

NATURE'S GRAPEVINE

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Washington Crossing State Park's Changing Landscape

by
Wayne Henderek

Staff meetings at the Washington Crossing State Park office were common place some eleven years ago in my first couple years of employment as the park's naturalist. Hanging on the office wall at the time, were several interesting photographs of federal and state workers in the park in the early decades of this century. What stood out to me about those photos was the uncharacteristic lack of trees in otherwise, familiar park settings which are at present, heavily wooded. I have spent a considerable amount of time in subsequent years, kicking around old trash dumps and foundation rubble, searching out cellar holes, speaking with long-time area residents and examining patterns of vegetative growth along with old maps and records in an effort to flesh out what kinds of naturalistic and cultural changes have taken place over the last few centuries in the vicinity

of what is now Washington Crossing State Park. The story that emerged so fascinated me that when I was asked to put together a plan for the exhibits in the park's new Interpretive Center, I chose this concept of change over time as the theme for that plan and for the focal point of the cornerstone *Changing Landscape* exhibit in the project.



Nature's Grapevine is produced quarterly by:



**Interpretive
CENTER**

WASHINGTON CROSSING STATE PARK
355 Washington Crossing - Pennington Road
Titusville, New Jersey 08560-1517



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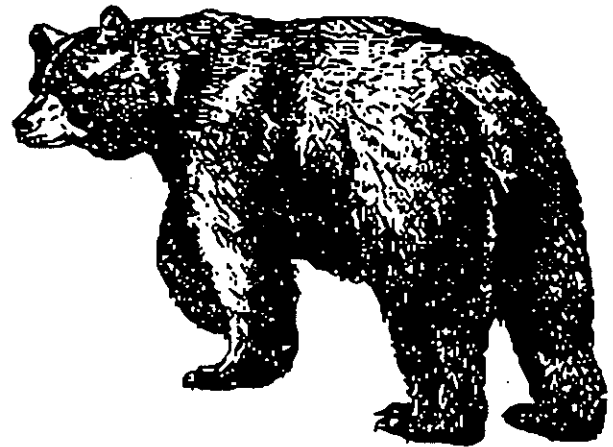


The landscape of a given area always responds to forces in the local environment that are induced by both man and nature. Natural changes that take place in response to most geologic activities normally occur over the course of hundreds of thousands, millions and hundreds of millions of years. Landscape changes can also take place at a much more rapid rate such as over the course of years, decades, centuries and in some cases millennia. Natural examples of these kinds of changes would be, fields transforming into forests, ponds eutropicating into swamps or rotting logs breaking down into the forest soil. Ecologists refer to this type of change as **succession**. Cultural forces which are administered as people interact with their environment can also elicit changes to the landscape in a similar time scale to that of succession such as with the emergence and disappearance of farms, villages, roads, canals, bridges, railroads etc. With change being the rule and stasis being the exception, exactly what changes then, has Washington Crossing State Park indeed undergone in recent history?



European settlers began trickling into the area of the park in the late seventeenth century. The landscape prior to that time was heavily forested with mature hardwood trees and was utilized by an aboriginal culture referred to as the Lenape. We do not believe that the Lenape had any permanent settlements within park boundaries however, the presence of evidence found in the park suggests land usage

for transient purposes such as for hunting, fishing and perhaps as a transportation route. Large carnivores would have been present including wolf, cougar, bobcat and black bear as well as possibly remnant populations of large herding wildlife such as elk, and bison. Flocks of passenger pigeons numbering billions of birds would also have passed through the area during the migration seasons. The landscape would have included a variety of other forest animals like deer, beaver and other fur bearers, wild turkey, predatory birds and shad, sturgeon, alewife, eel and other migratory fish in the Delaware River. Portions of the dominant forest would have been partially open and park-like and would have occasional breaks with fields and areas of second growth caused by wildfires as well as by the Lenape people burning out areas of climax forest. The Lenape often utilized prescribed burning to create openings for villages and gardens, to improve game habitat and to create corridors for travel.



The next hundred years of European immigration would bring wide scale and rampant change to the area of the park. A wave of settlers from Europe during the seventeenth century largely displaced the native culture and surviving Lenape migrated westward. Farms, plantations, villages and towns sprouted throughout the outlying region. The flat middle elevations were stripped of trees and put in crop. By 1778, over 33,000 acres of what is now Hopewell and Ewing Townships were either developed or being farmed. Deforestation of the area was so extensive that forests would remain only within stream ravines and other wetlands, on rocky hillsides and a few other places not

considered prime farmland. The pattern of land use that developed at this time was one of subsistence agriculture on relatively small tracts of land. In 1740, the Johnson Farm and river ferry crossing became WCSP's first European establishment. The Johnson Ferry House is still located in the park today and is our preeminent historic structure.



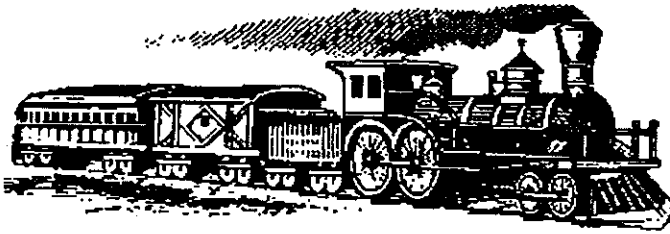
This widespread clearing of the land for settlement and agriculture would have brought about intense ecological changes. The first species to disappear from the scene would have been the larger predators because of their incompatibility with civilization and because of their lower populations. Other vulnerable large mammals such as the whitetail deer, and beaver would follow suit. Some forest wildlife such as the red-shouldered hawk and great horned owl would be expected to have declined in numbers in favor of similar species such as the red-tailed hawk, american kestrel and barn owl who fare better on open landscapes or who favor man-made structures for nesting and roosting purposes. A whole category of animals generally referred to as farm game would proliferate on the newly modified landscape. These would include species like grouse, quail, rabbits, groundhogs and red fox. Some forest species such as the gray squirrel and wild turkey would greatly decline in numbers while other more opportunistic creatures like the raccoon and american crow would adapt to the new conditions and would increase. Of course, small field rodents of all kinds would do well with the availability of crop residues and stored grains.

Immigration flattened out somewhat during the nineteenth century however, the landscape continued to evolve. The human population of the area would continue to expand more slowly via natural increase and the size of the average family farm would decrease as the original land acquisitions were subdivided by the heirs of each succeeding generation into additional farmsteads. More roads were installed during this era to accommodate the increase in small farms. By the latter part of the century, the most recent newcomers to the area would begin putting some of the more marginal agricultural land in crop such as the rocky slopes immediately to the north of the park in an effort to eke out a living off the only remaining vacant land. Deforestation would continue despite the decrease in the rate of immigration and land development because firewood comprised the main source of heating and cooking fuel and remaining woodlots were routinely harvested.



The Industrial Revolution and a spinoff boon in transportation would bring about profound change to the land immediately in and around the park. The village of Titusville developed along the Delaware River just north of Washington Crossing in the 1820s and 1830s and Taylorsville came into being immediately across the river in Pennsylvania. Johnson's ferry crossing was replaced with a wooden covered bridge and the Delaware and Raritan Canal Feeder was installed in the 1830s. By mid-century the Belvidere & Delaware Railroad was added along the canal's west bank and Washington Crossing was developing into a busy little transportation hamlet complete with a hotel (Nelson

House) and a railroad station. River Drive was added connecting the village of Washington Crossing or Bernardsville (as it was sometimes called) with Titusville.



People were not the only immigrants to the area during the seventeenth and eighteenth centuries. A multitude of wild species were deliberately and unwittingly imported into the New World from overseas and would thus, greatly modify the area of Washington Crossing State Park. Some species such as the honeybee, day-lily, wood poppy and other alien wildflowers and trees would become naturalized additions and assets to their new environments. Many of these imports would reproduce rapidly and go on to become great pests. Among these would be the house mouse, black rat, european starling and many of our insect pests and common lawn weeds. Some, such as the american chestnut blight and dutch elm disease would actually eventually displace native species to the point of extinction or near-extinction.

A combination of agricultural abandonment as well as the advent of the widespread use of coal, oil, and natural gas in lieu of firewood for central heating and cooking in local homes and businesses would begin to reverse over two centuries of agricultural deforestation.

The dawn of the twentieth century would bring additional and substantial landscape modifications as well as some reversals of previous changes. The first one hundred acres of

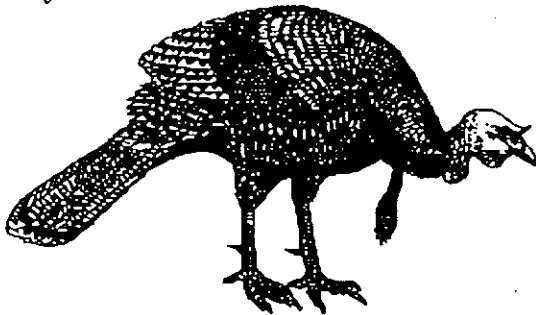
WCSP was acquired along the Delaware in 1912 to commemorate General Washington's historic 1776 crossing of the river with his army. In 1904 Washington Crossing's current iron truss bridge replaced the wood-framed covered bridge spanning the river from the 1800s. The railroad put the D & R Canal out of business by the early 1930s with commercial shipping and then was in return, eventually replaced by State Highway 29 which was installed along the river bisecting the park. The canal and towpath would go on to serve more people as a water resource and recreational greenway (D&R Canal State Park) later in the century than it ever did in its heyday as a commercial shipping route. During the 1920s and 1930s, state and federal programs such as the New Jersey Forest Tree Nursery, Civilian Conservation Corps (CCC) and the Work Projects Administration (WPA) would undertake numerous landscape-changing projects in the park including the establishment of tree plantations/orchards for seed stock generation, forest reclamation, erosion control, historic restoration and the construction of a variety of park buildings and other park structures. By mid-century, farming would be in decline as area residents found other sources of employment and large tracts of abandoned agricultural land would be left to go wild. Some of this former farmland would be acquired by the state and incorporated into Washington Crossing State Park. A combination of agricultural abandonment as well as the advent of the widespread use of coal, oil, and natural gas in lieu of firewood for central heating and cooking in local homes and businesses would begin to reverse over two centuries of agricultural deforestation. As a consequence, thousands of acres of former agricultural land and vacant land in and around WCSP would slowly revert to the forests from which they were originally hewn. Much of this open land would face a new nemesis after World War II with a renewal of local immigration and a boon in land development and suburban sprawl. Fortunately, acreage would continue to be preserved as state and county park land and other genres of public open space.

The twentieth century would produce some interesting and surprising naturalistic variations in park wildlife and fish. At the opening of the century, decades of unregulated mar-

ket hunting throughout North America resulted in sharp reductions in the populations of many predatory birds as well as the extinction of at least one prolific avian species indigenous to the area, the passenger pigeon.



Later in the century, game laws would be enacted that would prevent further losses and extinctions from over-hunting. The scarce whitetail deer and eastern gray squirrel were reintroduced statewide in the early 1900s via stocking programs and these species proliferated in WCSP and the outlying rural areas of northern Mercer County.



Stocking efforts by the Division of Fish, Game and Wildlife, in the later part of the century, would successfully reintroduce the wild turkey in Hunterdon County. These animals eventually worked their way southward and established themselves in the park. As the forests regenerated themselves, beaver recolonized the area along the Delaware River and the D&R Canal and the eastern coyote moved in from areas to the north probably in response to the elimina-

tion of large predators from centuries before. *The Clean Water Act* of 1972 would begin to reverse centuries of pollution in the Delaware and populations of shad, river herring and other fish species all but decimated during the abuses of previous eras, were making healthy comebacks by the early 1980s.

The natural landscape of Washington Crossing State Park as it appears today at the close of the twentieth century, consists of a mosaic of hardwood forests, red cedar groves, thickets, tree plantations and open fields. Among these places lay the fingerprints of the past. Foundations, bottle dumps and middens, agricultural artifacts, spring houses, remnant farm roads and an occasional stone Indian projectile point or tool all tell a thousand stories of a continuously evolving landscape. Much of the park has been reforested via the natural process of succession and recolonized by some of the plant and animal species that were previously eliminated. Some areas are periodically mowed and kept open to provide a flavor of a past dominated by agriculture. The Interpretive Center features *The Changing Landscape* exhibit which presents dioramas of what Washington Crossing might have looked like at four different periods of history along with some of the plant and wildlife specimens that would have been represented during each era. Also, at the Interpretive Center is a three dimensional relief map of the park. This map delineates and differentiates the more mature forested park land from younger forests, thickets and open areas which represent lands that were farmed, logged or otherwise, manipulated in the more recent past. Plan a visit to WCSP and stop by the Interpretive Center to sample the winds of change. ❖

References

Hunter, Richard W. and Porter, Richard L., *Hopewell: A Historical Geography* Township of Hopewell Historic Sites Committee, Titusville, NJ 1992

Robichaud, Beryl and Buell, Murray F., *Vegetation of New Jersey* (A Study of Landscape Diversity) Rutgers University Press, New Brunswick, 1983

Volunteer Notes

Todd Hoffmann, Bensalem, a student at the Pennington School volunteered 25 hours of time each week of May in fulfillment of an internship requirement. He assisted with programs, staffed the facility, performed trail maintenance and worked on a variety of projects here at the Interpretive Center.

Pat Chichon, Ringoes, delivered a superb program in wild edible plants.

Jim Silk, Mercerville, provided an excellent weekend-long demonstration in aboriginal stone tool making techniques.

Greg Baber, Yardley, and **Phil Tunison**, Ringoes came in to staff the facility during programs.

David Gainer, Titusville, assisted with trail marking and sign posting.

George Benson, Trenton, donated several bird nest boxes to the park. The lumber with which he constructed the boxes was donated by **Hamilton Supply**.

Cub Pack 33 of Hamilton, donated two new Peterson Guides to the Interpretive Center. These field guides, "Mushrooms" and "Edible Plants" are available to visitors for use on site upon request.

Help needed: One of the Interpretive Center's visitor computers is running a Macintosh shareware program called "Birdsongs 1.0.3" in which the user can hear a very pure digital recording of various birds' songs and calls. We have a limited number of species in the program (about 30 birds) and would like to make additional calls and songs available. Unfortunately, Protohype, the company that developed the software is no longer supporting it. If anyone familiar with this program has additional Birdsong species modules (especially the warblers) which they would be willing to donate to the Center, please give us a call.



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 SUMMER FESTIVAL OF MUSIC AND DRAMA

The Taming of the Shrew June 11, 12, 13, 18, 19, 20
Shakespeare 70 Shakespeare's most popular comedy.

Guys & Dolls June 25, 26, 27, July 1, 2, 3, 4
Stars of the Park The most fun you've had in years

Carousel July 9, 10, 11, 15, 16, 17, 18
Playful Productions The Rodgers & Hammerstein Classic

Hello Dolly July 23, 24, 25, 29, 30, 31, Aug. 1
Yardley Players A hilarious musical comedy

The Secret Garden August 6, 7, 8, 12, 13, 14, 15
Princeton Opera Association A heartwarming musical for the whole family

Once Upon a Mattress August 20, 21, 22, 26, 27, 28, 29
The Farrington Players The perfect closing to a perfect season

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 Box Office opens 5:00 pm on performance dates only
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Funding has been made possible in part by the Mercer County Cultural and Heritage Commission and the New Jersey State Council on the Arts/Dept. of State, and DEP/State Park Service.



Summer Programs

The following is a list of activities being offered through the Interpretive Center at Washington Crossing State Park in Titusville, NJ. Some programs are offered free without registration requirements; some will require a nominal materials charge and/or advanced registration. A fee of \$3.00 per car will be charged to all motor vehicles entering the park on weekends and holidays 5/23 - 9/7 (Memorial Day weekend through Labor Day). All programs will initially meet at the Interpretive Center unless otherwise indicated. Attendance is limited and is available on a first-come, first-served basis. All children must be accompanied by an adult. In the event of inclement weather, some programs might be canceled. It is always advisable to call ahead before coming out. Phone: (609) 737-0609.

- NATURE EXPLORERS** (3 - 5 yr. old) Thursday July 2, 1:00 - 2:00 PM. A hands-on nature program for preschool-aged children and their parents. Preregistration required. Materials charge: 50¢ per child
- FAMILY NATURE WALK** (all ages) Friday July 3, 1:30 - 2:30 PM. Park vehicle entrance fee applies.
- INSECTS AND THEIR KIND** (6-10 yr. old) Saturday July 11, 1:30-3:30 PM. The world of insects will be explored through a variety of media during this program. Preregistration required. Park vehicle entrance fee applies
- FAMILY NATURE WALK** (all ages) Sunday July 12, 1:30 - 2:30 PM. Park vehicle entrance fee applies
- NATURE EXPLORERS** (3 - 5 yr. old) Thursday July 16, 1:00 - 2:00 PM. A hands-on nature program for preschool-aged children and their parents. Preregistration required. Materials charge: 50¢ per child
- NIGHT HIKE** (6yrs-adult) Saturday July 18, 8:30 PM. Explore the park at night for nocturnal wildlife and have some good old fashioned fun on this naturalist-guided hike. Preregistration required. Bring a flashlight. Materials charge \$1.00 per participant.
- POND STUDY** (6 - 10 yr. old) Saturday July 25, 1:30 - 3:00 PM. Kids will use pond nets to collect and examine the various organisms that inhabit our pond. Meet at the pond by the park service entrance off of Church Road in Titusville. Preregistration required after July 1. Free
- FAMILY NATURE WALK** (all ages) Sunday July 26 1:30 - 2:30 PM. Free
- NATURE EXPLORERS** (3 - 5 yr. old) Thursday July 30, 1:00 - 2:00 PM. A hands-on nature program for preschool-aged children and their parents. Preregistration required. Materials charge: 50¢ per child

- SHELTER BUILDING / WILDERNESS SURVIVAL** (6 yrs. - adult) Saturday August 1 1:30 - 3:00 PM. This program will deal with the do's and don't's regarding survival when lost in the wild. Participants will construct a weather-proof shelter completely from native materials. Preregistration required. after 7/1 Free
- FAMILY NATURE WALK** (all ages) Sunday August 2, 1:30 - 2:30 PM. Park vehicle entrance fee applies.
- NATURE EXPLORERS** (3 - 5 yr. old) Thursday August 6, 1:00 - 2:00 PM. A hands-on nature program for preschool-aged children and their parents. Preregistration required. Materials charge: 50¢ per child
- NIGHT HIKE** (6yrs-adult) Saturday August 8, 8:30 PM. Explore the park at night for nocturnal wildlife and have some good old fashioned fun on this naturalist-guided hike. Preregistration required after July 18. Bring a flashlight. Materials charge \$1.00 per participant.
- FAMILY NATURE WALK** (all ages) Sunday August 9, 1:30 - 2:30 PM. Park vehicle entrance fee applies.
- RECYCLING / PAPERMAKING** (6 - 10 yr. olds) Saturday August 15, 1:30 - 3:30. Join us for a fun-filled afternoon hike in which participants will learn about both recycling in nature and with man-made products. Following the hike, everyone will make their own recycled paper! Preregistration required after July 18. Park vehicle entrance fee applies.
- NATURE EXPLORERS** (3 - 5 yr. old) Thursday August 20, 1:00 - 2:00 PM. A hands-on nature program for preschool-aged children and their parents. Preregistration required. Materials charge: 50¢ per child
- EARTH CRAFTS** (6-adult) Saturday August 29, 1:30-3:30 PM. Everyone will collect various native materials and utilize them in making crafts. Leaf prints and rubbings, stenciling and nature jewelry will be some of the things made. Preregistration required after August 1. Park vehicle entrance fee applies.
- FAMILY NATURE WALK** (all ages) Sunday August 30, 1:30 - 2:30 PM. Park vehicle entrance fee applies.
- NATURE EXPLORERS** (3 - 5 yr. old) Thursday September 3, 1:00 - 2:00 PM. A hands-on nature program for preschool-aged children and their parents. Preregistration required. Materials charge: 50¢ per child
- INTRODUCTION TO AMATEUR ASTRONOMY** (13 yrs-adult) Session I Friday September 11, 6:30 PM. Through the use of discussions, class exercises and the use of the observatory, this five session seminar (five consecutive Friday evenings, 9/11, 18, 25, 10/2,9) will provide the knowledge necessary to become an astronomy hobbyist. The seminar will be conducted by **Vic Belanger** of the **Amateur Astronomers Association of Princeton**. Preregistration required. Materials charge \$5.00 for all five sessions required by 9/11/97. Call Nature Center for additional information.

FAMILY
NATURE WALK

(All Ages) Saturday September 12, 1:30 - 2:30 PM. Free.

RIVER
ROMP

(7 yrs.-adult) Sunday September 13, 1:30-3:30 PM. Participants will explore the flora, fauna, geology and some of the history associated with the Delaware River as it passes through WCSP. Meet in front of the Nelson House in Washington Grove. Preregistration required after 8/11. Free.

NATURE
EXPLORERS

(3 - 5 yr. old) Thursday September 17, 1:00 - 2:00 PM. A hands-on nature program for preschool-aged children and their parents. Preregistration required. Materials charge: 50¢ per child

NATURAL
DYES

(All Ages) Sunday September 27, 1:30 - 3:30 PM. Many interesting colors can be derived from plants this time of year. Come out to learn how several of our more common plants can be coaxed to yield dyes for coloring natural fabrics and take home a few samples of your own. Preregistration required after 9/1. Materials charge: 75¢ per person.





**Interpretive
C E N T E R**
WASHINGTON CROSSING STATE PARK
355 Washington Crossing - Pennington Road
Titusville, New Jersey 08560-1517



NATURE'S GRAPEVINE

Summer

Check List of Birds Sighted in New Jersey's Washington Crossing State Park

(S) species is most likely to be observed in spring and summer during the breeding season
 (W) species is most likely to be observed during the winter months
 (M) species is most likely to be observed in spring and/or autumn during the migration seasons
 (Y) species can be observed year-round

- | | | |
|--|--|---|
| <input type="checkbox"/> Grey-cheeked Thrush (M) | <input type="checkbox"/> Chestnut-s'd Warbler (S) | <input type="checkbox"/> Purple Finch (W) |
| <input type="checkbox"/> Veery (S) | <input type="checkbox"/> Bay-breasted Warbler (M) | <input type="checkbox"/> House Finch (Y) |
| <input type="checkbox"/> Eastern Bluebird (S) | <input type="checkbox"/> Blackpoll Warbler (M) | <input type="checkbox"/> Common Redpoll (W) |
| <input type="checkbox"/> Blue-gray Gnatcatcher (M) | <input type="checkbox"/> Pine Warbler (S) | <input type="checkbox"/> Pine Siskin (W) |
| <input type="checkbox"/> Golden-cr'd Kinglet (M,W) | <input type="checkbox"/> Prairie Warbler (S) | <input type="checkbox"/> American Goldfinch (Y) |
| <input type="checkbox"/> Ruby-cr'd Kinglet (M,W) | <input type="checkbox"/> Palm Warbler (M) | <input type="checkbox"/> Eastern Towhee (Y) |
| <input type="checkbox"/> Cedar Waxwing (Y) | <input type="checkbox"/> Ovenbird (S) | <input type="checkbox"/> Dark-eyed Junco (W) |
| <input type="checkbox"/> European Starling (Y) | <input type="checkbox"/> Louisiana Waterthrush (M) | <input type="checkbox"/> Savannah Sparrow (S) |
| <input type="checkbox"/> Blue-Headed Vireo (M) | <input type="checkbox"/> Common Yellowthroat (S) | <input type="checkbox"/> Grasshopper Sparrow (S) |
| <input type="checkbox"/> White-eyed Vireo (S) | <input type="checkbox"/> Yellow-breasted Chat (M) | <input type="checkbox"/> Americ. Tree Sparrow (W) |
| <input type="checkbox"/> Yellow-throated Vireo (M) | <input type="checkbox"/> Mourning Warbler (M) | <input type="checkbox"/> Chipping Sparrow (S) |
| <input type="checkbox"/> Red-eyed Vireo (S) | <input type="checkbox"/> Hooded Warbler (M) | <input type="checkbox"/> Field Sparrow (W) |
| <input type="checkbox"/> Warbling Vireo (S) | <input type="checkbox"/> Canada Warbler (M) | <input type="checkbox"/> White-th'r'd Sparrow (W) |
| <input type="checkbox"/> Black-and-wh. Warbler (S) | <input type="checkbox"/> Wilson's Warbler (M) | <input type="checkbox"/> Fox Sparrow (M) |
| <input type="checkbox"/> Worm-eating Warbler (M) | <input type="checkbox"/> American Redstart (M) | <input type="checkbox"/> Lincoln's Sparrow (M) |
| <input type="checkbox"/> Golden-winged Warbler (M) | <input type="checkbox"/> House Sparrow (Y) | <input type="checkbox"/> Swamp Sparrow (S) |
| <input type="checkbox"/> Blue-winged Warbler (S) | <input type="checkbox"/> Bobolink (M) | <input type="checkbox"/> Song Sparrow (S) |
| <input type="checkbox"/> Tennessee Warbler (M) | <input type="checkbox"/> Eastern Meadowlark (S) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Nashville Warbler (M) | <input type="checkbox"/> Red-winged Blackbird (S) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> N. Parula Warbler (S) | <input type="checkbox"/> Common Grackle (Y) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Yellow Warbler (S) | <input type="checkbox"/> Br'n-headed Cowbird (Y) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Magnolia Warbler (M) | <input type="checkbox"/> Orchard Oriole (S) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Cape May Warbler (M) | <input type="checkbox"/> Baltimore Oriole (S) | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Yellow-r'd Warbler (Y) | <input type="checkbox"/> Scarlet Tanager (S) | <input type="checkbox"/> Name: _____ |
| <input type="checkbox"/> Black-th'd Gr'n Warbler (M) | <input type="checkbox"/> Northern Cardinal (Y) | <input type="checkbox"/> Date: _____ |
| <input type="checkbox"/> Black-th'd Bl. Warbler (M) | <input type="checkbox"/> Rose-br. Grosbeak (S) | <input type="checkbox"/> Notes: |
| <input type="checkbox"/> Cerulean Warbler (M) | <input type="checkbox"/> Blue Grosbeak (S) | |
| <input type="checkbox"/> Blackburnian Warbler (M) | <input type="checkbox"/> Indigo Bunting (S) | |



Check List of Birds Sighted in New Jersey's Washington Crossing State Park

(S) species is most likely to be observed in spring and summer during the breeding season

(W) species is most likely to be observed during the winter months

(M) species is most likely to be observed in spring and/or autumn during the migration seasons

(Y) species can be observed year-round

- | | | | | | |
|---|-------|---|-------|--|-------|
| <input type="checkbox"/> Double-crested Cormorant | (Y) | <input type="checkbox"/> American Woodcock | (Y) | <input type="checkbox"/> Eastern Phoebe | (S) |
| <input type="checkbox"/> Canada Goose | (Y) | <input type="checkbox"/> Sanderling | (M) | <input type="checkbox"/> Willow Flycatcher | (M) |
| <input type="checkbox"/> Mallard | (Y) | <input type="checkbox"/> Semiplmtd Sandpiper | (M) | <input type="checkbox"/> Acadian Flycatcher | (S) |
| <input type="checkbox"/> Wood Duck | (S,M) | <input type="checkbox"/> Gr Black-backed Gull | (W,M) | <input type="checkbox"/> Least Flycatcher | (S) |
| <input type="checkbox"/> Hooded Merganser | (W) | <input type="checkbox"/> Herring Gull | (Y) | <input type="checkbox"/> Eastern Wood-pewee | (S) |
| <input type="checkbox"/> Turkey Vulture | (Y) | <input type="checkbox"/> Ring-billed Gull | (Y) | <input type="checkbox"/> Barn Swallow | (S) |
| <input type="checkbox"/> Black Vulture | (Y) | <input type="checkbox"/> Laughing Gull | (S,M) | <input type="checkbox"/> Cliff Swallow | (S) |
| <input type="checkbox"/> Cooper's Hawk | (Y) | <input type="checkbox"/> Least Tern | (M) | <input type="checkbox"/> Tree Swallow | (S) |
| <input type="checkbox"/> Sharp-shinned Hawk | (Y) | <input type="checkbox"/> Common Tern | (M) | <input type="checkbox"/> N. Rgh-winged Swallow | (S) |
| <input type="checkbox"/> Northern Harrier | (Y) | <input type="checkbox"/> Mourning Dove | (Y) | <input type="checkbox"/> Purple Martin | (S) |
| <input type="checkbox"/> Red-tailed Hawk | (Y) | <input type="checkbox"/> Yellow-billed Cuckoo | (S,M) | <input type="checkbox"/> Blue Jay | (Y) |
| <input type="checkbox"/> Broad-winged Hawk | (S) | <input type="checkbox"/> Black-billed Cuckoo | (S,M) | <input type="checkbox"/> American Crow | (Y) |
| <input type="checkbox"/> Red-shouldered Hawk | (Y) | <input type="checkbox"/> Eastern Screech-Owl | (Y) | <input type="checkbox"/> Fish Crow | (Y) |
| <input type="checkbox"/> Bald Eagle | (W) | <input type="checkbox"/> Great Horned Owl | (Y) | <input type="checkbox"/> Black-c'd Chickadee | (Y) |
| <input type="checkbox"/> Osprey | (S) | <input type="checkbox"/> Long-eared Owl | (Y) | <input type="checkbox"/> Carolina Chickadee | (Y) |
| <input type="checkbox"/> Peregrine Falcon | (M) | <input type="checkbox"/> Barn Owl | (Y) | <input type="checkbox"/> Tufted Titmouse | (Y) |
| <input type="checkbox"/> Merlin | (M) | <input type="checkbox"/> Common Nighthawk | (S) | <input type="checkbox"/> White-br'd Nuthatch | (Y) |
| <input type="checkbox"/> American Kestrel | (Y) | <input type="checkbox"/> Chimney Swift | (S) | <input type="checkbox"/> Red-br'd Nuthatch | (M) |
| <input type="checkbox"/> Wild Turkey | (Y) | <input type="checkbox"/> Ruby-th. Hummingbird | (S) | <input type="checkbox"/> Brown Creeper | (W) |
| <input type="checkbox"/> Ruffed Grouse | (Y) | <input type="checkbox"/> Belted Kingfisher | (S) | <input type="checkbox"/> House Wren | (S) |
| <input type="checkbox"/> Northern Bobwhite | (Y) | <input type="checkbox"/> Northern Flicker | (Y) | <input type="checkbox"/> Carolina Wren | (Y) |
| <input type="checkbox"/> Ring-necked Pheasant | (Y) | <input type="checkbox"/> Pileated Woodpecker | (Y) | <input type="checkbox"/> Northern Mockingbird | (Y) |
| <input type="checkbox"/> Great Blue Heron | (M) | <input type="checkbox"/> Red-bellied Woodpecker | (Y) | <input type="checkbox"/> Gray Catbird | (S) |
| <input type="checkbox"/> Snowy Egret | (M,S) | <input type="checkbox"/> Yellow-bel. Sapsucker | (M) | <input type="checkbox"/> Brown Thrasher | (S) |
| <input type="checkbox"/> Glossy Ibis | (M) | <input type="checkbox"/> Hairy Woodpecker | (Y) | <input type="checkbox"/> American Robin | (Y) |
| <input type="checkbox"/> Semipalmated plover | (M) | <input type="checkbox"/> Downy Woodpecker | (Y) | <input type="checkbox"/> Wood Thrush | (S) |
| <input type="checkbox"/> Killdeer | (Y) | <input type="checkbox"/> Eastern Kingbird | (S) | <input type="checkbox"/> Hermit Thrush | (W,M) |
| <input type="checkbox"/> Spotted Sandpiper | (Y) | <input type="checkbox"/> Great C'd Flycatcher | (S) | <input type="checkbox"/> Swainson's Thrush | (M) |



Checklist of Forest Trees and Shrubs of New Jersey's Washington Crossing State Park

Common Name	Scientific Name	Family	Plant Type
Maple, Red	<i>Acer rubrum</i>	Maple Family	Tree
Maple, Silver	<i>Acer saccharinum</i>	Maple Family	Tree
Maple, Sugar	<i>Acer saccharum</i>	Maple Family	Tree
Mulberry, Red	<i>Morus rubra</i>	Mulberry Family	Tree
Mulberry, White	<i>Morus alba</i>	Mulberry Family	Tree
Native Crabapples	<i>Pyrus spp</i>	Rose Family	Shrub
Oak, Black	<i>Quercus velutina</i>	Beech Family	Tree
Oak, Northern Red	<i>Quercus rubra</i>	Beech Family	Tree
Oak, Pin	<i>Quercus palustris</i>	Beech Family	Tree
Oak, Scarlet	<i>Quercus coccinea</i>	Beech Family	Tree
Oak, White	<i>Quercus alba</i>	Beech Family	Tree
Osage-orange	<i>Maclura pomifera</i>	Mulberry Family	Tree
Paulownia, Royal	<i>Paulownia tomentosa</i>	Figwort Family	Tree
Persimmon, Common	<i>Diospyros virginiana</i>	Ebony Family	Tree
Pine, Eastern White	<i>Pinus strobus</i>	Pine Family	Tree
Pine, Red	<i>Pinus resinosa</i>	Pine Family	Tree
Privet	<i>Ligustrum spp</i>	Olive Family	Shrub
Raspberry	<i>Rubus spp</i>	Rose Family	Shrub
Redbud, Eastern	<i>Cercis canadensis</i>	Coffee Tree Family	Tree
Rhododendron, Great	<i>Rhododendron maximum</i>	Heath family	Shrub
Rose, Wild	<i>Rosa spp</i>	Rose Family	Shrub
Sassafras	<i>Sassafras albidum</i>	Laurel Family	Tree
Serviceberry, Downy	<i>Amelanchier arborea</i>	Rose Family	Tree
Spicebush, Common	<i>Lindera benzoin</i>	Laurel Family	Shrub
Sumac, Smooth	<i>Rhus glabra</i>	Cashew Family	Tree
Sumac, Staghorn	<i>Rhus typhina</i>	Cashew Family	Tree
Sweetgum	<i>Liquidambar styraciflua</i>	Whitchhazel Family	Tree
Sycamore, American	<i>Platanus occidentalis</i>	Sycamore Family	Tree
Tuliptree	<i>Liriodendron tulipifera</i>	Magnolia Family	Tree
Viburnum, Arrowwood	<i>Viburnum dentatum</i>	Honeysuckle Family	Shrub
Viburnum, Black Haw	<i>Viburnum prunifolium</i>	Honeysuckle Family	Shrub
Viburnum, Maple-leaved	<i>Viburnum acerifolium</i>	Honeysuckle Family	Shrub
Walnut, Black	<i>Juglans nigra</i>	Walnut Family	Tree
Willow, Black	<i>Salix nigra</i>	Willow Family	Tree
Witch-hazel	<i>Hamamelis virginiana</i>	Whitchhazel Family	Tree
Zenobia	<i>Zenobia pulverulenta</i>	Heath Family	Shrub

**Checklist of Forest Trees and Shrubs
of New Jersey's
Washington Crossing State Park**

Common Name	Scientific Name	Family	Plant Type
Ash, Green	<i>Fraxinus pennsylvanica</i>	Olive Family	Tree
Ash, White	<i>Fraxinus americana</i>	Olive Family	Tree
Aspen, Bigtooth	<i>Populus grandidentata</i>	Willow Family	Tree
Aspen, Quaking	<i>Populus tremuloides</i>	Willow Family	Tree
Autumn-olive	<i>Elaeagnus umbellata</i>	Elaeagnus Family	Shrub
Basswood, American	<i>Tilia americana</i>	Linden Family	Tree
Bayberry, Northern	<i>Myrica pensylvanica</i>	Bayberry Family	Shrub
Beech, American	<i>Fagus grandifolia</i>	Beech Family	Tree
Birch, Black	<i>Betula lenta</i>	Birch Family	Tree
Birch, River	<i>Betula nigra</i>	Birch Family	Tree
Bladdernut, American	<i>Staphylea trifolia</i>	Bladdernut Family	Shrub
Boxelder	<i>Acer negundo</i>	Maple Family	Tree
Bush-honeysuckle	<i>Lonicera spp</i>	Honeysuckle Family	Shrub
Catalpa, Common	<i>Catalpa bignonioides</i>	Bignonia Family	Tree
Cedar, Eastern Red	<i>Juniperus virginiana</i>	Cypress Family	Tree
Cherry, Black	<i>Prunus serotina</i>	Rose Family	Tree
Cherry, Sweet	<i>Prunus avium</i>	Rose Family	Tree
Dogwood, Flowering	<i>Cornus florida</i>	Dogwood Family	Tree
Elderberry	<i>Sambucus canadensis</i>	Honeysuckle Family	Shrub
Elm, American	<i>Ulmus americana</i>	Elm Family	Tree
Elm, Slippery	<i>Ulmus rubra</i>	Elm Family	Tree
Euonymous	<i>Euonymous spp</i>	Spindletree Family	Shrub
Fir, Douglas	<i>Pseudotsuga menziesii</i>	Pine Family	Tree
Gum, Black (Tupelo)	<i>Nyssa sylvatica</i>	Dogwood Family	Tree
Hackberry	<i>Celtis occidentalis</i>	Elm Family	Tree
Hawthorn	<i>Crataegus spp</i>	Rose Family	Shrub
Hemlock, Eastern	<i>Tsuga canadensis</i>	Pine Family	Tree
Hickory, Bitternut	<i>Carya cordiformis</i>	Walnut Family	Tree
Hickory, Mockernut	<i>Carya tomentosa</i>	Walnut Family	Tree
Hickory, Red	<i>Carya ovalis</i>	Walnut Family	Tree
Hickory, Shagbark	<i>Carya ovata</i>	Walnut Family	Tree
Holly, American	<i>Ilex opaca</i>	Holly Family	Tree
Hophornbeam, Eastern	<i>Ostrya virginiana</i>	Birch Family	Tree
Hornbeam, American	<i>Carpinus caroliniana</i>	Birch Family	Tree
Larch, Japanese	<i>Larix japonica</i>	Pine Family	Tree
Laurel, Mountain	<i>Kalmia latifolia</i>	Laurel Family	Shrub
Locust, Black	<i>Robinia pseudoacacia</i>	Scholar Tree Family	Tree
Locust, Honey	<i>Gleditsia triacanthos</i>	Coffee Tree Family	Tree

