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Term Paper

The Pinelands National Reserve

The Pinelands National Reserve (PNR) is a federal protected area in southern New Jersey's Pine Barrens region that was established in 1978 as the country's first national reserve.¹ The PNR covers approximately 1.1 million acres (22% of New Jersey's land area) across seven counties and 56 municipalities. Perhaps the largest open space on the Mid-Atlantic seaboard, the PNR is home to rare plant and animal species and an underground aquifer containing an estimated 17 trillion gallons of water.²

In a federal-state partnership, the area is protected by the New Jersey Pinelands Commission, an independent state agency whose mission is to "preserve, protect, and enhance the natural and cultural resources of the Pinelands National Reserve, and to encourage compatible economic and other human activities consistent with that purpose."³ This reflects the reality that the PNR is also home to approximately 870,000 people and an agricultural industry that includes nearly all of New Jersey's cranberry and blueberry production,⁴ making ecological protection a challenge.

¹ U.S. National Park Service. *New Jersey Pinelands National Reserve*. Available at <https://www.nps.gov/pine/index.htm>. Accessed Dec. 8, 2019.

² N.J. Pinelands Commission: *The Pinelands National Reserve*. Available at <https://www.nj.gov/pinelands/reserve/>. Accessed Dec. 8, 2019.

³ N.J. Pinelands Commission: About the Commission. Available at <https://www.nj.gov/pinelands/about/> Accessed Dec. 6, 2019; N.J. Pinelands Commission: The Pinelands National Reserve. Available at <https://www.nj.gov/pinelands/reserve/>. Accessed Dec. 8, 2019.

⁴ N.J. Pinelands Commission. Visiting & Recreation. Available at <https://www.nj.gov/pinelands/home/visit/index.shtml>. Accessed Dec. 8, 2019; N.J. Pinelands Commission. *Pinelands Brochure*. Available at

Methodology

This paper uses federal and state government documents and websites to provide a comprehensive overview of the Pinelands National Reserve, including its history, ecology, and prominent attractions. The paper concludes with a bibliography of federal and state government resources organized by topic.

What is a National Reserve?

The National Park Services manages several different kinds of federal protected areas, including national parks and national monuments. National reserves are managed in partnership with state and local agencies.⁵ “Instead of utilizing outright Federal acquisition and management of entire areas, as in the case of national parks, national monuments, national forests or national wildlife refuges, the national reserve concept is designed to combine limited public acquisition with land use controls developed and implemented through a cooperative program involving Federal, State and local governments as well as concerned private groups and individuals.”⁶ The PNR is considered an NPS “affiliated area” and is managed by the New Jersey Pinelands Commission, an independent agency of the New Jersey state government.⁷

<https://www.nj.gov/pinelands/images/pdf%20files/Pinelands%20Brochure1.pdf>. Accessed Dec. 8, 2019.

⁵ Congressional Research Service. R41816. *National Park System: What Do the Different Park Titles Signify?* (November 19, 2015). Available at <https://crsreports.congress.gov/product/pdf/R/R41816>.

⁶ N.J. Sen. Energy & Environment Committee. *Statement to Senate, No. 2091*. In “Pinelands Protection Act” (Legislative History), p. 67. Available at <https://repo.njstatelib.org/handle/10929.1/25138>.

⁷ Congressional Research Service. R41816. *National Park System: What Do the Different Park Titles Signify?* (November 19, 2015). Available at <https://crsreports.congress.gov/product/pdf/R/R41816>; N.J. Pinelands Commission. *About the Commission*. <https://www.nj.gov/pinelands/about/>. Accessed Dec. 6, 2019.

Pinelands National Reserve and Pinelands Area

The areas protected by the PNR and New Jersey's state-designated Pinelands Area differ slightly and encompass smaller federal and state protected areas. The PNR covers approximately 1,719 square miles (22% of New Jersey's land area),⁸ while the state-designated Pinelands Area is approximately 1,465.6 square miles (19% of New Jersey's area). The state-designated Pinelands area excludes some of the most heavily populated areas of the PNR: the population of the PNR was approximately 870,000 people as of the 2010 U.S. Census, while the population of the state-designated Pinelands area was only approximately 312,000.⁹ At the heart of the Pinelands is the Pinelands Preservation Area District, where virtually no development is allowed, with very limited exceptions. In all, about half of the Pinelands Area (467,000 acres) has been permanently preserved as open space through a mixture of government land acquisition, easements, and other conservation programs.¹⁰

The PNR encompasses Double Trouble State Park, Brendan T. Byrne State Forest, Wharton State Forest, Bass River State Forest, and Belleplain State Forest. The Edwin B. Forsythe National Wildlife Refuge, which protects wetlands along the coastal bays of Ocean and Atlantic Counties, is outside the state-designated Pinelands Area but within the PNR.¹¹ As a federal wildlife refuge, it is managed by the U.S. Fish and Wildlife Service.¹²

⁸ N.J. Pinelands Commission. *The Pinelands National Reserve*. Available at <https://www.nj.gov/pinelands/reserve/>. Accessed Dec. 6, 2019.

⁹ N.J. Pinelands Commission. *Pinelands Facts* (Revised Jul. 23, 2019). Available at <https://www.state.nj.us/pinelands/infor/fact/Pinelands%20Facts.pdf>.

¹⁰ *Id.*

¹¹ U.S. National Park Service. *Pinelands National Reserve* (2008). Available at <https://www.loc.gov/resource/g3812p.ct006818/?r=0.404,0.024,0.775,0.465,0>

¹² U.S. Fish & Wildlife Service. *Edwin B. Forsythe National Wildlife Refuge* (May 2009). Available at

History of the Pinelands National Reserve and Pinelands Area

The PNR was established by the National Parks and Recreation Act of 1978 with bipartisan support from New Jersey's Congressional delegation. Representatives William J. Hughes (D) and Edwin B. Forsythe (R) each sponsored a "Pinelands Preservation Act" bill, H.R. 9539 and H.R. 9535.¹³ Representatives Hughes, Forsythe, and James Florio (D), along with Senators Harrison A. Williams (D) and Clifford P. Case (R), then co-authored an amendment to include the creation of the PNR in the omnibus National Parks and Recreation Act of 1978, S. 791.¹⁴ In remarks published in the Congressional Record, Sen. Williams noted that the Pine Barrens is "remarkable for its pristine quality and its proximity to the most urbanized corridor in the Nation," containing an enormous aquifer and "thousands of acres of unbroken pine and oak forests, free-flowing streams, and rare wildlife and plant species." Noting threats to this region's unique ecology, Sen. Williams proposed cooperation between federal, state, and local resources to conserve its land and water.¹⁵

The National Parks and Recreation Act of 1978 was signed into law by President Jimmy Carter on November 10, 1978. Section 502 of the National Parks and Recreation Act of 1978, "Pine Barrens Area, New Jersey," created the PNR "to protect, preserve and enhance the significant values of the land and water resources of the Pinelands area" and appropriated \$26

https://www.fws.gov/uploadedFiles/Region_5/NWRS/North_Zone/Edwin_B_Forsythe/Forsythe_Brochure.pdf.

¹³ Rep. Hughes (N.J.). *William J. Hughes Congressional Papers, 1975-1994*, pp. 3-4. Rutgers University Libraries. Available at

https://www.libraries.rutgers.edu/sites/default/files/scua/hughes/bill_hughes_papers.pdf.

¹⁴ *Id.*; Congress.gov. *National Parks and Recreation Act*. <https://www.congress.gov/bill/95th-congress/senate-bill/791>. Accessed Dec. 8, 2019.

¹⁵ Sen. Williams (NJ). "The New Jersey Pine Barrens," *Congressional Record* 124, Pt. 21. (Sept. 6, 1978) p. 27971-28054. Available at <https://www.govinfo.gov/app/details/GPO-CRECB-1978-pt21/GPO-CRECB-1978-pt21-2>.

million in federal funds to support it.¹⁶ President Carter hailed the creation of the PNR in his August 2, 1979 message to Congress on energy and environmental issues:

Among the most significant and imaginative actions included in the 1978 legislation is the program to establish a million-acre Pinelands National Reserve in New Jersey. The Department of the Interior will support local and State efforts to protect the Pinelands and its unique scenic and natural resources while maintaining private ownership and a sound local tax base. The Administration strongly supports this new Federal, State and local partnership in the Pinelands, and will work hard to see that federal agencies cooperate with State and local governments to ensure its success.¹⁷

Governor Brendan T. Byrne issued an executive order establishing the Pinelands Planning Commission on February 8, 1979.¹⁸ The New Jersey Legislature then passed the Pinelands Protection Act (PPA), which was signed by Gov. Byrne on June 28, 1979.¹⁹ The PPA established the state Pinelands Area, which excludes some coastal areas of the federal PNR, and the smaller Pinelands Preservation Area District, centered on a core forest area in Burlington and Ocean Counties.²⁰ The PPA made the Pinelands Planning Commission permanent and renamed it the Pinelands Commission, tasked with adopting a comprehensive management plan for the Pinelands in accordance with Section 502 of the National Parks and Recreation Act of 1978.²¹

¹⁶ “National Parks and Recreation Act of 1978,” Pub. L. 95-625, 92 Stat. 3467. Available at <https://www.govinfo.gov/app/details/STATUTE-92/STATUTE-92-Pg3467>. Codified at 16 U.S.C. § 471i (2018). Available at <https://www.govinfo.gov/app/details/USCODE-2018-title16/USCODE-2018-title16-chap2-subchapI-sec471i>.

¹⁷ Pres. Carter. “Comprehensive Message on Energy and Environment—Message from the President—PM 93,” Congressional Record 125, Pt. 17. (Aug. 2, 1979) p. 22323-22331. Available at: <https://www.govinfo.gov/app/details/GPO-CRECB-1979-pt17/GPO-CRECB-1979-pt17-3/>

¹⁸ Gov. Brendan Byrne. Executive Order No. 71 (Feb. 8, 1979). Available at <http://njlegallib.rutgers.edu/eo/byrne/order071-/index.pdf>.

¹⁹ “Pinelands Protection Act,” P.L. 1979, c. 111. *Laws of New Jersey*. Accessed via HeinOnline, Session Laws Library. Codified at N.J.S.A. 13:18-A-1, *et seq.*

²⁰ New Jersey State Library. “Pinelands Protection Act” (Legislative History), p. 51. Available at <https://repo.njstatelib.org/handle/10929.1/25138>.

²¹ Gov. Brendan Byrne. Message on Signing S-3091 (Jun. 28, 1979). In “Pinelands Protection Act” (Legislative History), p. 67. Available at <https://repo.njstatelib.org/handle/10929.1/25138>.

The Pinelands Commission is comprised of seven representatives from each New Jersey county within the Pinelands, seven gubernatorial appointees, and one representative of the United States Secretary of the Interior.²²

In 1984, two existing wildlife refuges within the PNR's coastal wetlands were combined to form the Edwin B. Forsythe National Wildlife Refuge to honor the late representative, who died earlier that year.²³ In 1988, Congress amended Section 502 of the National Parks and Recreation Act of 1978 to provide for the creation of a visitor and environmental education center in the Pinelands National Reserve.²⁴ The United Nations Educational, Scientific and Cultural Organization (UNESCO) designated the Pinelands as the New Jersey Pinelands Biosphere Reserve in 1988.²⁵

Ecology of the Pinelands

The Pinelands, or Pine Barrens, owes its name to its vast pine-oak forests, which are dominated by the pitch pine (*Pinus rigida*) and blackjack oak (*Quercus marilandica*).²⁶ This includes over 12,000 acres of unique “pygmy forest” containing dwarf pine and oak trees less

²² N.J. Pinelands Commission. *Pinelands Facts*. Revised Jul. 23, 2019. Available at <https://www.state.nj.us/pinelands/infor/fact/Pinelands%20Facts.pdf>.

²³ “Joint resolution designating the Brigantine and Barnegat units of the National Wildlife Refuge System as the Edwin B. Forsythe National Wildlife Refuge,” Pub. L. 98-293, 98 Stat. 207 (1984). Available at <https://www.govinfo.gov/app/details/STATUTE-98/STATUTE-98-Pg207>.

²⁴ “An act to authorize the Secretary of the Interior to provide for the development and operation of a visitor and environmental education center in the Pinelands National Reserve, in the State of New Jersey,” Pub. L. 100-486, 102 Stat. 2429 (1988). Available at <https://www.govinfo.gov/app/details/STATUTE-102/STATUTE-102-Pg2429>.

²⁵ UNESCO. *Biosphere Reserve Information: New Jersey Pinelands*. Available at <http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?mode=all&code=USA+43>. Accessed Dec. 8, 2019.

²⁶ N.J. Pinelands Commission. *An Ecological Integrity Assessment of the New Jersey Pinelands* (April 2008), p. 35. Available at https://www.nj.gov/pinelands/images/pdf%20files/EIA_Final_Report.pdf

than 11 feet tall.²⁷ The Pinelands are also home to an extensive network of streams and wetlands, including Atlantic white cedar (*Chamaecyparis thyoides*) swamp forests.²⁸ The flora of the Pinelands consists of over 850 plant species, characterized by unusual range overlaps where 109 species of southern plants reach their northern geographic limits and 14 species of northern plants reach their southern geographic limits.²⁹ Over 90 species of plants located in the Pinelands are listed as threatened, endangered, or species of special concern by the New Jersey Division of Fish and Wildlife.³⁰

New Jersey's Pine Barrens are part of the larger Atlantic Coastal Pine Barrens ecoregion, which also includes portions of Long Island in New York and Cape Cod, Martha's Vineyard, and Nantucket in Massachusetts. This area is characterized by sandy, porous, acidic soil.³¹ The Cohansey Aquifer, estimated to contain over 17 trillion gallons of water, underlies much of the Pinelands, feeding the region's streams. Natural organic contents in the region's sandy soils are responsible for the dark, tea-like color of the region's surface waters.³²

²⁷ N.J. Pinelands Commission. *Plants*. Available at <https://www.nj.gov/pinelands/reserve/plants/>. Accessed Dec. 8, 2019.

²⁸ N.J. Pinelands Commission. *An Ecological Integrity Assessment of the New Jersey Pinelands* (April 2008), p. 35. Available at https://www.nj.gov/pinelands/images/pdf%20files/EIA_Final_Report.pdf

²⁹ N.J. Pinelands Commission. *Plants*. Available at <https://www.nj.gov/pinelands/reserve/plants/>. Accessed Dec. 8, 2019.

³⁰ U.S. Fish & Wildlife Service. *The Pinelands of New Jersey: Our Nation's First National Reserve and a U.S. Biosphere Reserve* (Nov. 2006). Available at https://www.fws.gov/northeast/njfieldoffice/pdf/Fact%20Sheets%20PDF%20holding/Pinelands_NJ_PDF.pdf.

³¹ U.S. Geological Survey. *Fact Sheet FS-092-03: Atlantic Coastal Pine Barrens* (July 2003). Available at <https://pubs.usgs.gov/fs/2003/0092/report.pdf>.

³² N.J. Pinelands Commission. *Location, Geology, Climate*. Available at: <https://www.nj.gov/pinelands/reserve/loca/>. Accessed Dec. 8, 2019.

The Pinelands is home to a diverse group of fauna, including 39 species of mammals, 299 bird species, 59 reptile and amphibian species and 91 fish species.³³ Amphibians include Fowler's toad (*Bufo woodhousei*)³⁴ and the Pine Barrens treefrog (*Hyla andersoni*), considered a symbol of the Pinelands.³⁵ Pinelands reptiles include the eastern ribbon snake (*Thamnophis sauritus*), timber rattlesnake (*Crotalus horridus*), and red-bellied turtle (*Pseudemys rubriventris*). Bird species include the barred owl (*Strix varia*), eastern screech owl (*Megascops asio*), great horned owl (*Bubo virginianus*).³⁶ The wetlands of the Edwin B. Forsythe National Wildlife Refuge are home to additional bird species including the Atlantic brant (*Branta bernicla hrota*), great blue heron (*Ardea herodias*), American oystercatcher (*Haematopus palliatus*), and piping plover (*Charadrius melodus*).³⁷

Pinelands Attractions

The Pinelands is home to historic villages, scenic hiking trails and campgrounds, and educational facilities. The Richard J. Sullivan Center for Environmental Policy & Education, located at the Pinelands Commission Offices in New Lisbon (Pemberton Township), contains the

³³ New Jersey Pinelands Commission. *Animals*. Available at: <https://www.nj.gov/pinelands/reserve/anim/>. Accessed Dec. 8, 2019.

³⁴ *Id.*

³⁵ John F. Bunnell. The Pine Barrens Treefrog (Aug. 2012). New Jersey Pinelands Commission. Available at: <https://www.nj.gov/pinelands/infor/fact/treefrog%20JFB.pdf>

³⁶ New Jersey Pinelands Commission. *Animals*. Available at: <https://www.nj.gov/pinelands/reserve/anim/>. Accessed Dec. 8, 2019.

³⁷ U.S. Fish & Wildlife Service. *Edwin B. Forsythe National Wildlife Refuge* (May 2009). Available at https://www.fws.gov/uploadedFiles/Region_5/NWRS/North_Zone/Edwin_B_Forsythe/Forsythe_Brochure.pdf

Candace McKee Ashmun Pinelands Education Exhibit, where the public can learn about the ecology, culture, and history of the Pinelands.³⁸

Wharton State Forest is the largest single tract of land within the New Jersey State Park System and contains hiking trails and campgrounds. The historic villages of Batsto (a former center of the bog iron industry) and Atsion (home of Atsion Mansion) are both located within Wharton State Forest.³⁹ Wharton State Forest also contains Apple Pie Hill, the highest point in the Pinelands, where there is a fire tower that provides a stunning panoramic view of the Pine Barrens.⁴⁰

Bass River State Forest, the first forest acquired by the State of New Jersey in 1905, also contains hiking trails and campgrounds.⁴¹ Brendan T. Byrne State Forest (formerly known as Lebanon State Forest) is home to the historic cranberry and blueberry producing community of Whitesbog Village, as well as hiking trails that link the Brendan T. Byrne, Wharton, and Bass River State Forests.⁴² Double Trouble Village in Double Trouble State Park, located at the eastern edge of the Pinelands, is a historic company town that used to be one of the largest

³⁸ N.J. Pinelands Commission. *Richard J. Sullivan Center & Pinelands Education Exhibit*. Available at: <https://www.nj.gov/pinelands/infor/educational/rjs/index.shtml>. Accessed Dec. 8, 2019.

³⁹ N.J. Department of Environmental Protection. *Wharton State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/wharton.html>. Accessed Dec. 8, 2019.

⁴⁰ NJ Hiking. *Apple Pie Hill – Wharton State Forest* (Feb. 17, 2016). Available at <https://www.njhiking.com/nj-hikes-apple-pie-hill/>.

⁴¹ N.J. Department of Environmental Protection. *Bass River State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/bass.html>. Accessed Dec. 8, 2019.

⁴² N.J. Department of Environmental Protection. *Brendan T. Byrne State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/byrne.html>. Accessed Dec. 8, 2019.

cranberry producing operations in the state.⁴³ At the southern end of the PNR, Belleplain State Forest offers hiking trails and campgrounds.⁴⁴

The Edwin B. Forsythe National Wildlife Refuge's headquarters in Oceanville, New Jersey contains an 8-mile long observatory road to view migratory water birds and other wildlife, as well as nature trails and a visitors' center. Additional nature trails and observation sites are spread across the Refuge.⁴⁵

Bibliography by Topic

General Information

N.J. Pinelands Commission. *New Jersey Pinelands Commission*. Available at <https://www.nj.gov/pinelands/index.shtml>. Accessed Dec. 8, 2019.

N.J. Pinelands Commission. *Pinelands Brochure*. Available at <https://www.nj.gov/pinelands/images/pdf%20files/Pinelands%20Brochure1.pdf>. Accessed Dec. 8, 2019.

N.J. Pinelands Commission. *Pinelands Facts* (Revised Jul. 23, 2019). Available at <https://www.state.nj.us/pinelands/infor/fact/Pinelands%20Facts.pdf>.

U.S. National Park Service. *New Jersey Pinelands National Reserve*. Available at <https://www.nps.gov/pine/index.htm>. Accessed Dec. 8, 2019.

U.S. Fish & Wildlife Service. *The Pinelands of New Jersey: Our Nation's First National Reserve and a U.S. Biosphere Reserve* (Nov. 2006). Available at https://www.fws.gov/northeast/njfieldoffice/pdf/Fact%20Sheets%20PDF%20holding/Pinelands_NJ_PDF.pdf.

⁴³ N.J. Department of Environmental Protection. *Double Trouble State Park*. Available at <https://www.state.nj.us/dep/parksandforests/parks/double.html>. Accessed Dec. 8, 2019.

⁴⁴ N.J. Department of Environmental Protection. *Belleplain State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/belle.html>. Accessed Dec. 8, 2019.

⁴⁵ U.S. Fish & Wildlife Service. *Edwin B. Forsythe National Wildlife Refuge* (May 2009). Available at https://www.fws.gov/uploadedFiles/Region_5/NWRS/North_Zone/Edwin_B_Forsythe/Forsythe_Brochure.pdf.

Historic & Legal Documents

“An act to authorize the Secretary of the Interior to provide for the development and operation of a visitor and environmental education center in the Pinelands National Reserve, in the State of New Jersey,” Pub. L. 100–486, 102 Stat. 2429 (1988). Available at <https://www.govinfo.gov/app/details/STATUTE-102/STATUTE-102-Pg2429>.

Gov. Byrne (N.J.). Executive Order No. 71 (Feb. 8, 1979). Available at <http://njlegallib.rutgers.edu/eo/byrne/order071-/index.pdf>.

“Joint resolution designating the Brigantine and Barnegat units of the National Wildlife Refuge System as the Edwin B. Forsythe National Wildlife Refuge,” Pub. L. 98-293, 98 Stat. 207 (1984). Available at <https://www.govinfo.gov/app/details/STATUTE-98/STATUTE-98-Pg207>.

“National Parks and Recreation Act of 1978,” Pub. L. 95-625, 92 Stat. 3467. Available at <https://www.govinfo.gov/app/details/STATUTE-92/STATUTE-92-Pg3467>.

N.J. Pinelands Commission. *By-Laws*. (Adopted June 1, 1979, as amended May 9, 1997). Available at <https://www.nj.gov/pinelands/images/pdf%20files/PC%20By-laws.pdf>

N.J. State Library. “Pinelands Protection Act” (Legislative History). Available at <https://repo.njstatelib.org/handle/10929.1/25138>. Accessed Dec. 8, 2019.

“Pinelands National Reserve.” 16 U.S.C. § 471i (2018 ed.). Available at <https://www.govinfo.gov/app/details/USCODE-2018-title16/USCODE-2018-title16-chap2-subchapI-sec471i>.

“Pinelands Protection Act,” P.L. 1979, c. 111. *Laws of New Jersey*. Accessed via HeinOnline, Session Laws Library.

“Pinelands Protection Act,” N.J.S.A. 13:18-A-1, *et seq.* Accessed via New Jersey Legislature, <https://lis.njleg.state.nj.us/nxt/gateway.dll?f=templates&fn=default.htm&vid=Publish:10.1048/Enu>.

Pres. Carter. “Comprehensive Message on Energy and Environment—Message from the President—PM 93,” Congressional Record 125, Pt. 17. (Aug. 2, 1979) p. 22323-22331. Available at: <https://www.govinfo.gov/app/details/GPO-CRECB-1979-pt17/GPO-CRECB-1979-pt17-3/>

Rep. Hughes (N.J.). *William J. Hughes Congressional Papers, 1975-1994*, pp. 3-4. Rutgers University Libraries. Available at https://www.libraries.rutgers.edu/sites/default/files/scua/hughes/bill_hughes_papers.pdf.

Sen. Williams (N.J.). “The New Jersey Pine Barrens,” *Congressional Record* 124, Pt. 21. (Sept. 6, 1978) p. 27971-28054. Available at <https://www.govinfo.gov/app/details/GPO-CRECB-1978-pt21/GPO-CRECB-1978-pt21-2>.

Maps

N.J. Pinelands Commission. *Land Capability Map* (Oct. 2019). Available at <https://www.nj.gov/pinelands/home/maps/maps/documents/archD.pdf>.

N.J. Pinelands Commission. *Municipalities in the Pinelands* (Sept. 2018). Available at <https://www.nj.gov/pinelands/home/maps/maps/documents/Municipalities%20in%20the%20Pinelands.pdf>.

N.J. Pinelands Commission. *Permanently Protected Lands as of June 2019*. Available at [https://www.nj.gov/pinelands/home/maps/maps/documents/2019%20PLP%20Arch%20E%20\(bigger\).PDF](https://www.nj.gov/pinelands/home/maps/maps/documents/2019%20PLP%20Arch%20E%20(bigger).PDF).

N.J. Pinelands Commission. *Scenic Byway Map* (2014). Available at https://www.nj.gov/pinelands/home/maps/maps/documents/Scenic_Byway_2014_final.pdf.

U.S. National Park Service. *Pinelands National Reserve* (2008). Available at <https://www.loc.gov/resource/g3812p.ct006818/?r=0.404,0.024,0.775,0.465,0>.

Environmental and Scientific Information

N.J. Pinelands Commission. *An Ecological Integrity Assessment of the New Jersey Pinelands* (April 2008). Available at https://www.nj.gov/pinelands/images/pdf%20files/EIA_Final_Report.pdf

N.J. Pinelands Commission. *Comprehensive Management Plan (CMP) Summary*. Available at <https://www.state.nj.us/pinelands/cmp/summary/>. Accessed Dec. 8, 2019.

N.J. Pinelands Commission. *Environmental Monitoring*. Available at <https://www.state.nj.us/pinelands/science/current/Item/index.shtml>. Accessed Dec. 8, 2019.

N.J. Pinelands Commission. *Science*. Available at <https://www.state.nj.us/pinelands/science/>. Accessed Dec. 8, 2019.

Information for Visitors

N.J. Department of Environmental Protection. *Bass River State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/bass.html>. Accessed Dec. 8, 2019.

- N.J. Department of Environmental Protection. *Belleplain State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/belle.html>. Accessed Dec. 8, 2019.
- N.J. Department of Environmental Protection. *Brendan T. Byrne State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/byrne.html>. Accessed Dec. 8, 2019.
- N.J. Department of Environmental Protection. *Double Trouble State Park*. Available at <https://www.state.nj.us/dep/parksandforests/parks/double.html>. Accessed Dec. 8, 2019.
- N.J. Department of Environmental Protection. *Wharton State Forest*. Available at <https://www.state.nj.us/dep/parksandforests/parks/wharton.html>. Accessed Dec. 8, 2019.
- N.J. Pinelands Commission. *Richard J. Sullivan Center & Pinelands Education Exhibit*. Available at: <https://www.nj.gov/pinelands/infor/educational/rjs/index.shtml>. Accessed Dec. 8, 2019.
- Pinelands Preservation Alliance. *Explore the Pinelands*. Available at <https://pinelandsalliance.org/explore-the-pinelands/>. Accessed Dec. 8, 2019.
- U.S. Fish & Wildlife Service. *Edwin B. Forsythe National Wildlife Refuge* (May 2009). Available at https://www.fws.gov/uploadedFiles/Region_5/NWRS/North_Zone/Edwin_B_Forsythe/ForsytheBrochure.pdf.