formerly Called New-Netherlands* (1670), 9-10, ed. Gabriel Furman (New York: William Gowans, 1845).

³⁶ Ibid., 10-11.

Deer, Elks, Bear and other Creatures, as in other parts of the Countrey, where you shall meet with no inhabitant in this journey [from the Raritan to the Delaware Bay], but a few Indians, where there is stately Oaks, whose broad-branched-tops serve for no other use, but to keep off the Suns heat from the Wilde Beasts of the Wilderness, where is grass as high as a mans middle, that serves for no other end except to maintain the Elks and Deer, who never devour a hundredth part of it, then to be burnt every Spring to make way for new.³⁷

Following in this trend, Gabriel Thomas, a late seventeenth century Welsh colonist, was also amazed at the bounty that the land seemingly provided in his description of the country in 1698.³⁸ Thomas marveled at the “infinite number of sea and land fowl” near the Susquehanna River, the “prodigious quantities of most sorts” of fish, “vast numbers of other wild creatures, such as elks, buffalos, [etc.] all which as well beasts, fowl, and fish, are free and common to any person who can shoot or take them, without any lett, hinderance or opposition whatsoever.”³⁹ Thomas reported on the hogs and horses that grazed in the forest and grew “more luscious than that in England, because they feed and fatten on the rich (though wild) fruits” in addition to cultivated foodstuffs.⁴⁰

In Thomas’s description of West Jersey, he noted many of the same natural abundance that he detailed on the western side of the Delaware River. Indeed, Thomas explained that wild water fowl, such as geese and ducks, were “very numerous even beyond all expectation” and that land fowl, such as turkeys and pheasants, were “there in extraordinary great abundance, and very large.”⁴¹ Regarding deer, Thomas marveled at the “great numbers” that were “free and common

³⁷ Denton, 20-21.

³⁸ Gabriel Thomas, *An Historical and Geographical Account of the Province and County of Pensilvania; and of West-New-Jersey in America* (1698). Note that this source has separate pagination for Thomas’s accounts of Pennsylvania and New Jersey, they will be marked as “Thomas PA” and “Thomas NJ” accordingly. Also note that this source is also available in *Narratives of Early Pennsylvania, West New Jersey & Delaware, 1630 - 1707*, ed. Albert Cook Myers, (New York: Charles Scribner’s Sons, 1912), 307-51.

³⁹ Thomas PA, 13-16.

⁴⁰ Ibid., 22.

⁴¹ Thomas NJ, 22.

for any to kill and take.”⁴² Thomas described the region as having “great plenty of working timber,” including oak, ash, chestnut, pine, cedar, walnut, poplar, “firr, and masts for ships, with pitch and rosin, of great use and much benefit to the countrey.”⁴³ Thomas also noticed the region’s cranberries, “which grow there in great plenty.”⁴⁴

There is no doubt that it was the goal of many of these observers to highlight the best parts of the region to encourage colonization and investment, but taken in aggregate, these descriptions paint a picture of a rich ecosystem of widely-spaced, open trees that were prime habitats for abundant flora and fauna. What did European intruders think the reason was for all this bounty? Arriving Europeans depicted New Jersey as colder than southern Europe yet warmer than England and had various explanations.⁴⁵ Europeans knew that Natives burned the forest, and understood that that made hunting easier, but did not fully realize the implications of those observations.

Firing the Forest

Descriptions of Natives using fire are some of the earliest observations that Europeans made. Verrazano was the first to note Native fire utilization in the region in 1524 when he observed that the area was “much populated [judging] by the continuous fires along all the surrounding shore which we saw they made.”⁴⁶ On December 2, 1632, De Vries could smell the land before he could see it just south of the Delaware Bay “from the Indians setting fire... to the woods and thickets, in order to hunt”⁴⁷ and noted that Indians burned annually in spring.⁴⁸ Dutch colonist Adrian Van der Donck noted in 1655 that in spring, the ground was generally open and recently

⁴² Thomas NJ, 23-24.

⁴³ Ibid., 26.

⁴⁴ Ibid., 33.

⁴⁵ Ibid. NJ, 24-25; Van der Donck, 21-22.

⁴⁶ Verrazano, 10.

⁴⁷ David Peterson De Vries, “Korte Historiae End Journaels Aenteyckeninge” (1655), in *Narratives of Early Pennsylvania, West New Jersey & Delaware, 1630 - 1707*, ed. Albert Cook Myers (New York: Charles Scribner’s Sons, 1912), 15.

⁴⁸ Ibid., 1, 188.

burned over for purposes like hunting, such that it was “yet bare enough for inspection”⁴⁹ and Lindestrom recalled how Natives used fire to hunt.⁵⁰

Early observers’ descriptions of individual trees and the forests are also quite telling, particularly in that they recorded how open the forest was with mature trees. Amongst early colonists from New England to Mississippi, “[t]he ability to ride a horse or drive a horse and carriage between and under the trees became a favorite way to describe the open nature of the forest.”⁵¹ Lindestrom and Thomas mostly focused on tree species that provided nuts and fruits or were good for timber, such as oak, peach, walnut, mulberry, plum, chestnut, pine, and others.⁵² Lindestrom specified that these trees “exist in great abundance in the wild forest” and “are exceedingly large in height and thickness.”⁵³ Lindestrom described the area of New Jersey along the Delaware below Camden as having “much spruce forest [probably a pine species]” that did “not grow so thick, but very tall and thick trees, standing far apart from one another, as if they were planted.”⁵⁴ He used the same descriptive language for the wider region of New Sweden, as having loose soil that may have been burnt, and also highlighted that there was “no thickly grown forest but the trees stand far apart, as if they were planted.”⁵⁵

Thomas’s assertions further Lindstrom’s in his description of a widely-spaced, open woodland that was so sparsely treed that “A Cart or a Wain may go through the middle of the Woods, between the Trees without getting any damage” and that there were many meadows.⁵⁶

⁴⁹ Adrian Van Der Donck, *A Description of New Netherlands* (1655), (Boston: Directors of the Old South Work, 1896), 19, 21.

⁵⁰ Lindestrom, 213-14.

⁵¹ Williams, 44.

⁵² Lindestrom, 177. Thomas PA, 26.

⁵³ *Ibid.*, 177.

⁵⁴ *Ibid.*, 161.

⁵⁵ *Ibid.*, 213.

⁵⁶ Thomas PA, 8-9.

Denton's descriptions of "stately Oaks" and tall grass painted the same picture.⁵⁷ James Johnstone, who

settled nine miles from Amboy and four miles from the Raritan, echoed Daniel Denton's description of fourteen years before. According to Johnstone, where he lived were 'exceeding great plains without any timber....' Further, 'in many places untaken up there are many plains and not a tree....' In most places the land was forested, but 'no where difficult to clear, albeit trees be 100 foot long and 3 or 4 foot over....'⁵⁸

Other experts have painted that picture of the wider region, including New England, which had woods that "were open in all directions so that an army could march through them" even "marching in rank and file" in Verrazano's time.⁵⁹

Dutch colonist Jasper Danckaerts also wrote about his travels through New Jersey and included illuminating details about the area's forest cover. On November 17, 1679, he traveled from Piscataway southward in the direction of Burlington, and noted that the road was "nothing but a foot-path for men and horses, between the trees and through the small shrubs, although we came to places where there were large plains, beset with a few trees, and grown over with long grass, which was not the worst."⁶⁰ He indicated that he could "see over the lands of the Nevesink, far off on the left hand, into the ocean, affording a fine view."⁶¹ "The woods consist of reasonably straight oak and hickory, with some chestnut, but they are not very close. They would, therefore, afford tolerably good tillable land; but we observed the best pieces lay here and there, along the creeks. We saw many deer running before us, out of the road, sometimes five or six together, starting off at the sound of the horses."⁶²

⁵⁷ Denton, 20-21.

⁵⁸ Wacker, "Land and People," 39.

⁵⁹ Sauer, 57-58.

⁶⁰ Jasper Danckaerts, "Journal of Jasper Danckaerts 1679-1680," in *Original Narratives of Early American History*, ed. J. Franklin Jameson (New York: Charles Scribner's Sons, 1913), 95.

⁶¹ Danckaerts, 95.

⁶² *Ibid.*, 95.

Another noteworthy component of the environment at First Contact was the abundance of meadows, which are typical in old fields and recently burned areas. Van der Donck described the land of New Netherland in 1655 as having “meadow grounds far inland, which are all fresh and make good hayland” and noted that “[t]he situations are curious” where “the soil is natural for wood” yet “those lands are cleared and cultivated,” thus hinting that the land had been managed because it seemed to be cultivated where it should have been wooded.⁶³ Denton also recounted the “large and spacious” meadows and marshes and assessed their import.⁶⁴

As noted, European colonists knew that Natives were responsible for burning the forest, and that the openness of the forest made it easier to hunt, but did not necessarily continue their analysis from there. “The wild geese, turkeys, and deer are at their best in this season [end of autumn/beginning of winter], and easiest obtained, because of the cold, and because the woods are now burnt over, and the brushwood and herbage out of the way.”⁶⁵ De Vries, Van der Donck, Thomas, and other contemporaries probably did not realize that the region’s natural bounty was not only made more accessible by Native burning, but it was actually a product of Native American land management practices; like climate, they probably believed the natural bounty was largely a natural phenomena.

Part II: Who Planted the Garden?

European observers were not blind to the existence all of the seemingly naturally abundant fauna and flora that Native peoples utilized as well as the park-like conditions of the forest, but their vision was not so clear regarding how all that abundance came to be and how it was related

⁶³ Van der Donck, 14.

⁶⁴ Denton, 10-11.

⁶⁵ Van der Donck, 20-21.

to the forests. So, that begs the question, how did it all get there? Simply stated, the region was so plentiful because Native peoples had intentionally cultivated it to be that way.

Physical Environment

It might be best to begin with an overview of New Jersey's physical environment before covering Native American existence in and around the state leading up to the Contact Period. New Jersey has a varied geography, especially considering its small size. The ecology of the state varies as well, as a function of the underlying geology, rainfall, drainage, and other factors.⁶⁶ There are four major physiographic provinces: Ridge and Valley, Highlands, Piedmont, as well as the Inner and Outer Coastal Plain. The landforms on each vary accordingly, which impacts the extant biotic communities. New Jersey exists in the Eastern Deciduous Forest Formation and has historically been conceived to have two major forest regions: oak-pine (largely in the Coastal Plain) and the (formerly) oak-chestnut forest (largely in the Piedmont, Highlands, and Ridge and Valley), each with subregional variations and subforest types as well.⁶⁷ These forest types did not develop since the Pleistocene in a vacuum, but rather are to some degree the result of human intervention.

Ancient Native History until First Contact

The Native peoples who inhabited the New Jersey region at First Contact were Algonquian speakers oriented around relatively fluid small communities and kin groups who tended to reside near river valleys except for seasonal migrations for hunting in the hinterland and fishing at the shore.⁶⁸ Politically and socially, these small bands were led by a sachem, but were decentralized and had no larger political organization, unlike the Iroquois to the north, although many

⁶⁶ Collins & Anderson, *Plant Communities of New Jersey*, 21.

⁶⁷ Muntz, 9-14. Collins & Anderson, 87-88. Note that the American chestnut *Castanea dentata* was the subject of a blight that rendered it largely extinct in the early twentieth century, so the forest region is a misnomer.

⁶⁸ Amy Schutt, *Peoples of the River Valleys: The Odyssey of the Delaware Indians* (Philadelphia: University of Pennsylvania Press), 7-10.

acknowledge the social kinship amongst and between these bands.⁶⁹ Because of their decentralized nature, there is no single name that can adequately be used to classify all of these peoples, but after First Contact, they began to migrate and consolidate into more identifiable groups; traditional history has referred to these peoples as the Lenni Lenape or Delaware, with smaller regional-linguistic groups (such as Unami and Munsee) and sub-tribal groups (such as Raritans, Sanhickans, and Navesink).⁷⁰

These peoples and their ancestors have nonetheless inhabited New Jersey for many thousands of years. Historians, anthropologists, geographers, and archaeologists who study Native American civilizations in eastern North America have broken these periods down into the Paleo-Indian Period from ca. 12,000 B.C. to ca. 8000 B.C., the Archaic Period from ca. 8000 B.C. to ca. 1000 B.C., and the Woodland Period, which is further subdivided into the Early Woodland Period from ca. 1000 B.C. to ca. A.D. 1, the Middle Woodland Period from ca. A.D. 1 to ca. A.D. 1000, the Late Woodland Period from ca. A.D. 1000 to ca. A.D. 1600, and the Contact Period, which occurred in New Jersey from ca. 1600 to ca. 1800, depending on region.⁷¹ In 1600, the estimated Native American population in New Jersey was about 8,000, with estimates ranging from the low thousands to 12,000.⁷² It is important to highlight that, prior to Native Americans arriving in New

⁶⁹ Schutt, 7-10. Author's correspondence with Rev. John R. Norwood, PhD, Principal Justice and Tribal Historian of the Nanticoke Lenni-Lenape Tribal Nation.

⁷⁰ Lorraine E. Williams & Susan Kardas, "Contact Between Europeans and the Delaware Indians of New Jersey," in *New Jersey's Archeological Resources: A Review of Research Problems and Survey Priorities: The Paleo-Indian Period to Present*, ed. Olga Chesler (Trenton: Office of New Jersey Heritage, 1982); Schutt, 7-10. C.A. Weslager, *The Delaware Indians: A History* (New Brunswick: Rutgers University Press, 1989), 31-50; Richard Veit, "Setting the Stage: Archaeology and the Delaware Indians, a 12,000-Year Odyssey," in *New Jersey: A History of the Garden State* (New Brunswick: Rutgers University Press, 2012), eds. Maxine Lurie and Richard Veit, 8; Kraft, "The Lenape-Delaware Indian Heritage," 4-8.

⁷¹ Olga Chesler, ed., *New Jersey's Archeological Resources: A Review of Research Problems and Survey Priorities: The Paleo-Indian Period to Present* (Trenton: Office of New Jersey Heritage, 1982); Charles A. Stansfield, *An Ecological History of New Jersey* (Trenton: New Jersey State Historical Commission, 1996), 13; Veit, "Setting the Stage," 11-13.

⁷² Herbert C. Kraft and R. Alan Mounier, "The Late Woodland Period in New Jersey (ca. A.D. 1000 - 1600), in *New Jersey's Archeological Resources: A Review of Research Problems and Survey Priorities: The Paleo-Indian Period*

Jersey, about 1/3 of the state was covered by the Wisconsin Glacier, which extended to about where I-80 crosses through northern New Jersey slanting down toward Raritan Bay and has left a terminal moraine visible today. At the conclusion of the Pleistocene and start of the Holocene, Native American arrival coincided with the beginning of the forest community as successional regrowth reclaimed the recently glaciated landscape, progressing from lichens, to grasses and woody shrubs, to spruces, to pines, to deciduous trees such as birches, elms, oaks, hickories, and chestnuts.⁷³ Indeed, these peoples shared the region with Pleistocene megafauna, such as the elk-moose (*Cervalces scotti*) and mastodon (*Mammut americanus*).⁷⁴ Thus, there was no ‘original’ forest that grew for an extended period of time prior to human occupation, because the biome of the region was a tundra with no trees, although human impacts on the forest were much less significant during the earliest occupation because the human population was so low.

Modern experts (who actually study this issue specifically) have no doubt that Native Americans have modified their environment for millenia. Since the Archaic Period (beginning approximately 10,000 years ago) Native populations in the eastern United States favored nut-bearing trees as an important source of sustenance in combination with the hunting and other gathering.⁷⁵ According to Paul and Hazel Delcourt, humans likely helped thin nut-bearing forest stands to encourage mass yields of nut-bearing trees, which were often more nutritious than animal meat and could be stored for up to three years.⁷⁶ Native peoples thinned out brush and girdled less

to Present, ed. Olga Chesler (Trenton: Office of New Jersey Heritage, 1982), 139; Weslager, 40-43. Veit, “Setting the Stage,” 18.

⁷³ E.C. Pielou, *After the Ice Age: The Return of Life to Glaciated North America* (Chicago: University of Chicago Press, 1992), 229-31; Kraft, “The Lenape-Delaware Indian Heritage,” 389.

⁷⁴ Veit, “Setting the Stage,” 12; Samuel N. Rhoads, *The Mammals of Pennsylvania and New Jersey* (Philadelphia, 1903), 234-35, 240-41.

⁷⁵ Paul Delcourt and Hazel Delcourt, *Prehistoric Native Americans and Ecological Change: Human Ecosystems in Eastern North America Since the Pleistocene* (Cambridge: Cambridge University Press, 2004) 68-70.

⁷⁶ Delcourt, 69.

desirable trees to facilitate the growth of prodigious ones and maximize nut yields.⁷⁷ Thus, there was a high frequency of hickory and walnut trees in areas of continuous human habitation since the Paleo-Indian Period.⁷⁸

The Delcourts concluded that, as the climate generally warmed after the Pleistocene, nut production increased as deciduous biomes migrated north, which permitted human populations to increase because of the larger food supply and consequently larger carrying capacity; a larger population had the capability to manage greater forest regions, which tended to focus along riverine ecosystems.⁷⁹ Thinning the forests also created small forest gaps, or edges, which is an ecotone habitat ideal for deer, small game, and herb growth because light can enter laterally below the forest canopy and stimulate shrub-growth favorable for foraging herbivores and the herbs they consume.⁸⁰ “Since the Pleistocene, [the northeastern United States] had been occupied by Indians who not only shaped the vegetative mosaic by fire but also kept fuel loads in many areas down to a manageable level,”⁸¹ except “[i]n the higher mountains and the river bottoms and swamps, too moist for fire to penetrate routinely, forests grew relatively undisturbed, except during droughts.”⁸²

This pattern of land management continued and its environmental impact increased accordingly in proportion to population size and population density. By the late Holocene (4500 years ago) there were demonstrable effects upon the environment, often radiating out from riparian areas as Natives utilized fire, weeded, collected fuelwood, and encouraged favorable tree growth.⁸³ In the last thousand or so years, maize agriculture (together with beans and squash) came to replace

⁷⁷ Delcourt, 69.

⁷⁸ *Ibid.*, 69-70.

⁷⁹ *Ibid.*, 71.

⁸⁰ *Ibid.*

⁸¹ Pyne, 46.

⁸² *Ibid.*, 49.

⁸³ Delcourt, 74-75.

nut harvesting as the primary food source, which further permitted human population expansion.⁸⁴ In the cultivated fields of the eastern United States, maize production ordinarily declined after ten years on a given plot and was typically abandoned for 100 to 150 years while the soil returned to pre-cultivation levels of fertility.⁸⁵ Native land use patterns, of burning underbrush frequently, selectively favoring certain trees at the expense of others, cultivation of maize agriculture, and other activities, resulted in a mosaic environment consisting largely of meadows and widely-spaced trees close to riparian areas and more dense forest farther from human habitation mixed with old fields in various stages of successional regrowth.⁸⁶ Many areas formerly in cultivation created the space referred to as old fields, which were previously farmed areas that “were reverting back into early successional grassland barrens, thickets of shrubs, and even aged stands” of particular trees.⁸⁷ The landscape that early European observers described was a widely-spaced forest of many nut-bearing trees and frequent meadows that encouraged flora and fauna highly favorable for human consumption.

First Contact

First Contact between Europeans and Native Americans was a paradigm-shifting event. It must be made clear that First Contact, the specific time when Europeans encountered Native Americans, varied widely according to region. Europeans arrived in different areas at different times. Indeed, as will be detailed below, it was often the case that the impacts of European intrusion advanced ahead of the Europeans themselves, frequently with devastating epidemiologic and political ramifications. Before First Contact, during the Late Woodland Period, traditional scholarship has indicated that there were at least two Lenape sub-tribal groups extant in what is

⁸⁴ Delcourt, 98-115.

⁸⁵ *Ibid.*, 110.

⁸⁶ *Ibid.*, 162-67.

⁸⁷ *Ibid.*, 80.

now New Jersey: the Unami and the Munsee.⁸⁸ Recent research has challenged the traditional picture of New Jersey Native peoples and suggests that the some of the Native peoples of New Jersey had migrated there from the surrounding areas in the decades after European intrusion in New England as a consequence of epidemic disease and conflict, such as the Pequot War.⁸⁹ But, regardless of which specific Native population was present in New Jersey during a given decade, land use patterns overall were fundamentally the same from one group to another within the wider region as “vegetation burning does not appear to have varied within or between subculture areas but rather corresponds to the basic technological traits for the culture area as whole.”⁹⁰

As previously noted, the Late Woodland Period was “a time of intensive occupation and gardening along major riverine sites, and of selective seasonal exploitation of interior and coastal hunting-gathering sites.”⁹¹ Late Woodland Period Natives occupied villages for ten to twenty years before reestablishing the village a short distance away after the soil was depleted.⁹² Although there is some evidence for larger villages that may have been fortified, most “lived in small unfortified hamlets consisting of one or more biological or extended families.”⁹³ “Gardening contributed very significantly to the nourishment of the population” but “hunting and gathering were still important.”⁹⁴

Whatever the truth is regarding where a particular group lived on the eve of First Contact, there is no dispute that these peoples were not static, but rather fluid and dynamic- even before

⁸⁸ Williams & Kardas, “Contact Between Europeans.”

⁸⁹ Marshall Joseph Becker, “The Raritan Valley Buffer Zone: A Refuge Area for Some Wiechquaskeck and Other Native Americans during the 17th Century,” *Bulletin of the Archeological Society of Connecticut* 78 (2016): 55-92.

⁹⁰ Stewart, 71.

⁹¹ Kraft & Mounier, “The Late Woodland Period.”

⁹² Williams & Kardas, 192.

⁹³ Kraft & Mounier, 146.

⁹⁴ *Ibid.*, 148.

First Contact, as a result of climate change as experienced in the Little Ice Age.⁹⁵ Believing that they were as immobile as the bedrock is what has led to the dehumanizing view that they lived in a bountiful environment by accident or that Native peoples were a part of the wilderness themselves.⁹⁶ This notion is distinct from the historical idea that European-American frontiersmen and colonists perceived Native peoples to be a part of the wilderness, as the two concepts are dissimilar. The idea of wilderness being “not so much a place as a feeling about a place - a perceived reality, a state of mind” has been thoroughly explored by Roderick Frazier Nash’s *Wilderness and the American Mind*.⁹⁷ Some early European observations are germane to this point; Thomas explained that the hinterland was “void of inhabitants... except the Heathens, or very few Christians not worth naming” and that the country was a “foreign wilderness or desert countrey, wholly destitute of Christian Inhabitants” for immigrating Europeans.⁹⁸ The role of disease in creating an unstable dynamic of Native American populations, which were partially or completely destroyed and then recombined with other groups again and again, cannot be overstated, and is addressed more fully below.

European-American Understanding of the Role of Native Americans

Eventually, European-Americans came to realize the role that Native peoples played as active land managers, particularly in the context of fire. In 1910, Hu Maxwell wrote about Native peoples’ relationship with the natural world in Virginia and asserted that “[t]he opinion that Virginia at the time it first became known to white men was covered with vigorous and unbroken forests is erroneous” and that the “Indian had made much more serious inroads upon the primeval

⁹⁵ April M. Beisaw, “Environmental History of the Susquehanna Valley Around the Time of European Contact,” *Pennsylvania History: A Journal of Mid-Atlantic Studies* 79(4) (2012): 371.

⁹⁶ Perreault, 17.

⁹⁷ Roderick Frazier Nash, *Wilderness in the American Mind* (New Haven: Yale University Press, 1967, Fifth Edition 2014), xviii.

⁹⁸ Thomas PA, 27.

growth of timber than the casual reader has generally supposed.”⁹⁹ Maxwell’s interpretations of Native land use practices in Virginia showed how actively they managed the forests for their own needs. “There is no question that Indians burned the pastures and surrounding woods yearly to improve the range, increase game, and making hunting easier. The deer, elk, and buffalo were among the finest game animals in Virginia, and quotations from Beverley, Lederer, Fallows, Byrd, and others show that these animals congregated in large numbers where grass was found. It was to the Indian’s interest to thin and destroy the woods that grass might grow more abundantly, and no one acquainted with his habits has ever charged him with neglecting his interests in this particular.”¹⁰⁰

In 1953, a seminal article by Gordon M. Day concluded that “the Indians of the Northeast cleared land for villages and fields, cut fuelwood and set fires beyond these clearings, exercised a wide indirect influence on vegetation through their hunting, and may have favored or even transplanted food and medicinal plants.”¹⁰¹ Day recounted the popularly held notion that “the discoverers of eastern North America found everywhere an unbroken forest of giant trees,” and he went on to provide examples of that idea in literature and science.¹⁰² He then listed those few who have challenged the common consensus and expertly described how Native peoples actively managed the land by detailing the vast amounts of cleared space across the east.¹⁰³ “It is probable that the first white men on the scene here [New Jersey and New York] and elsewhere underestimated the amount of land which had been cleared by the Indians” because the forests regrew so rapidly. Indeed, Adrian Van der Donck was more than once “unable to recognize as

⁹⁹ Hu Maxwell, “The Use and Abuse of Forests by the Virginia Indians,” *William and Mary College Quarterly* 19, No. 2 (October, 1910): 73.

¹⁰⁰ Maxwell, 102.

¹⁰¹ Day, “The Indian as an Ecological Factor,” 329-46, 340.

¹⁰² *Ibid.*, 329.

¹⁰³ *Ibid.*, 330-34.

former Indian cornfields land which had been out of cultivation for only 20 years.”¹⁰⁴ Day was quite clear that the northeast was “a well-cleared county,” but as “[f]ields were abandoned as they wore out or as the white settlers came close,” the “abandoned fields grew up to forests.”¹⁰⁵

Importantly, Day emphasized the role of Native fire utilization for managing the land. In asserting that the “Indians of the United States commonly fired the forests and grasslands,” Day believed that “[t]his may well be the explanation of the forest of ‘trees without underwood, and not standing so close but they may anywhere be rode through.’”¹⁰⁶ Day recounted the descriptions of Henry Hudson’s crew, Giovanni da Verrazano, David De Vries, Samuel Smith, Daniel Denton, and others.¹⁰⁷ Further, Day traced the impact of repeated burning had on a region’s ecology: “there is no question about the ability of such fires to modify species composition and to create a parklike stand without destroying the herbaceous layer and the animal life,” and noted that De Vries recalled “that, in spite of burnings along the New Jersey coast, ‘the hills rise up full of pinetrees, which would serve as masts for ships.’”¹⁰⁸ In reasoning why Native peoples burned the land, he described the benefits for hunting controls in that repeated burning led to plant succession that “increased the food supply for heath hen, passenger pigeon, wild turkey and deer.”¹⁰⁹ Regarding edible and medicinal plants, Day concluded that because nut-tree stands were of the same age, they were probably planted by Natives and that there is evidence that certain plants and herbs were planted and cultivated by Natives as well.¹¹⁰

In 1959, Alfred Muntz came to largely similar conclusions when assessing the New Jersey forests for his Ph.D. dissertation entitled “The Changing Geography of the New Jersey Woodlands,

¹⁰⁴ Day, 332.

¹⁰⁵ Ibid., 333.

¹⁰⁶ Ibid., 334 (internal citation omitted).

¹⁰⁷ Ibid., 334-36.

¹⁰⁸ Ibid., 337 (quoting DeVries).

¹⁰⁹ Ibid., 339.

¹¹⁰ Ibid., 339-40.

1600 to 1900.”¹¹¹ He asserted that, “although few in number, the Indians had a highly significant part in changing the forests in which they lived, and... probably produced woodlands which were far from ‘primeval’ long before Europeans ever reached New Jersey.”¹¹² Indeed,

because the forest was not an unbroken ‘primeval’ wilderness, the woodlands were not a serious barrier to settlement, particularly during the critical earliest stages. Openings in the forest, caused mainly by the Indians, were most numerous along the larger river valleys, especially the Delaware, the Raritan, the Passaic and the Hackensack, which also served as the major routes of entry for the early settlers.¹¹³

Muntz suggested this was also true in the wider region, along the Atlantic coast as far as southern New England.¹¹⁴ “Rather than a hostile, formidable wilderness dreaded by the pioneer, as it is so often pictured in historical fiction, the forest was a resource of the greatest importance.”¹¹⁵

In 1970, Daniel Q. Thompson and Ralph H. Smith came to the same conclusions and highlighted how long the myth had been in existence, quoting Thomas Morton and William Wood from 1630s New England, who remarked that “the trees growe here, and there as in our parks; and makes the Countrey very beautiful, and commodious” and that “it is generally conceived, that the woods grow so thick... it is nothing so: in many places, divers acres being clear, so that one may ride a hunting in most places of the land... there is no underwood, saving in swamps and low grounds that are wet... for it being the custom of the Indians to burn the woods in November.”¹¹⁶ Indeed, Thompson and Ralph highlighted Wood’s recollection that “[i]n some places where the Indians died of plague some fourteen years ago, there is much underwood... because it hath not been burned.”¹¹⁷ They concluded that “for a variety of reasons, the Indians of the Northeast used

¹¹¹ Muntz, “The Changing Geography of the New Jersey Woodlands.”

¹¹² *Ibid.*, 14

¹¹³ *Ibid.*, 212-13.

¹¹⁴ *Ibid.*, 213.

¹¹⁵ *Ibid.*, 215.

¹¹⁶ Thompson & Smith, 258-59.

¹¹⁷ *Ibid.*, 259.

fires throughout the range of their activities”¹¹⁸ and that “[r]ather than a land of dark and thick forest, the Indian’s world was one of open woods and seral edge,” except for the dense stands on moist slopes or damp lowlands.¹¹⁹

Following in these footsteps, William Cronon published “Changes in the Land” in 1983 and argued that “Indians had lived on the continent for thousands of years, and had to a significant extent modified its environment to their purposes. The destruction of Indian communities in fact brought some of the most important ecological changes which followed the Europeans’ arrival in America.”¹²⁰ He concluded that it was “tempting to believe that when the Europeans arrived in the New World they confronted Virgin Land, the Forest Primeval, a wilderness which had existed for eons uninfluenced by human hands. Nothing could be further from the truth.”¹²¹ The distinction between the pre-colonial environment and the post-Contact Period one was not natural versus human-made; both were human environments of different kinds, which was a function of the European mercantilist economy that viewed natural resources as commodities compared to Native Americans’ largely subsistence economy. Cronon believed that this misunderstanding was why so many early observers reported such abundance of plant and animal life.¹²² Cronon also recounted early observers’ descriptions of how “remarkably open, almost parklike” the southern coast of New England was, from Maine to the Hudson; he quoted Verrazano’s descriptions of Narragansett Bay in 1524 being so open that it could be traveled “even by a large army.”¹²³ Others described “great old oaks growing widely scattered in open fields, with occasional birches, hazels, and strawberries mixed in,” which resembled “a stately Parke.”¹²⁴ Cronon concluded that the pre-

¹¹⁸ Thompson & Smith, 260.

¹¹⁹ *Ibid.*, 262.

¹²⁰ Cronon, 12.

¹²¹ *Ibid.*

¹²² *Ibid.*, 20.

¹²³ *Ibid.*, 25.

¹²⁴ *Ibid.*, 27.

colonial landscape was a “patchwork,” a mosaic of “tremendous variety.”¹²⁵ But it was clear to Cronon that Europeans of the time did not see the relationship between Native land use practices in the landscape’s condition, as Thomas Morton seemingly asked “how could a land be so rich and its people so poor?”¹²⁶

Adding to the corpus of knowledge on the subject, two 1992 companion articles by William M. Denevan and William E. Doolittle provided further detail. In “The Pristine Myth: The Landscape of the Americas in 1492,” Denevan argued that the entirety of the Americas showed substantial anthropogenic modifications and was far from being pristine.¹²⁷ Denevan concluded that by 1492, “Indian activity throughout the Americas had modified forest extent and composition, created and expanded grasslands, rearranged microrelief via countless artificial earthworks.”¹²⁸ “Much of the mature forest was characterized by an open, herbaceous understory, reflecting frequent ground fires.”¹²⁹ “In North America, burning not only maintained open forest and small meadows but also encouraged fire-tolerant and sun-loving species” such as strawberries, chestnuts, oaks, and others.¹³⁰ Denevan also highlighted the edge effect that these land management practices had for wildlife as addressed above.¹³¹ Denevan believed that Native Americans (even in northeastern North America) engaged in large scale agriculture.¹³² Doolittle continued Denevan’s tangent on pre-colonial agriculture and argued that “the agroecological landscapes of both the Southwest and Eastern Woodlands were quite complex in response to

¹²⁵ Cronon, 31.

¹²⁶ *Ibid.*, 33.

¹²⁷ Denevan, “The Pristine Myth,” 369-85.

¹²⁸ *Ibid.*, 370.

¹²⁹ *Ibid.*, 371 (quoting both Michael Williams, 33, who stated that much of the ‘natural’ forest remained, but the forest was not the vast, silent, unbroken, impenetrable and dense tangle of trees beloved by many writers in their romantic accounts of the forest wilderness, and William Cronon).

¹³⁰ *Ibid.*, 372 (citing Cronon, Day).

¹³¹ *Ibid.*, 375.

¹³² *Ibid.*, 376-77.

mosaics of diverse biophysical environments.”¹³³ Because of this diversity, Doolittle argued that it is difficult to generalize, but nonetheless pre-colonial agriculture was “more intensive than is commonly thought.”¹³⁴ The intensity of agriculture usage created large spaces available for regrowth by pioneer species in the vacuum that succeeded Native American habitation in inland areas after their demise, which had significant implications that are addressed below.

Yet, there remains some skepticism of the degree that Native practices truly impacted the land. Day dealt with the lone contrarian during his time, H. M. Raup, who believed that “open, park-like woods have been, from time immemorial, characteristic of vast areas in North America” and cited more western areas as an example.¹³⁵ Day countered Raup by highlighting that those areas are markedly different from the “well-watered Northeast,” although more recent scholarship further challenges that modern western lands would exist in their current form in the absence of Native burning. But Raup is not alone in his dissention; Emily W. B. Russell is also skeptical of the role that Native burning played.¹³⁶ Russell’s scholarship, which studied pollen sediment, largely focused on the Highlands region¹³⁷ so it is of limited use for the remainder of the state as the Highlands are only 12% of New Jersey.¹³⁸ Moreover, palynological studies are often of limited use because they do not accurately record every vegetative component;¹³⁹ not all trees are wind dispersed and not all pollen is as likely to settle in lake beds. The Highlands were probably more

¹³³ Doolittle, “Agriculture in North America,” 386-401, 387.

¹³⁴ Ibid., 392-93.

¹³⁵ Day, 336.

¹³⁶ Emily W. B. Russell, “Indian-Set Fires in the Forests of the Northeastern United States,” *Ecology* 64, No. 1, (1983): 78-88; Emily W. B. Russell, “Vegetational Change in Northern New Jersey from Precolonization to the Present: A Palynological Interpretation,” *Bulletin of the Torrey Botanical Club* 107, No. 3 (July-Sept. 1980): 432-46.

¹³⁷ Russell, “Indian-Set Fires” and “Vegetational Change.”

¹³⁸ Collins & Anderson, “Plant Communities,” 35.

¹³⁹ Peter O. Wacker and Paul G. E. Clemens, *Land Use in Early New Jersey: A Historical Geography* (Newark: New Jersey Historical Society, 1995), 38-39.

sparsely populated because of the rugged topography and relatively infertile soil,¹⁴⁰ so Russell believed that Native fires “would have been localized to Native American settlements or camps and trails, and would most likely not have burned extensive tracts, given the rugged topography and frequent streams” there. Thus, these conclusions do not translate to the remainder of the state.

Amongst those who study this field specifically, which exists at the intersection of environmental history, ecology, and other disciplines, there is little doubt that “the Indians were a potent, if not crucial ecological factor in the distribution and composition of the forest. Their activities through millenia make the concept of ‘natural vegetation’ a difficult one to uphold.”¹⁴¹ “All the evidence points to the fact that the Indians were careful users of fire as a tool to manage the land and to promote their welfare.”¹⁴² To quantify the characteristics of burning, Michael Williams believed that “[c]ereal grasses were fired annually, basket grasses and nuts about every three years, brush and undergrowth in the forest about every 7 to 10 years, large timber in the swidden rotation every 15 to 30 years or more; and broadcast fire in the fields on an annual basis got rid of vermin, disease, weeds, and regrowth.”¹⁴³ Muntz, quoting a 1684 letter, believed that the forests of the Piedmont had about 30 trees per acre; “[t]he trees grow generally not thick, but some places ten, in some fifteen, in some twenty-five or thirty upon an acre; this I find generally but in some particular places there is one hundred upon an acre, but that is very rare.”¹⁴⁴ Williams did not necessarily believe that “there was no untouched forest... but the idea of the forest as being in some pristine state of equilibrium with nature, awaiting the arrival of the transforming hand of the Europeans, has been all too readily accepted as a comforting generalization and as a benchmark

¹⁴⁰ Emily W. B. Russell, “Forest History of the Highlands,” in *The Highlands: Critical Resource, Treasured Landscape*, ed. Richard Lathrop (New Brunswick: Rivergate Books, 2011), 114-15.

¹⁴¹ Williams, 49.

¹⁴² Ibid., 43.

¹⁴³ Ibid.

¹⁴⁴ Muntz, 24-25 [quoting Letter of Gawen Lawrie of East Jersey to a friend in London, January 26, 1684, in Samuel Smith, *The History of the Colony of New Jersey* (Burlington: James Parker, 1765)].

against which to measure all subsequent change.”¹⁴⁵ Further, Williams asserted that the coming of Europeans “did not alter the process at work; it was merely their subsequent superior numbers and advanced technology that accomplished that. Paradoxically, their arrival may have been instrumental in causing forests to grow more rapidly and extensively in some places than before as fire was suppressed and controlled.”¹⁴⁶

Part III: Was it Ever Really Wilderness? Disease and the Post-Epidemic Landscape

If it is so clear that Native Americans were active land managers in such a large geographic region, then why does the myth of a trackless wilderness, a forest primeval, persist? All of the early European observers described a rich and bountiful ecosystem of widely-spaced and open forests; none describe a dense, impenetrable forest. Yet, from the outset there was seemingly a common consensus “that the woods grow so thick” such that William Wood had to dispel that incorrect assumption as early as the 1630s.¹⁴⁷ Wood’s efforts were not successful, however. In 1700, Francis Daniel Pastorius, writing about Pennsylvania, believed that “this far-distant portion of the world consisted of nothing but wilderness, and it within a short time has begun to be made ready for use of Christian men, it is truly a matter for amazement how quickly, by the blessing of God, it advances, and from day to day grows perceptibly.”¹⁴⁸ From 1748 to 1751, Swedish botanist Peter Kalm traveled through the region and believed that there was previously “almost an entire wilderness covered with thick forests” just a few decades prior, during William Penn’s residence in Pennsylvania.¹⁴⁹ He concluded that “the country is likewise more cultivated than it used to be,

¹⁴⁵ Williams, 49.

¹⁴⁶ Ibid.

¹⁴⁷ Thompson & Smith, 258-59 (quoting William Wood, *New England’s Prospects*).

¹⁴⁸ Francis Daniel Pastorius, “Circumstantial Geographical Description of Pennsylvania (1700),” in *Narratives of Early Pennsylvania, West New Jersey & Delaware* (New York: Charles Scribner’s Sons, 1912), 383.

¹⁴⁹ Peter Kalm, *Travels into North America*, Volume 1 (Warrington: William Eyres, 1770), 32 (hereinafter “Kalm V1;” Volume 2 shall be “Kalm V2”).

and consequently great woods have been cut down.”¹⁵⁰ “Before the Europeans came into this country, it was inhabited by savage nations, who practiced agriculture but little or not at all, and chiefly lived upon hunting and fishing. The woods therefore have never been meddled with; except that sometimes a small part was destroyed by fire.”¹⁵¹ Kalm believed that upon European arrival, “they found the country all over covered with thick forests.”¹⁵² Kalm was a highly regarded scientist at the Royal Swedish Academy of Sciences so his writings undoubtedly carried weight.

From the establishment of the myth of a trackless wilderness, the idea of the original forest as a dense wood became self-propagating as it was cemented into the cultural and academic knowledge of western thought.¹⁵³ So pervasive is the myth that an official publication of the State of New Jersey entitled “An Ecological History of New Jersey” cannot overcome the idea of a dense forest upon First Contact even when it highlights that Natives were active land managers who burned the forest and managed “the land for maximum production of wild foods, both plant and animal.”¹⁵⁴ The book simultaneously admits the Native role in creating the forest community, clearing extensive land for cultivation, and engaging in regular burning that “increased the quantity and variety of plant foods” yet cannot concede that the landscape was not a “dense forest.”¹⁵⁵ Ecologists widely discount Native forest management, with one writing that Native Americans “left no recognizable traces in the vegetation” in the region near Wilmington, Delaware.¹⁵⁶ The most widely-read book on New Jersey’s plant communities also propagates the myth; “Virgin forest once covered all the upland sites, but most of it has been destroyed.”¹⁵⁷ Even both Robert

¹⁵⁰ Kalm, V1, 93.

¹⁵¹ *Ibid.*, 110-11.

¹⁵² *Ibid.*, 111.

¹⁵³ See sources cited in Note 3.

¹⁵⁴ Stansfield, “An Ecological History,” 13-16.

¹⁵⁵ *Ibid.*

¹⁵⁶ Matlack, “Four Centuries of Forest Clearance and Regeneration in the Hinterland of a Large City,” 283.

¹⁵⁷ Collins & Anderson, 87.

Grumet's and Herbert Kraft's spectacular histories of the Lenape depict their environment as "a land of dense forests" and "dense pinelands."¹⁵⁸ Why is the wilderness myth so persistent despite the works of Day, Denevan, and Cronon and the evidence left by De Vries, Lindestrom, and Thomas? Perhaps because of some guilt that European-Americans feel over destroying countless civilizations; if there were less people here, then perhaps it was less wrong to seize the land.

Ideological Explanations

Undoubtedly, the backbone for any explanation for the myth's persistence is one of inherent cultural bias or racism against Native Americans, who have long been depicted as wild, savage, and heathen (although such language was often tied to Native religion).¹⁵⁹ The descriptive terminology for Native Americans has shifted over time, but the language has nonetheless from the outset been based in defining Natives as inferior.¹⁶⁰ Europeans believed that Natives lived off the forest and generally did not engage in cultivation or agriculture to any significant degree. Since the start of European occupation of the Mid-Atlantic, Europeans created a cultural landscape where 'savages' were not capable of cultivating a landscape to create a civilization; if Native Americans had actually made a garden out of the wild, then they would not be savages and it would have been wrong to conquer them.

Epidemiological Explanations

A reality that has played into the inferiority imposed upon Native Americans is that by the time most Europeans arrived in America during the colonial period, the population of Native Americans was dramatically reduced in areas that were relatively densely populated by European-Americans in the northeastern United States. The hinterland seemed empty, so that -

¹⁵⁸ Robert Grumet, "The Munsee Indians," 3, 32; Kraft, "The Lenape-Delaware Indian Heritage," 208-09.

¹⁵⁹ Jennings, "The Invasion of America," 47-48; Lindestrom, 191.

¹⁶⁰ Jennings, 59-61, 73-76.

psychologically - for those colonists who came long after First Contact, the forest was a wilderness. But make no mistake, that idea is a fiction created largely by one factor: epidemic disease. The pathogens that European intruders brought with them, including smallpox, influenza, dysentery, tuberculosis, typhoid, and others, eradicated Native peoples, often advancing as a frontier ahead of the Europeans themselves along trade routes or population corridors, so that by the time Europeans arrived, most Natives were long gone and the forest had grown thick.¹⁶¹ This is the sixteenth century hypothesis.¹⁶² Wilderness as we presently define it¹⁶³ that was actually there was new; it was created during the period between the extermination or migration of Native peoples (as a consequence of disease, conflict, and even environmental change) and the arrival of Europeans. "We shall never know the population of the northeastern tribes in the sixteenth century, because the white man's acquaintance with them was preceded by his diseases and his disruption of the primitive economic patterns."¹⁶⁴ Those Native who remained faced hardships such that assimilation into European-American or remaining hidden to avoid detection were their only options.

Scholarship on this topic confirms that reality. The epidemic of diseases that destroyed New World populations is the result of the so-called Columbian Exchange.¹⁶⁵ The same process that gave the Old World tomatoes, chili peppers, potatoes, and tobacco also gave the New World epidemic disease "to previously isolated communities" that "caused devastation far exceeding that

¹⁶¹ Jennings, 15, 30. Krech, 79; Jared Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: W. W. Norton & Company, 1999), 373-74; Nathan Nunn and Nancy Qian, "The Columbian Exchange: A History of Disease, Food, and Ideas," *Journal of Economic Perspectives* 24, No. 2 (2010): 165-66; Kraft, "The Lenape-Delaware Indian Heritage," 388-90.

¹⁶² Henry F. Dobyns, "Disease Transfer at Contact," *Annual Review of Anthropology* 22 (1993): 273-91, 74 (essentially, that "native peoples suffered great depopulation before literate witnesses reach them.")

¹⁶³ The Wilderness Act of 1964, 16 U.S.C. 1131-1136.

¹⁶⁴ Day, 340.

¹⁶⁵ Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport: Praeger, 1972).

of even the Black Death in fourteenth-century Europe.”¹⁶⁶ Denevan wrote that “the Indian landscape of 1492 had largely vanished by the mid-eighteenth century, not through a European superimposition, but because of the demise of the Native population. The Landscape of 1750 was more ‘pristine’ (less humanized) than that of 1492.”¹⁶⁷ “The roots of the pristine myth lie in part with early observers unaware of human impacts that may be obvious to scholars today, particularly for vegetation and wildlife.... Equally important, most of our eyewitness descriptions of wilderness and empty lands come from a later time, particularly 1750-1850 when interior lands began to be explored and occupied by Europeans. By 1650, Indian populations in the hemisphere had been reduced by 90 percent, while by 1750 European numbers were not yet substantial and settlement had only begun to expand.”¹⁶⁸ “It is possible to conclude not only that ‘the virgin forest was not encountered in the sixteenth and seventeenth centuries; [but that] it was invented in the eighteenth and early nineteenth centuries.’”¹⁶⁹ “However, ‘paradoxical as it may seem, there was undoubtedly much more ‘forest primeval’ in 1850 than in 1650.’”¹⁷⁰ So profound was the depopulation, that scholars have determined that it was a cause for the Little Ice Age: the death of so many Native Americans caused their fields to lie fallow and the forests to regrow, thus acting as carbon sinks and substantially reducing atmospheric carbon dioxide in a matter of decades, causing temperatures to drop for a period of centuries.¹⁷¹

As an explanation for the ease of the spread of disease, Cronon elaborated that, as ancestral Native Americans came from Asia, their crossing across the semi-arctic north in low populations

¹⁶⁶ Nunn and Qian, “The Columbian Exchange,” 163-64; Charles C. Mann, *1491: New Revelations of the Americas Before Columbus* (New York: Knopf, 2005), 312-26.

¹⁶⁷ Denevan, 370.

¹⁶⁸ *Ibid.*, 379.

¹⁶⁹ *Ibid.*, 380 (quoting Pyne, “Fire in America,” 46).

¹⁷⁰ *Ibid.*, 380 (quoting E. Rostlund, (1957), 409)

¹⁷¹ Alexander Koch, Chris Brierley, Mark M. Maslin, and Simon L. Lewis, “Earth System Impacts of the European Arrival and Great Dying in the Americas after 1492,” *Quaternary Science Reviews* 207 (2019): 13-36.

without domestic animals filtered out microorganisms that led to an absence of disease.¹⁷² Eventually, Europeans and Africans came to replace Natives, but the process was slow and so “the overall hemispheric population in 1750 was about 30 percent of what it may have been in 1492,” and even so the 1750 population did not stretch much beyond a narrow coastal belt in North America.¹⁷³ Cronon, citing Francis Jennings, conceded that “the land was less virgin than widowed.”¹⁷⁴ Indeed, Europeans “did not settle a virgin land. They invaded and displaced a resident population...Europeans did not find a wilderness here; rather, however involuntarily, they made one.”¹⁷⁵ As “eastern forests recovered and filled in as a result of Indian depopulation, field abandonment, and reduction in burning,”¹⁷⁶ the regrowth erased history.¹⁷⁷

Early Europeans confirm this massive depopulation.¹⁷⁸ Verrazano’s crew described the area, noting that it had “innumerable people” in 1524.¹⁷⁹ Lindestrom concluded that the New Jersey side of the Delaware River “was formerly mostly occupied by these savages, yet this nation is now much died off and diminished through war and also through disease” by the 1650s.¹⁸⁰ Denton made the following commentary: “To say something of the Indians, there is now but few upon the Island [Long Island]... for since my time, where there were six towns, they are reduced to two small Villages, and it hath been generally observed, that where the English come to settle, a Divine Hand makes way for them, by removing or cutting off the Indians, either by Wars one with the other, or by some raging mortal Disease.”¹⁸¹ Van der Donck explained that “The Indians

¹⁷² Cronon, 85.

¹⁷³ Denevan, 371.

¹⁷⁴ Cronon, 12 (citing Jennings, “The Invasion of America,” 15).

¹⁷⁵ Jennings, 15, 30.

¹⁷⁶ Denevan, 378.

¹⁷⁷ Williams, 41.

¹⁷⁸ Jennings, 23.

¹⁷⁹ Verrazano, 10.

¹⁸⁰ Lindestrom, 165.

¹⁸¹ Denton, 12.

also affirm that before the arrival of the Christians, and before the small-pox broke out amongst them, they were ten times as numerous as they now are, and that their population had been melted down by disease, whereof nine-tenths of them have died.”¹⁸² Thomas reported that the “Dutch and Sweeds inform us that [the Natives] are greatly decreased in number to what they were then they came first into this country: And the Indians themselves say that two of them die to every one Christian that comes in here.”¹⁸³ When French explorer La Salle traveled the lower Mississippi he described “a solitude unrelieved by the faintest trace of man” where Hernando De Soto had described countless people only a century before.¹⁸⁴ Alvar Nunez Cabeza de Vaca observed that smallpox had ravaged a settlement ten years before any Europeans set foot there.¹⁸⁵ Sheppard Krech explained that Old World diseases devastated Native populations as microbes were “transported by Europeans and even traveled in advance of them, carried by infected Indians to more distant indigenous people who sickened and died before actually encountering white people. In 1585-86, Thomas Harriet wrote from Virginia that Indians in some towns ‘began to die very fast, and many in a short space’” and “[t]hereafter, some contagion swept away native people somewhere in North America in almost every decade.”¹⁸⁶ “Simply stated, lethal pathogens, especially during virgin soil epidemics, spread to and decimated Native Americans far beyond the geographic limits of face-to-face contact between Europeans and aboriginal groups.”¹⁸⁷

As a consequence, the burning of the land that had been ongoing for centuries ceased and fields became forests, animal populations that relied on these edge habitats declined.¹⁸⁸ Moreover,

¹⁸² Van der Donck, 21.

¹⁸³ Thomas NJ, 13.

¹⁸⁴ Mann, 321.

¹⁸⁵ Henry F. Dobyns, *Their Numbers Become Thinned: Native American Population Dynamics in Eastern North America* (Knoxville: University of Tennessee Press, 1983), 12.

¹⁸⁶ Krech, 79.

¹⁸⁷ Dobyns, “Their Numbers,” 24-25.

¹⁸⁸ Cronon, 90.

European intrusion actually increased large carnivore populations, such as wolves and cougars. Not only did Europeans create the requisite conditions for the growth of a wild forest (wild, coming from ‘self-willed’),¹⁸⁹ but their introduction of domestic livestock, which grazed unprotected in the forest, was substantially easier for a wolf or cougar to kill than native prey animals, and populations of large predators increased.¹⁹⁰ Deer have coevolved as prey animals and are prone to flee from predation; sheep, cows, pigs, and other domestic livestock have long been bred to be docile. Such was the increase in wolves and mountain lions after First Contact that bounties were placed on those predators and eventually increased because it was “found by experience that” the original statutes providing bounties on wolves and panthers was “not a sufficient encouragement for the killing of wolves.”¹⁹¹

Because of the thick forests that grew in the early 1600s and the increase in large predators, European-Americans undoubtedly subjectively perceived the forest around them as wild, when it was objectively anthropogenic. Yet, these carnivores were almost never truly a threat to humans, only to livestock; beyond Peter Kalm’s account of wolves attacking dead and dying plague-ridden Natives decades before his arrival,¹⁹² the only colonial account of a large wild animal killing a human in New Jersey history came from Monmouth County in 1768, where a panther tore a man to pieces.¹⁹³ Most encounters with large carnivores were more similar to that of James Johnstone,

¹⁸⁹ Nash, 1-2.

¹⁹⁰ Cronon, 132.

¹⁹¹ L. 1751 c. CCXLII (242) (passed October 23, 1751, when New Jersey was a royal colony) raised the bounty awarded “to encourage the killing of wolves and panthers” in L. 1730 c. CXXXVIII (138) (passed July 8, 1730). Kalm V1, 286 (20 shillings in Pennsylvania for a wolf). In East Jersey, L. 1675 Ch. XXI (21) and L. 1682 c. V (5) with L. 1692 c. V (5), which provided that “the said fifteen shillings [awarded by the prior two acts is] not sufficient enough to encourage the destruction of wolves” and added fifteen more shillings to the bounty; L. 1695 c. II (2) repealed those statutes and left the bounty to the discretion of local government. In West Jersey, L. 1682 c. XV (15) provided ten shillings as a bounty. L. 1692 c. I (1) also provided a bounty.

¹⁹² Kalm, V1, 285-86.

¹⁹³ Haines, “Hardystown Memorial,” 12-15; Wacker and Clemens, “Land Use,” 56; Supplement to the New York Journal or General Advertiser, No. 1311, February 20, 1768 (detailing a man from Shrewsbury, which was substantially larger than at present, who “was killed an torn to Pieces by a Panther.”). This remains one of only two

who wrote that “there are no Bears nor Ravinous Beasts but Wolves, which are nothing to be feared, neither are the Country People afraid to be among them all night...”¹⁹⁴

By Kalm’s time in the middle of the eighteenth century, the corridor between Trenton and New Brunswick was well populated by European-Americans. “[T]he country through which we passed was for the greatest part level, though sometimes there were some long hills, some parts were covered with trees, but far the greater part of the country was without woods; on the other hand I never saw any place in America, the towns excepted, so well peopled.”¹⁹⁵ Kalm recalled that he met a man who “could well remember the time, when between Trenton and New Brunswick there were not above three farms, and he reckoned it was about fifty and some odd years ago.”¹⁹⁶ In October 1748, the region was covered with cornfields and orchards,¹⁹⁷ and “it is to be observed that the country between Trenton and New York, is inhabited by few Englishmen, but instead of them by Germans or Dutch, the latter of which especially are numerous.”¹⁹⁸ In Princeton, Kalm noted that it was so well cultivated and populated “that one might have imagined himself to be in Europe,” and that heading toward New Brunswick, the “country was pretty well peopled; however there were yet great woods in many places: they all consisted of deciduous trees: and I did not perceive a single tree of the fir kind, till I came to New Brunswick.”¹⁹⁹ Thereafter, European-Americans cut many of the areas where the forest had regrown and spread out from the Piedmont and Delaware Valley into the now more densely forested Kittatinny Valley, Musconetcong Valley, South Branch Raritan Valley, and, by the Revolution, Cape May.²⁰⁰

examples of a large, wild animal killing a human in New Jersey, the other being a Rutgers undergraduate who was killed and partially consumed by a black bear in 2014.

¹⁹⁴ Wacker, “Land and People,” 39.

¹⁹⁵ Kalm, V1, 222.

¹⁹⁶ Ibid.

¹⁹⁷ Ibid.

¹⁹⁸ Ibid., 224.

¹⁹⁹ Ibid., V1, 227.

²⁰⁰ Muntz, 212-27; Wacker and Clemens, “Land Use,” 68-80.

Kalm further explained that Native Americans were long gone by the time he arrived, and that one must travel over a hundred miles from the coast “before you reach the first habitations of the Indians.”²⁰¹ It must be noted that, by Kalm’s time in the mid-eighteenth century, most of the Natives who were descendants of disease survivors had left or were in the process of leaving New Jersey to get away from European-American encroachment, except for those who remained hidden.²⁰² Even as early as 1684, Gawen Lawrie, Deputy Governor of East Jersey, wrote that “there are but few Indian Natives in the Country... they live in the Woods and have small towns in some places far up in the Country.”²⁰³ Thus, most of those who had made New Jersey the garden that it was left the state hoping for a better future. In the meantime, European-American intrusion had radically altered the environment by largely eradicating its indigenous inhabitants and ceasing their land use habits to make way for a new style of settlement and land use, one that - for generations - meant that the forest could grow wild before it was resettled. As Stephen Pyne once said, “[n]ot only was there frequently no virgin forest to clear, but the forest that was cleared was often itself a product of the act of settlement.”²⁰⁴

Conclusion

It is imperative to make a note about the implications of this scholarship. Wilderness, as we choose to define it in a law such as the Wilderness Act of 1964, probably never existed in the northeastern United States (and likely much of the United States as well) in the centuries leading up to European arrival. But, to suggest that the absence of wilderness in the pre-colonial context makes modern wilderness as we presently define it any less valuable is counterfactual and absurd.

²⁰¹ Kalm, V1, 224-25.

²⁰² Williams and Kardas, “Contact Between Europeans,” 194; Weslager, 113-170. Schutt. 31-124.

²⁰³ Wacker, “Land and People,” 60.

²⁰⁴ Pyne, 51.

The political and economic system that created the “forest the settlers saw”²⁰⁵ was one based largely on subsistence survival and is a paradigm that no longer exists, has not existed in many decades, and will likely never exist again - absent some catastrophic change. Although it is true that European-Americans have long assumed, in error, that the “forests the settlers saw” was the ‘original forest,’ that forest is nonetheless long gone and the biodiversity that presently exists depends on the large expanses of uninhabited spaces across this country that grew centuries ago. Make no mistake, this paper is about the environment of First Contact; its implications must not be misused.

Once properly informed, imagining New Jersey at the instant of European arrival is an exercise that has the potential to unravel centuries of deeply imbedded cultural bias against Native Americans in that one can perceive that the region’s landscape was cultivated, rather than wild. As Peter Wacker has noted, Native Americans “made a distinct and lasting impact both on the land and on subsequent European settlement. First and foremost of these impacts was the alteration of the environment to produce a landscape both more pleasing to man and more productive of his needs than had existed before. Second, aboriginal occupance influenced the choice of many later European sites of settlement, both farmsteads and agglomerated or nucleated places.”²⁰⁶ In the Garden State, there never was a dark, foreboding forest, untouched by the human hand yet filled with beasts and birds; rather, there was an open, widely-spaced wood that permitted enough sunlight for strawberries to grow on the forest floor and provided sustenance for a diverse community of life. Although it is not possible to know with certainty the exact forest composition of a given area at a given time, some generalities can be observed.²⁰⁷

²⁰⁵ Delcourt, 162-64.

²⁰⁶ Wacker, 57.

²⁰⁷ Wacker and Clemens, 38-39.

The “park-like” environment was most common near riverways, particularly in the Piedmont, the Inner Coastal Plain, and likely along several river valleys extending into the Highlands and Ridge and Valley, particularly south of the terminal moraine where the soil is less rocky and the terrain more forgiving.²⁰⁸ Peter Wacker has noted that “the highest [population] densities occurred on the Inner Coastal Plain and the Piedmont. The Outer Coastal Plain contained the fewest sites, which were oriented toward the larger water courses, bays, and lagoons. Another fairly empty area appears in the Highlands, especially on the upland surfaces north of the Wisconsin terminal moraine.”²⁰⁹ The banks of the Raritan, Passaic, Hackensack, Crosswicks, Rancocas, Musconetcong, and other rivers as well as their tributaries were likely inhabited areas with sporadic villages, with population being more sparse the farther one moved from major river systems and most sparse in both the southeastern and northwestern portions of the state.

Consequently, around the more populated riparian zones, the landscape would have been largely open and covered with meadows at First Contact, as the forest would likely have been cut. “The older the village, the more likely it was that the forest was encroached on more and more and that its edge receded from the village;” often the search for fuel wood extended several miles from a village in an “ever-increasing radius.”²¹⁰ Further from those riverine areas, the forest’s frequent burning would ensure its openness and widely-spaced nature, perhaps existing at 30-50 trees per acre in the Piedmont and Inner Coastal Plain. Additionally, as Natives abandoned particular areas and cleared new spaces every decade or so, they created a mosaic of small meadows and old fields in various stages of successional regrowth. In those areas least populated - rugged northern New Jersey above the terminal moraine and the Pinelands of the southeastern part of the state -

²⁰⁸ Wacker, 113-19.

²⁰⁹ Ibid., 58.

²¹⁰ Williams, 37.

undoubtedly Natives still burned the forest, but probably with less frequency because there was a smaller population. Although, in the Pinelands, fires were a dominant feature of the ecosystem, likely as the result of generations of Native burning.²¹¹ It was a dynamic environment in constant flux and its manager was the Native American. Have no doubt that the varied biotic communities of New Jersey were created in large part by centuries of Native Americans' annual burning of the forest and other land management practices.

Thereafter, a wilderness grew - not like that conceived in the Wilderness Act of 1964, but rather an accident of epidemiology, as most Native Americans died and largely abandoned the region, their gardens grew wild.²¹² Thus, by the late seventeenth century, there may have dwelt a 'howling wilderness' - for however brief a historical moment - at the periphery of the colonial world as the forests grew thick with neglect and dark with abandonment. Hopefully, the evidence presented here is sufficient to dispel "the pristine myth" and discard the ugliness of racism that has flourished in the shadows cast by the growth of the post-epidemic forest.

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²¹¹ Charles A. Stansfield, Jr., *A Geography of New Jersey: The City in the Garden* (New Brunswick: Rutgers University Press, 1998), 57-58. Wacker, 115.

²¹² Note that there remain three state-recognized Native American tribes within New Jersey: the Nanticoke Lenni Lenape Nation, the Ramapough Lenape Nation, and the Powhatan Renape Nation. N.J.S.A. 52:16A-53.