LAST UPDATE MAY 15, 2018

TOWNSHIP OF WYCKOFF

BERGEN COUNTY NEW JERSEY

ENVIRONMENTAL RESOURCES INVENTORY

UPDATED 2018

PREPARED BY THE WYCKOFF ENVIRONMENTAL COMMISSION
ENVIRONMENTAL RESOURCES INVENTORY SUBCOMMITTEE

ACKNOWLEDGEMENTS

The Wyckoff Educational Commission would like to thank the following committee members, organizations and individuals for their vital assistance in preparing our latest Environmental Resource Inventory of Wyckoff.

Environmental Resources Inventory Sub-Committee

Julia Alfano, Jr. Environmental Commissioner
Denise Capparelli, Environmental Commissioner
Robert Fortunato, Planning Board Liaison/Environmental Commissioner
JR. Frank, Green Team Volunteer
Christine Key, Environmental Commissioner
Thomas J. Madigan, Township Committeeman and Environmental Commission liaison
John McCauley, Former Environmental Commission Chairman

Contributing Organizations

Partners in Pride
Climate Mama
Wyckoff Garden Club
Wyckoff Historical Society

Individuals

Robert Shannon, Wyckoff Township Administrator
Harriet Shugarman, Climate Mama, Founder and Executive Director

Special Thanks to the Wyckoff Library for providing meeting accommodations

FORWARD

The Wyckoff Environmental Commission would like to acknowledge the previous committee, Partners in Pride, for their research and contribution in pioneering the original Wyckoff Environmental Resources Inventory (ERI) prepared in 1995. The original ERI sought to answer the question, "What is going on environmentally in the Township of Wyckoff?" The inventory was produced to "create a scientific and educational document for those citizens, residents and local officials that were interested in the environment in which they live." The new Environmental Resources Inventory seeks to address the environmental changes that have taken place over the last two decades when the original ERI was written.

Since the 1990's, the population of Wyckoff has grown steadily by 8% to nearly 17,000 residents and is expected to remain at or near this level in the foreseeable future. The new Environmental Resources Inventory expands upon the current ERI and integrates new initiatives such as Solar, Sewer and Septic, Redevelopment, Radon and Recycling, along with best "Green" practices suggestions. The current ERI utilizes the use of data and maps from various Federal and State GIS databases as well as federal, regional, local, and private sources to create this document.

It has been more than twenty years since the first ERI was formed and now more than ever is the preservation of open space, parklands and green space ever so important. The landscape of the township has changed; however, Wyckoff continues to maintain its small town charm and continues to support a clean and healthy environment by protecting our natural resources and maintaining a steady and sustainable community.

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INTRODUCTION

In response to the 1975 passage of the New Jersey Municipal Land Use Law (Chapter 291), which recognized the need for municipalities to maintain an index of open spaces and natural resources information, in 1995 the Wyckoff Environmental Commission prepared an *Inventory of Environmental Resources (ERI).* The inventory was originally produced as a background study of the Municipal Master Plan used by the Planning Board and Board of Adjustments as well as developers during the application process. It continues to serves as a guide of natural resources, landmarks, and open spaces. It includes visual information and graphs about the natural resource characteristics and environmental features of the local municipality and provides criteria for measuring and evaluating resource protection issues. The purpose of the ERI is to identify and define the natural resources of our community: water, air, soil, forest, mountains, waterways, land, and wetlands to help create awareness and public engagement on the conservation of these natural resources so that we may continue to provide a greater quality of life and safeguard the health, safety and welfare of our community.

In 1972, the Township of Wyckoff established its first Wyckoff Environmental Commission, also known as WEC. Appointed by the Township Committee, the commission consists of seven volunteer members who advise local government and inform residents of the community about environmental issues, legislation and local programs. As stated in its established ordinance, the Environmental Commission honors its mission and "is committed to growth of an economic and socially sustainable community and to developing strategies that will reduce our impact on the environment both collectively and individually, so that we might preserve our natural resources for the citizens now and in the future".

Many years later, in 2011, the municipal government of Wyckoff created a resolution to form its first local Green Team comprised of WEC members and local volunteers. Green Team volunteers assist Wyckoff Environmental Commissioners with many of their sustainable programs. They utilize their expertise and skills in many areas of environmental sustainability to help plan, develop and

educate the community about various sustainable activities. The team was established under the New Jersey Sustainable Jersey Certification program which provides New Jersey communities the tools, resources and incentives to create best green practices and sustainable programs in their towns. Wyckoff has achieved Sustainable Jersey Bronze and currently Silver Certification status twice (the highest attainable status) with the help of the Township Committee members, Environmental Commissioners and Green Team volunteers. Wyckoff has obtained this esteemed recognition through implementation of many programs such as:

- The Wyckoff Recycling Center
- Town-Wide Emergency Management Plan
- Mayor's Wellness Campaign
- Flow Green Film Festival
- Green Business Recognition Program
- Nifty Fifty Recycling Program
- Team Up to Tidy Up Day
- Cut It or Leave It Program
- Tree Planting Program
- Medicine/Drug Disposal Drop Off
- Shred-Fest Day

Over time, the landscape of Wyckoff, as well as other municipalities in Northwest Bergen County, has changed due to economic forces and suburbanization which recognized its desirability for residential home development thus limiting land available for open space. As a result, the Wyckoff Environmental Commissioners agreed to review, update and prepare a more current Environmental Resources Inventory. The plan can be included in the future Wyckoff Master Plan and will continue to enable environmental commissioners, planning boards, zoning boards and open space committees to play a meaningful role in municipal master planning, land use ordinance development, and site plan review.

A subcommittee of Environmental Commissioners and Green Team volunteers was created in 2016 to carefully re-examine the current inventory in alignment with Sustainable Jersey guidelines. Sustainable Jersey requires the ERI to be updated every 10 years in order to maintain designation in the program.

HISTORY

The Township of Wyckoff, from the Indian "Wukhoff" or "Wikoff" meaning "high ground," lies in Northwest Bergen County, midway between the Saddle River and the Ramapo Valley. The six and one-half mile township has many Indian roots.

It was the location of the "Sicomac" or happy hunting ground of the Lenni Lenape tribe. The high ridge connecting the present township with Hawthorne was the half-way meeting place for barter between the Long Island Indians and the Mensis tribe of northern New Jersey. The famous Minisink Trail from the Delaware River to the Atlantic Ocean ran through the southwestern section of the township. This area has retained the old Indian name, Sicomac. Most of the local Indians left after white men began to settle here in the early 1700's, but a small group did linger on until the mid1850's.

In 1664, the Duke of York granted all of New Jersey, or Nova Caesaria, to Sir George Cartaret and Lord John Berkeley. Sir George died in 1679 and in 1682 twelve Quaker proprietors bought East Jersey from the executors of his estate. That same year, each proprietor sold a half-share increasing the number of proprietors to twenty-four.

Peter Sonmans claimed to be the "Sole Agent, Superintendent, General Attorney and Recorder General of the Proprietors of East New Jersey. As such he had the right to grant land after the Indian rights had been secured. On December 10, 1709, Sonmans conveyed 42,500 acres of property known as the Ramapo Tract. Essentially the tract ran from the head of Saddle River to the Great Rock called Pamakapuka (now Glen Rock), northwest to the Ramapo River, and then north along the Ramapo Mountains to what is now the intersection of routes 87 and 287 in Mahwah. Wyckoff was part of this tract and is shown on the following map to be the location of Indian houses.

The first permanent settlers are believed to be John and William Van Voor Haze, who purchased 550 acres of land from John Barbetie & Associates, merchants of New York City. The transaction took place on August 17, 1720. The tract was repurchased by the brothers in 1745 to settle a claim raised by John Hamilton & Associates.

Next to settle in the area were Barent Van Horn and his wife Rachel who came in 1742. They were followed by Schuylers, Garretsons, Van Allens, • Steks (now Stagg), Berdans, Romaines, Van Winkles, Winters, Courtins, Youngs, Ackermans, Quackenbushes, Storms, Van Gilders, Pulisfelts (now Pulis) and Vanderhoffs. They and their descendants played important roles in the area and continue to do so today.

Most of these early settlers came from Bergen (Jersey City) and New York. They were attracted by the reasonably priced fertile farmland. Many of the purchases were made from the Proprietors of East Jersey directly and sometimes payments were also made to the Indians for clear tide. During this early time, the area of Wyckoff was considered to be a part of Saddle River Township. In 1771, Saddle River Township was divided into two sections and the section containing Wyckoff was renamed Franklin Township. By 1775, about 100 families lived in the whole of Franklin Township, but no more than 10 or 20 families lived in the Wyckoff village. The Union Cemetery on Franklin Avenue dates back to the 1700's when it was the Van Blarcom family graveyard. It is the resting place of many early Wyckoff residents.

After the Revolutionary War, there was increased settlement of the area. With the exception of the withdrawal of Ho-Ho-Kus from Franklin Township in 1849, there was very little change in structure for many years. Most of the families continued to be of Dutch extraction and this influence shaped the moral and cultural life of the community.

Farming, dairying, hunting, and trapping were the chief occupations and pursuits of the residents. They made their own clothes, mended their shoes, and fashioned tallow candles. They churned butter and ground grain into meal for bread. These farms took so much of their time that there was little time for other activities. Cider mills, grist mills, and sawmills were built and remained operational into the early 20th century.
School houses were limited to one teacher for all grades. Teachers were poorly paid and attendance requirements were not stringent. Classrooms were cold in the winter and crudely furnished.
The first church in the area was the Dutch Reformed Ponds Church in Oakland. In 1806, a second Dutch Reformed Church was built in Wyckoff, however the two congregations shared a pastor until 1845.

Travel to other areas was over dirt roads and was extremely slow and difficult. With the arrival of the New Jersey & Midland Railroad in 1870, however, transportation of goods and services as well as people became easier. The young men of the community could now travel to the cities for more lucrative employment. They no longer had to be content with being farmhands and laborers. In 1876, Ridgewood withdrew from Franklin Township and Midland Park followed in 1894. During this period, streets were laid out in Wyckoff and a few houses were built. Commercial establishments included Mowerson's Feed and Grain store, located in the building which today houses Miller's Pharmacy.

In 1898, the Township Committee approved a $75,000 expenditure for the grading, improving and "macadamizing" of various streets and roads. The summers now brought an influx of people to the township; some as vacationers, seeking relief from the heat of the cities and attracted by the many lakes and ponds in the area and others as workers in the hotels and private summer residences that had been built. Two boarding houses graced the town during this period — Grove Villa, opposite the railroad station and Harold House on the site of the present Town Hall. The Wyckoff Hotel at Wyckoff and Russell Avenues was a hub of social and political activity.

The next few years brought additional modern conveniences to Wyckoff as well as the withdrawal of Oakland from Franklin Township in 1902. The Franklin Grange was founded in 1903. This political and social force influenced the township until well into the 1960's. Telephones arrived in 1905. Fire Protection Co. #1 became a reality in 1907. Electricity came in 1909. Churches of various denominations were built indicating the more diverse population now present in the town.

A major improvement in education was the construction in 1906 of a 4 room school on the site of the present George Washington School. This structure served until 1921 when it was destroyed by fire, The Wyckoff Building and Loan Association was organized in 1906 to assist in residential financing. In 1917, the Christian Sanatorium on Sicomac Avenue admitted its first patients. This facility grew to become the Christian Healthcare Center, a nursing home, an inpatient mental health treatment center, and an outpatient counseling clinic as well as a home and clinic for mentally disabled individuals.

In 1922, when Franklin Lakes withdrew from the Township, it divided the township area in half. Subsequently in 1924, the eastern section of Spikertown withdrew to become part of Ridgewood and soon thereafter, the remainder of Spikertown joined Midland Park and the original 65,000 acre township dwindled down to 5,000 acres. The name of this remaining part of Franklin Township was changed to Wyckoff when in 1926, 243 out of 337 voters accepted the new name.

Wyckoff's transformation to a residential community simultaneously accompanied the decline of agricultural importance in the area. The first modern housing development began in 1924 on the land bordering Washington School. A modern 11 classroom building had replaced the small school which was destroyed by fire. The population of Wyckoff was 1,671 in 1920. By 1930, it stood at 2,995. Residents commuted to jobs in Paterson and New York via the Susquehanna Railroad. Population rose to 3,500 in 1939, but only 100 families were still engaged in farming and only 1500 acres were still being farmed. In 1932, the Coolidge School was erected to serve East Wyckoff. Wyckoff now had a Public Library and a Women's Club (1921), a Police Department (1922), a national bank (1922), The Wyckoff News (1926), a zoning ordinance (1930), bus service to New York (1932), the Wyckoff Republican League (1936), and the Planning Board (1937).

In 1940, Ridgewood Water Company extended its mains to parts of Wyckoff. The Wyckoff YMCA was organized in 1944 and management of Spring Lake Park, first opened in 1930, was placed in its hands. The YMCA began as a PTA effort to plan activities for local youngsters during the summer. A Masonic Lodge was granted a charter and formally instituted in 1949. It was not until 1954, however, that the Lodge acquired the old Wyckoff Reformed Church chapel and had it moved to its present location. The Wyckoff Chamber of Commerce originated the town slogan, "The Garden Town of the Garden State" in 1947. This organization continues its influence in the township by sponsoring beautification and holiday decoration projects.

By the end of the 1940's, the population of Wyckoff stood at 5,590. A memorable event of the '40's occurred on Dec. 26,1947, when 26.2 inches of snow fell on the area, a record that stands to the present day.

The 1950's brought continuing growth to the township. School construction surged to keep up with the demand of increased population.

- Abraham Lincoln School on Mason Avenue was dedicated on March of 1953.
- St. Elizabeth's School opened its doors in September of 1954.
- Also in 1954, the residents of Wyckoff, Franklin Lakes and Oakland authorized the creation of the Ramapo Regional High School District. Ramapo Regional High School opened with 660 students from the three towns in January of 1957. Wyckoff students had previously attended Hackensack, Paterson or Ramsey High Schools.
- Coolidge School needed a second addition in 1957.
- Washington School was enlarged in 1958.
- The Wyckoff Christian School opened in 1969.

Politically, the area became more diverse. The 1954 primary saw the selection of the first Democratic County Committee members in the history of Wyckoff.

It was also during this decade that Ridgewood Water Company agreed to extend water service to the entire township. The growing community of Wyckoff was demanding more services and shopping centers became a reality. One was constructed on Wyckoff Avenue at Highland, another on Franklin Avenue near the railroad tracks, and a third at the intersection of Goffle Road and Wyckoff Avenue. Memorial Town Hall was built and additional land purchased for recreational purposes behind the complex. By the end of the decade, six churches served the community and 11,205 people called Wyckoff home.

The 60's saw continued growth. More and more farms and estates were subdivided for the purpose of building single family homes. Eisenhower Jr. High School was constructed in 1962 and in 1964, Indian Hills Regional High School in Oakland.
In 1963, the Hinkel Piggery on Crescent Avenue was acquired by the County as tax-exempt green acres land. This ended many years of complaints from neighbors concerning the offending odors emanating from the property In 1967, this 81 acre tract was opened to the public as the Bergen County Wildlife Center.

Also in 1967, an 18 acre site was acquired from Ellis Meer as a possible future school site. Population was still growing and the town was looking to provide for future

growth. The population of Wyckoff was at its height in 1970 when it numbered 16,039. Most major construction and expansion was over.

Changes in the community since that time have been minor compared to the rapid expansion of the previous years. Highway 208 was completed in 1972. Lights were added to Memorial Field playing fields in 1976. The Zabriskie House was donated to the township in 1973 and opened to the public in October of 1976. The Meer property was donated as a park and recreation site rather than another school.
The population of Wyckoff was 15,372 in 1990. The slight drop is probably due to the aging of the town — the children of the 50's and 60's have grown up and moved away while their parents remain — and a trend to smaller

The future appears to hold no surprises for the town. Population will remain fairly stable in the 16,000 -17,000 range, living in approximately 5000 single family dwellings. Residents will commute to their jobs in New York and more urban New Jersey communities. Four K-5 schools and one Junior High school will continue to serve the 461children along with the 2 denominational elementary schools. The established shopping areas will continue to update their facilities to attract business and 14 houses of Worship will minister to the needs of their members. By 2012, only two farms remain: Abma's Farm and Goffle Road Poultry Farm, which is Bergen County's only remaining live market.

By Diane Ulrich 1995

In 2011, Ashley Garbaccio, developed *The Wonders of Wyckoff*, an historical coloring book of Wyckoff to earn the Girls Scouts of America Gold Award. The coloring book is for the children and residents of Wyckoff. Beneath the drawings are short facts pertaining to the illustration including its historical significance.

You can learn more about Wyckoff's history at the Wyckoff Public Library's Wyckoff History Room.

Form of Government

Township Committee (5 members elected for staggered 3 yearterms)

Population 17,087 (2017estimate)

16,696 (2010 census)
16,508 (2000 census)
15,372 (1990 census)

Area: 6.7 sq. mile area- 92 miles of municipal roads, 12.7 miles of Bergen County roads and 2.5 miles of New Jersey State Highway 208

Distance From mid-town Manhattan 25 miles

Distance from George Washington Bridge 12 miles

Number of homes 5,541

Municipal Bond Rating Aa1 (Moody's Investor's Service)
AA+ (Standards & Poor's Rating group)

Volunteer Fire Companies 3

Volunteer Ambulance Corp 1

Library Wyckoff Free Public Library

Water Companies Village of Ridgewood, Borough of Waldwick, Borough of Hawthorne

Electric and Gas Companies Public Service Electric & Gas
Orange Rockland Electric

This is downtown Wyckoff in the early 1900s. The view looks west at the intersection of Franklin and Wyckoff Avenue. Note the Brownstone in the background. Wyckoff Auto Sales (by the gas pumps) was established in 1924 by Hugh J. Edwards and eventually became Wyckoff Ford. The Sterling Building (with awning) was destroyed in a 1998 fire.

This old postcard shows the island called Station Plaza, which used to grace the front of the railroad station. It was used in World War II to collect scrap metal to help the war effort. Residents donated more than a half a ton of aluminum, mostly in the form of pots and pans, to help the aircraft industry. The train station, now the Wyckoff Economy Shop, is just to the left. Miller's Pharmacy is on the right.

HISTORIC SITES

The Union Cemetery Franklin Avenue

The Zabriskie House
Land purchased 1720, bulit in 1730

The Wyckoff Reformed church, 1806

The Van Horn House (101 Wyckoff Ayes.) Circa 1742

The Milk House (Grandview Ave.)
Built in 19th century as a milk and creamery.

The Goetze House (515 Wyckoff Ave.) Circa 1845

The Peter Van Blarcom House (131 Godwin Ave.) Early 18th century

The Jack Terhune House (161 Godwin Ave.) Built in 1739

The Van Halsted House (358 Crescent Ave.) Built in 1779 on Mill site

The Jacob Post House (253 Brookside Ave.) Built in 1775 by Jacob Blauvelt

Miller's Pharmacy Building, Before 1876 Mowerson's Mill, Before 1900

Van Houten-Ackerman House (480 Sicomac Ave.) 18th century

Cairns-Whitten-Blauvelt House (160 Ravine Ave.) 1767

Masker House (470 Wyckoff Ave.) Circa 1776

Folly House (310 Crescent Ave,) Late 18th century

Albert Van Blarcom House (250 Crescent Ave.) Before 1850

Van Blarcom-Jardine House (380 Wyckoff Ave,) Before 1861

Cruise-Hossington House (301 Newtown Road) 1798

Corines Quackenbush House (625 Wyckoff Ave.) Circa 1784

Van Gelder House, 18th Century

John C, Stagg House (308 Sicomac Ave.) Built in 1812 on Pre-Revolutionary foundation

CULTURAL OPPORTUNITIES

Bergen Community College 400 Paramus Rd., Paramus

Ramapo College of New Jersey Route 202, Mahwah

North *Jersey* Philharmonic Orchestra Box 544 Franklin Lakes

Bergen Museum of Art & Science Ridgewood Ave., Paramus

The Hermitage
335 N. Franklin Turnpike, Ho-ho-kus

Kasschau Memorial Shell Veterans Field, Ridgewood

Zabriskie House, Franklin Ave., Wyckoff

Wyckoff Free Public Library Woodland Ave., Wyckoff

James A. McFaul Environmental Center Crescent Ave., Wyckoff

REFERENCES

The Story of Wyckoff,
Written and illustrated by the Federal Writer/ Project of the Works Progress Administration, 1939.

Souvenir of Wyckoff New Jersey 1803-1923, *Published by S. Gordon Hunt for the Wyckoff Civic Associa:ion, 1923.*

The Story of Wyckoff, *Published in the Wyckoff News, 1974-1975*

This is Wyckoff, *2 41,40presentations made by the Chamber of Commerce and the Tr: Chamber of Commerce.*

Ramapo Indian Trading Post to State College *Regional McMahan, /Hap - Ramapo Track, pg 6*

Bergen County, New Jersey Vol.1, *Selina Tetzlaff Johnson, Bergen County Board of Chosen Freeholders .1983*

The Wyckoff News

TOPOGRAPHY

How many years must a mountain exist before it is washed to the sea?
.... The answer is Blowing in the Wind.' -Bab Dyian

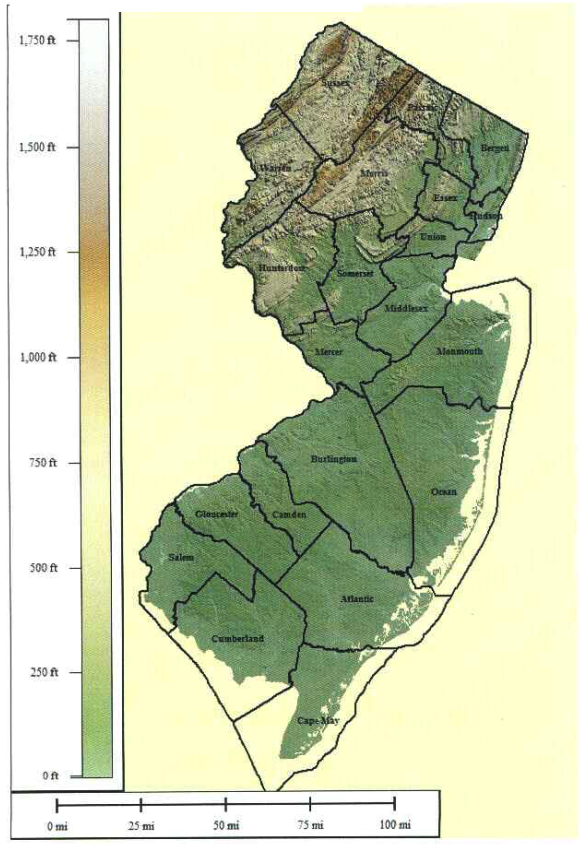
Wyckoff is located in the northwest corner of Bergen County, New Jersey, approximately 20 miles from New York city. The topography of the Township consists of a series of hilly and relatively flat regions, typical of what is known as the Piedmont region.

The highest elevation in the southeast section of town known as East Wyckoff, which borders the Village of Ridgewood, is 200' feet above mean sea level. The lowest, 150' is at the southern boundary with the Borough of Hawthorne.

In a northeasterly direction, there is an increase in elevation from the 150' low to a high of 350' in the so-called "College" streets. Continuing northeasterly, there is relatively flat terrain with an average elevation of about 330'. This includes Grandview Ave. at Wyckoff Ave., along Route 208 North and South, and the Eisenhower School.

East of Grandview on Ravine Ave. there is a steep chasm with a rapidly moving brook which feeds under Route 208 from an elevation of 420' to the south of Mountain Ave. The brook runs southwest into the Borough of Hawthorne and crosses the border at an elevation of 200'. In approximately 2 1/2 miles this brook snakes its way from the source elevation of 420' to its mouth at Hawthorne where the elevation is 200'.

In the vicinity of Hillcrest Ave. and Annette Ct. there are two high points on either side of Hillcrest. The highest elevations are found west of Route 208 South and Sicomac Ave., 520' at Highview Drive and Thomas Place. Actually, this northwest section consists of two hills, both with considerable relief providing the valley drainage for the Ravine brook.



http://topocreator.com/ned-jpg/counties/600/nj.jpg 11/13/2017

The northeasterly section, the so-railed Boulder Run, is relatively flat. Proceeding northerly to the borders of Franklin Lakes and Mahwah, the topography once again changes character with the Hohokus Creek, numerous lakes and depressions at Quackenbush and Clinton. Geologically, this is an area of glacial deposition and erosion.

The northwest portion of Wyckoff shows contour lines which are north/south in orientation increasing in elevation traveling westward. This would be west of Wyckoff Ave. and Russell Ave.

Surface drainage in the Wyckoff region flows from the higher northern area toward the tidal marsh area comprising the Hackensack Meadows. The Hohokus brook drains the western portion of the central plain and eventually empties into the Passaic River, the Newark Bay, and the Atlantic Ocean.

REFERENCES:

Contour Interval 10' Based on C. W. Schul, Township Engineer 1973, Rev. 1975

GEOLOGY

Over a million of the more than six million New Jersey residents and one-fifth of geographic New Jersey are within our region, the so-called Piedmont "province" or mid-state area. The Piedmont, one of four New Jersey "provinces," is generally thought to have been formed about 200 million years ago in the Triassic period of geologic history.

The principal rocks of the Triassic period are the Newark Series, composed of sandstones, siltstones, shales and/or basalt intrusions, or lava flows. The sandstones, siltstones, and shales result from forces of erosion which caused deposits of these sediments in deep basins, themselves eroded from earlier geologic periods.

The geology of most of Wyckoff, except for the southwest region bordered by Franklin Lakes and North Haledon, is called the Passaic formation. The rest is Orange Mountain Basalt, dating back to the Lower Jurassic period. The Triassic valley of the Piedmont had numerous streams and rivers that carried sediments composed of sand, gravel, and boulders from the source rocks. In fact, the northwestern portion, of which Wyckoff is a part, must have been extremely mountainous as evidenced by the presence of large boulders as well as the smaller sized sediments and cobbles which are now part of stone fences and houses.

Late in the Triassic period, as the great basin which comprised the Piedmont became filled with thousands of feet of sediment, igneous activity (magma flows), called the Palisades disturbance, resulted in the Palisades sill, as well as the Watchung Mountains.

GEOGRAPHY OF THE PIEDMONT

Farms, villages and roads were developed across the red shale and sandstones from the colonial times to present. The valley from Somerville and New Brunswick to Paterson, Hackensack and other villages in northwest Bergen County channeled development and population growth. The areas of the Triassic basins, in which Wyckoff is included, have rich soils, are well-watered, and have a subdued topography. Virtually all of Wyckoff is covered with glacial till, i.e. sediments ranging from sand and gravel to cobbles and boulders. In many cases there are continuous till deposits in excess of 50' above the overlying bedrock, which is not permeable, poorly sorted, and non-stratified. In the vicinity of Spring Lake and Parsons Pond, however, there are consolidated till deposits in excess of 20' in depth. They are primarily well-sorted, stratified, and permeable sand and gravel, indicating that the lake and pond were most probably of glacial origin.

In the Sicomac Road region of the northwestern border between Wyckoff and Franklin Lakes, there are numerous outcrops of the Brunswick formation (the most common rock in northeastern New Jersey), i.e. bedrock intermixed with discontinuous till. Similarly, at the southeast border of Wyckoff and Midland Park, there are outcrops of border conglomerate adjacent to Brunswick shale and sandstone in the railroad cut.

BEDROCK GEOLOGY OF WYCKOFF

There is an axis of an anticline where Franklin Avenue continues westerly from Wyckoff Avenue in the direction of Franklin Lakes. This is another outcrop of the Brunswick formation. These formations date back to the lower Jurassic and upper Triassic eras and consist of reddish-brown to gray siltstone and shale.

In addition, there is a remnant of the first Watchung Mountain which is sometimes referred to as the Orange Mountain basalt. This structure is found in the southeasterly portion of town and extends into Passaic County.

GLACIATED PIEDMONT ZONE, QUATERNARY PERIOD

This includes Essex, Hudson and parts of Bergen County. It consists of sedimentary rocks overlain by the most recent Wisconsin glacial deposits. Rock outcroppings include Border Conglomerate and Brunswick Shale, Stockton Sandstone and occasional diabase igneous intrusions and basaltic flows of the Newark group.

The land form of these sedimentary rocks is rolling to undulating, largely covered by Wisconsin glacial deposits: terminal moraine, recessional moraine, stratified drift, lake bed deposits, and ground moraine. Underlying these deposits are the Triassic period conglomerate sandstones and shales of the Newark series. Beds of conglomerate occur at several locations along the northwest border of the Piedmont where it abuts the Highlands.

The Brunswick Shale is chiefly a soft red shale with interbedding sandstone which forms the extensive rolling and undulating features of the region. The estimated thickness of the shale is 6,000-8,000 feet, depending on the location.

A fault is indicated west of the Wyckoff border where Shadow Lake is bounded by Pulis Avenue and Old Mill Road. The fault is considered a normal fault resulting from plate tectonics. There is also an area of folding in the form of anticlines probably formed by the same tectonics of the fault. The most prominent fault in our area is known as the Ramapo fault which follows the west bank of the Ramapo River from Suffern, New York to Hunterdon County. Over the years there have been numerous tremors along the Ramapo fault measuring less than 4.0 on the Richter scale. Seismologists estimate that there is roughly a 10% chance over the next 50 years that an earthquake will occur strong enough to do significant damage in the New York-New Jersey area.

Millions of years ago, earthquakes made the Highlands jut skyward and the vast Newark basin drop in elevation. Molten lava shaped the Watchung Mountains and it is thought that Campgaw Mountain was once a volcano many thousands of feet higher than it is today.

ICE AND THE CHANGING GEOLOGY

The New Jersey landscape today with its lakes in the north are the result of the unusual geologic events which have taken place during the last million years of the Pleistocene or ice age. Actually, we are still in the most recent glacial episode, the Wisconsin, which extended into New Jersey along the Kittatinny Valley to the vicinity of the Ramapo River and for a short distance south of Mahwah into Wyckoff. The deposits of the Tazewell Ice together with smoothed rock outcroppings are examples of the advancement and retreat of the last great glaciers to cover this area.

As the glacier advanced across N.J., it picked up loose or weathered rock and carried it southerly. Large rock fragments trapped in the ice acted like a giant chisel cutting scratches and grooves into the underlying bedrock. The direction of movement can be deduced from the direction of these scratches and grooves. The direction. of ice motion is also indicated by the location of the erratic boulders and the direction of placement, generally NE to SW.

The terminal moraine leaves topographic features behind such as eskers- long serpentine ridges of sand and gravel laid down by streams or melt water flowing in tunnels beneath the ice. Ground moraines are irregular thin coverings of sediment. Sediments railed "Till" are found on the sides of ridges and valleys. Sections of Wyckoff were found with thick accumulations of "drift" where the ice front stagnated leaving its sediments to form what is called a "recessional moraine."

"Karnes" are hills or ridges of sediments that were trapped in the ice and were subsequently deposited when the ice melted. Swamps and wetlands, such as those found in Wyckoff, are the result of _____ of drainage.

The process of filling in a lake or pond first by weeds, then bushes, and then trees can take place in one or two generations. All of our northern N.J. lakes of glacial origin will eventually terminate in this way.

Deep Brook is a vestige of a one-time _____. The brook traverses from its origin west of Mountain Avenue, crosses under Route 208, and then flows southeasterly under Grandview Ave. at Ravine. Over the thousands of years of flow, Deep Brook has clearly scoured and eroded a considerable amount of the bedrock in its route.

There are several clues that lead to the conclusion that Deep Brook is glacial in origin:

- The "U" shaped banks.
- Relatively deep pools alternating with shallow superficial riffles and occasional potholes formed by the abrasion of the stream sediments.
- The presence of moss-covered boulders without shrubs and trees.
- There are numerous examples of lateral planation, i.e. the cutting sideways into the walls and bases of the ravine.
- Downstream deposits of sand and gravel in a region of bends or meanders -with elevated cut banks which are common in streams with lowered gradients. Some cut banks are found high on the walls of the brook indicating ancient lateral erosion.
- The rock forming the banks, as well as the bed of the brook, is the Newark series sedimentary Passaic formation with red to gray siltstone, shales and sandstone.
- The presence of enormous boulders called "**erratics**" are typical of debris carried by glacial ice. While there is no indication of moraine deposits, there are many glacial erratics found in or near the stream.

- So-called "Stross and Lee" topography are found when bedrock outcrops have been smoothed and rounded in place by glacial inclusions causing abrasion. In the case of Deep Brook, on the leeward side the bedrock is quarried or plucked from the banks leaving cone-like structures.

REFERENCES:

The Geology and Geography of N.J. - Widmer, Kemble *J Hietorical Seriee 1.964 VoL 19*

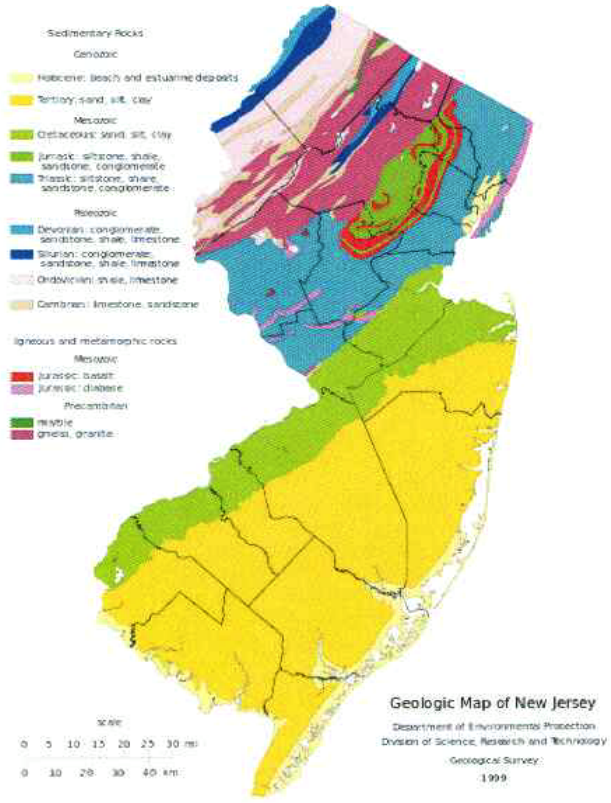
StanFord, Witte & Harper 1990
Hydrogeologic Character an2 Thickneee of the Glacial Sediments of N.J. Map (5:DNJGS.

Rutgers U. Press
Engineering Soil Survey of N.J. Report #1.41/55

Wm. C. Brown Publishers 1991 *"The Earth System" DaP2 Lang*

Reference field trip, accompanied by property owner Robert Milanese $^{6}/_{1}7/93$

SOILS



Soil, one of our most important natural assets, is that relatively thin layer of material overlaying the bedrock of the region. It is the result of the interactive forces of geology, climate, hydrology, and biology. Soil supports our roads and is the base upon which we build our homes and other structures.

Soil consists of rock particles, organic material, air spaces and water. The size and proportion of each of these components determine the local soil's individual characteristics. The sources of the particles determine the soil's texture. Source material is weathered bedrock or other material that was carried to the present location by water, by glaciation, or by other forces such as winds.

Glaciers were a major factor in the development of the soils of Wyckoff, depositing materials from hundreds of miles away as they receded over ten thousand years ago.

Topography and climate are the major factors determining how a soil develops from the parent material. Organic matter that consists of decayed plant and animal matter mingles with the rock particles. Water and air are the two remaining components of soil, filling the voids between the parent rock material particles and organic matter. The mineral portion of soil is made up of sand, silt, and clay in varying proportions.

Soils are classified by the type or types of minerals, the level of organic material, the size of the various particles and the proportion of air and water the soil contains. The amount of air and water can vary over time depending primarily on local precipitation.

It is important to remember that it may have taken several thousands of years for local soil to have accumulated and matured. Due to the amount of excavation for buildings, roads, fields and other manifestations of modern humankind, much of the original surface soil material, the topsoil of Wyckoff, has been transformed into what is now termed "urban land." Urban land simply means that humankind has leveled or otherwise disturbed the natural soils of the area.

SOIL STRUCTURE

When the particles of a soil are a common size, the soil is classified as sorted. When the particles are of a different size, the soil is classified as unsorted. Single soil classes rarely exist. Most soils are a mixture of sand, silt and clay. Sand particles are the largest particles; silt is smaller; clay has the finest particles. Soils are classified according to particular size or texture, and are classified by determining the parent materials and the amount and percentage of sand, silt and clay. The percentage of sand, silt and clay in conjunction with the percentage of organic material, air and water, plus the slope of the land, permit accurate soil identification.

The pores, or open spaces, in sorted soils are uniform in size, which generally allow water to migrate through the soil more easily. In unsorted soils the pores are smaller and irregular, making the migration of water more difficult. Therefore, as a general rule, the percolation rate or drainage of sorted soils is better or faster than unsorted soils.

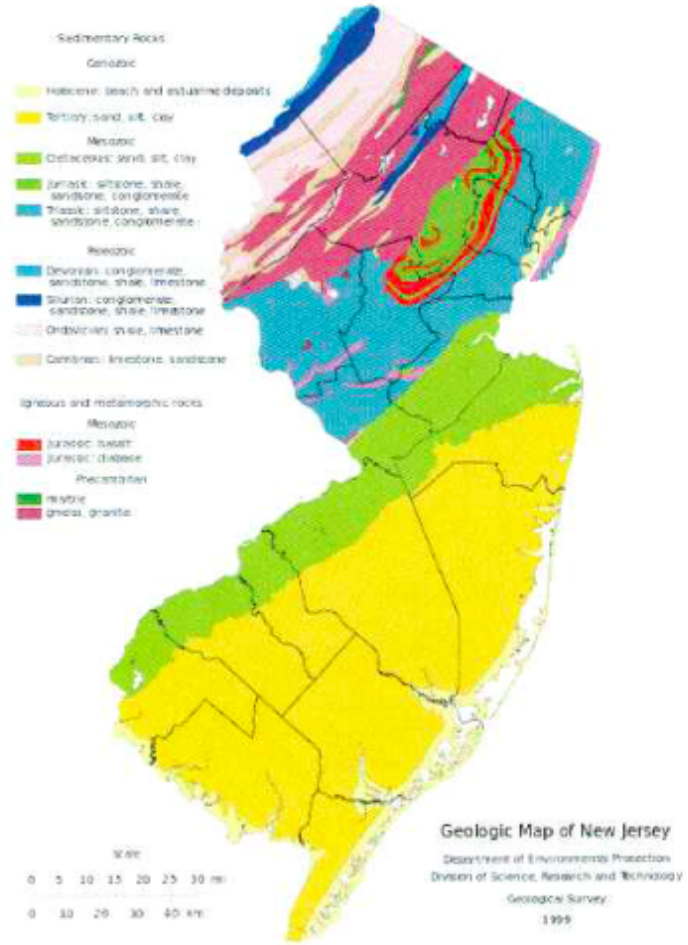
Different types of soils have different names. Much of Wyckoff's soil falls into the designations of Booton, Dunellen and Udorthants. The Udorthants classification reflects soils that were disturbed by leveling, filling or removal of "urban soils."

Soils in any given area appear in an orderly fashion, although borders are usually not well defined due to merging. This orderly pattern reflects the geology, the relief of elevations of the land, climate and local vegetation. The soils of an area are mapped by developing a model identifying the various soil factors by codes. The codes refer to named soils and very exact sub-classifications.

The soil type in a local area can be predicted with great accuracy. In turn, the builders of roads, buildings, sewers, bridges, etc. use this information to predict how best to construct them.

Soil horizons are the layers of soil that are the result of water filtering the particles over a long period of time. The top soil of “A” horizon is made up of the bulkier particles and organic materials that remain after the smaller “clay” particles are carried down to the subsoil or “B” horizon. The soil material of “C” horizon usually consists of original, weathered material. Underlying all of this is the bedrock.

The farmer is concerned primarily with the top soil and subsoil since that is where the crops grow. The engineer is concerned with the “B” subsoil and “C” parent material horizons as well as the bedrock. It is in or on these soils that structures are built or foundations are constructed.



Soil erosion is the result of water moving across the surface of soil and carrying material away with it. A well-drained soil is made up of coarse, evenly textured material that allows the infiltration of water. The roots of plants and trees increase the water absorption rate and “hold” the soil, thus preventing run-off. A soil stripped of plant life is subject to erosion by wind and water.

Wyckoff soils can be mapped according to their classifications and terrain. Each soil is identified by a symbol consisting of a series of letters. These letters provide a reference to an index of very specific soil distributions. Most Wyckoff soils fall in the following categories:

BOOTON, DUNELLEN AND UDORTHANTS

- The Booton complex soils are generally moderately well-drained, often with gravelly, loam surfaces. The subsoil is often in excess of 30 inches, consisting of gravelly loam and sand loam. There is generally slow permeability that along with the seasonal high water table, limits development as a result of poor on-site sanitary disposal. Originally this soil was well suited to forestation.
- The Dunellen complex soils generally have a loam surface layer of 3 to 6 inches with subsoil horizon 20 to over 30 inches consisting of loam, gravelly sand and silt. Permeability is moderate with some areas of silt and very firm sand often saturated in the spring and early summer months due to rainfall.
- Udorthants describe land that has been cut, smoothed, or otherwise extensively disturbed to a depth of three feet or more.

This description of soils is intended to provide a brief overview of soils in general and in particular the types of soils found in Wyckoff. For those persons requiring a more detailed description of Wyckoff soils and their particular characteristics, please refer to the Interim Soils Survey of Bergen County. This survey includes more detailed maps with soil type overlays, and can be found at https://www.nrcs.usda.gov/.../new_jersey/NJ003/0/bergen.pdf.

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Engineering Soil Surveys of New Jersey Report Number 1
Rutgers University, Revised January 1955
Engineering Soil Surveys of New Jersey Report Number 4
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Environmental Commission *Mendham NJ*
Interim Soil Survey of Bergen County
US Department of Agriculture Soil Conservation. Service July 1990

VEGETATION

"Wyckoff, the Garden Town in the Garden State"

Vegetation plays many important roles in the natural community relationships, the most important of which is the restoration of oxygen to water and to the atmosphere by means of its photosynthetic processes. Plants also help to clean the air by filtering dust and other particles from it, and by absorbing some gaseous pollutants.

Vegetation is a controlling component of animal habitat, providing both food and shelter. Characteristics of local vegetation are significant in determining the amount of precipitation that infiltrates into the ground, evaporates in the air, and runs off. It stabilizes the soil by breaking the fall of rain drops, holding the soils in place with its roots and lowering the rate of runoff and erosion.

Vegetation is also an important aesthetic amenity. It softens harsh lines, provides color and form, and is generally pleasing to the eye. Vegetation is used to control noise, light and traffic. It acts as a modifier of local micro-climate by providing cooling shade in summer, or by acting as a windbreak or snow fence.

The early settlers of Wyckoff found a heavily forested region that they almost entirely cleared for farming, firewood and timber. Much of the area has grown back into forest again as a result of shifting from an agrarian economy to the urbanization of Wyckoff. The vegetation of Wyckoff is reflected by focusing on the native trees and wildflowers of the area.

Source: 1 - Getting it All Together, The Application of Environmental Information to Land Use Planning. *Elisabeth A. Fraser & Anne F. Morris (1995)*

T**REES** (use photo'# 4 & 5)

Among the most beautiful and useful products of nature, trees have been cherished since ancient times. The oxygen that we breathe is released by trees and other green

plants. Trees prevent soil erosion and provide food and provide cover for animals. They also supply countless products including coal, timber and paper. With urban sprawl overtaking more and more of the landscape, the importance of parks and recreation areas has become more important.

The New Jersey state tree is the Red Oak. Wyckoff can boast as having the biggest red oak in the state which can be found at 737 Wyckoff Avenue. Today this tree is 22 feet in circumference, as measured at 4 1/2 feet off the ground. It has grown 3 feet and 7 inches in 23 years, since the last report in 1995. It is estimated to be over 400 years old.

World wide, the number of tree species exceeds 50,000, of these, about 680 are native to the United States and Canada, while only about 60 can be found in Wyckoff.

Source: 2 - Getting it All Together, The Application of Environmental Information to Land Use Planning. *Elisabeth A. Fraser & Anne F. Morris (1995)*

Wyckoff Township covers 6.7 square miles in Northwest Bergen County with 17,006 residents. Twenty open space parcels totaling 284 acres exist in Wyckoff. An additional forty acres are contained in six conservation areas or easements in private communities. Wyckoff's tree resource is important to Wyckoff residents as it is critical in maintaining the serene, wooded and historic character of the community.

The Township currently does not have a comprehensive inventory and assessment of its tree resources in Township open spaces and on private property. It is believed that an inventory that provides general information regarding trends in total tree cover, general planting and maintenance needs and other Township-wide summary information would be of greater value in developing long-term planning strategies than individual tree data, which would be difficult to apply and continually update.

However, based on impressions from the Shade Tree Commission and other planting and maintenance records, and general surveys completed, it is believed that:

*Based on the number of homes and miles of roadways, the current number Township-controlled street trees in Wyckoff is estimated to be between 8,000 and 10,000.

*The public street and park tree populations are comprised primarily of various oak species (Quercus spp.), Norway maple (Acer platanoides) and other maples (Acer spp.). The balance includes a wide range of native and naturalized species including sassafras (Sassafras albidum), American beech (Fagus grandifolia), hickories (Carya spp.), birch (Betula spp.), and others.

* In recent years, there has been a trend away from large, native shade tree species to the planting of more ornamental and generally smaller introduced species, such as Zelkova (Zelkova serrata), flowering pear (Pyrus calleryana), flowering cherry (Prunus spp.), and others on private property.

* A large portion of the public tree population is mature; the majority of the street trees are estimated to be 50 to 80 years old.

* Street side planting sites in most areas of the Township are not limited by growing space and poor soils to the extent that they are in many other Bergen County towns. However, overhead utility lines are in widespread conflict with Wyckoff trees.

Source: 3 - Wyckoff Shade Tree Commission, Wyckoff Community Forestry Management Report, Period: January 2009 - December 2013, Submitted December 2008, 32 pages. Community Overview p. 4-5 & p. 22.

The Power of Trees - here's why you should celebrate planting a tree:

- Trees increase property value - healthy and mature ones can add about 10 percent to your home's value.
- Trees cut energy costs - Planting them around your house shades windows and walls; this can reduce air-conditioning costs by up to 56 percent.
- Trees reduce greenhouse gases - One forested acre removes six tons of carbon dioxide from the atmosphere and replaces it with four tons of oxygen, providing enough air for 18 people to breathe for a year.
- Trees lower stress - Research has shown that exposure to trees can decrease a person's blood pressure and muscle tension.

Source: 4 - Real Simple magazine (use photo'# 3)

The James A. McFaul Environmental Center - (use photo'# 1, 2,)

The James A. McFaul Environmental Center is an 81-acre park with flowering displays throughout the warm-weather months. There are 75,000 daffodils and flowering trees on the grassy slopes. Plantings of ornamental grasses, herbs, roses, hostas and astilbes provide additional beauty in any season. A naturalized field area and woodland contain many plant species that provide food and shelter for a variety of wildlife species, including insects, birds and mammals.

The Center is open year-round to the public, the park is a wildlife sanctuary; all plants and animals are protected by law, no feeding of wildlife. NO pets of any kind are permitted in the park!

For more information link here http://www.co.bergen.nj.us/DocumentCenter/View/5584

Source: 5 - James A. McFaul Environmental Center Website (2017) LINK HERE
http://www.co.bergen.nj.us/123/J-A-McFaul-Environmental-Center

The Gardens of Wyckoff, The Rose Garden - (use photo'# 6 & 7)

The 12.8-acre nature sanctuary near the north intersection of Crescent and Godwin Avenues in Wyckoff was deeded to the township in 1993 by resident Warner W. Brackett. This beautiful sanctuary is one of the best kept secrets in Wyckoff, which includes rose bushes, peonias, purple irises, a lily pad-laced pond and fern-lined wooded walking trails.

Mike Mitchell, NJ Rosarian has worked at the Rose Garden since 1996. The Township of Wyckoff contracted with Mike Mitchell to continue his care of the roses. In 2003, Mike arranged for a substantial donation to the town of 500 rose bushes to restore the garden. The rose bushes included; Star Roses, Weeks Roses, and Jackson and Perkins Roses. Today, the majority of the roses are from that replanting. In 2012 the gardens were redesigned and more formalized for foot traffic. New irrigation and grass areas were put in, along with a large Gazebo in the center of the rose garden with a large bluestone patio. The gardens were also enclosed with deer fencing to keep deer from eating the roses and perennials. Today's garden has about 450-500 rose bushes. As for different roses there are two ways to look at that: different varieties, and different types. The varieties are many, it is estimated that there are between 100-125 varieties. The varieties are named cultivars, such as "Love", which is the most predominantly planted rose in the garden. It is believed that The Rose Garden was originally planted as a tribute to Mr. Bracket's wife which seems appropriate. The rose "Love" is a grandiflora which is its type. The types in the garden are: Hybrid Tea, Grandiflora, Floribunda, Shrub, Climber, Polyantha Climber, Old English, Polyantha, Damask Perpetual, Gallica, China, Rugosa Hybrid, Species, Moss, Portland, Hybrid Musk, Hybrid Bracteata, so it is estimated that there are 17 different types. In 2015 Mike met with a writer from the Star Ledger in the rose garden....he was there researching the gardens.

The Star Ledger/ NJ.com were putting together the most romantic places in the state of NJ and the gardens were chosen #3 on their list of the top 10 places in NJ.

Press Articles:
June 8, 2015, The Star Ledger article, "N.J.'s 10 most romantic spots: Islands, parks, and one Passion Puddle."
http://www.nj.com/entertainment/index.ssf/2015/06/njs_10_most_romantic_spots_towns_parks_and_one_pas.html

September 21, 2012 - The Patch, "A Walk in a Garden - The Gardens at Wyckoff."
https://patch.com/new-jersey/wyckoff/bp--a-walk-in-a-garden-the-gardens-at-wyckoff

J*une 6, 2011* - The Patch, "Nature's Calling: Stop and Smell the Roses at The Gardens of Wyckoff. Rose gardens, water lilies and wildlife abound in Wyckoff preserve."
https://patch.com/new-jersey/wyckoff/natures-calling-the-gardens-of-wyckoff

Source: 6 - Michael Mitchell, NJ Rosarian and Rose Specialist of The Gardens of Wyckoff from 1996 - present (not including 2000-2002), njrosenut@aol.com

Partners in Pride (PIP) –

Partners in Pride is a volunteer group that was started in 1987 by Mary Bugel who rallied her husband Tom and many friends to take up the cause to remove litter and beautify the Township of Wyckoff. Over the years PIP have adopted many public areas where volunteers plant and maintain flowers, trees and shrubs.

A few of the locations that volunteers maintain include Grandview Ave on Wyckoff Avenue islands, Zabriskie Pond parking lot, Pinewood Circle at Wyckoff Ave raised Bed Garden, the Library Triangle bed across from the Ambulance Building. A few volunteers maintain the Ambulance Building garden beds, maintenance of the newly planted Russell Avenue Island funded by Partners In Pride and the Wyckoff Chamber of Commerce.

One of PIP's biggest projects is the yearly seasonal plantings of the 55 concrete pots throughout the Business Triangle. The many dedicated volunteers, prune and water these pots during the hot summer months which is a huge undertaking.
PIP is always looking for new volunteers, anyone interested in beautifying their community please contact Susan Litt @ 201.805. 3227 or email at susanlitt2002@aol.com

Press Release: **30th Anniversary of Partners In Pride**. LINK HERE
https://www.wyckoff-nj.com/sites/wyckoffnj/files/pages/pips_celebrate_30_years_psa.pdf 7
Source: 7 - Susan Litt, President, Partners in Pride (PIP). (use photo'# 8, 9, 10, 11)

Russell Farms Community Park:

This 5-acre park located at 594 Russell Avenue offers a recreational trail that weaves through the park, a gazebo, and an educational arboretum. Wyckoff Girl Scout Troop 76 created a Tree Guide for visitors that helps identify the trees and shrubs in the park.

source: https://www.wyckoff-nj.com/recreation-parks/pages/passive-recreation

Within the 5-acre park a 30' x 70' patch of land was dedicated for wildflowers in the hopes of attracting monarch butterflies. Girl Scout Troop 94686 recognized the decreasing population of the Monarch Butterflies and decided to do something about it. The Monarch Way Station and Native Plant Garden at the Russell Farms Community Park was created by Girl Scout Troop 94686, with a $1,500.00 Association of New Jersey Environmental Commission Open Space Grant to help the community develop natural gardens with native species that require very little maintenance (http://www.anjec.org/EnvCommissionGrantPrograms.htm.) The Girl Scout's visited and researched a native meadow at Ramapo College and planted a similar native meadow at Russell Farms. Since Monarch butterflies lay their eggs on milk weed, the majority of vegetation is milkweed. The Girls Scouts are planning to install a sign on the Monarch Way Station stating the purpose of this garden very soon.

This project was a community partnership lead by our local girl scout troops, our Green Team, assistance from the Wyckoff Shade Tree Commission, Wyckoff DPW, the Township Committee and a local landscape company. The program began in late 2014 with a presentation to the Wyckoff Environmental Commission. Subsequent presentations were made to the WEC and Township Committee in 2015. Ramapo College staff and students have also been engaged as consultants and advisors. A ground breaking event was held in Fall 2015 and the official "ribbon cutting" ceremony was held in the spring of 2016. This native species garden does not require

maintenance since it has been established which takes 2 growing seasons (in April 2018). The native garden fulfilled the Community Partnership & Outreach/Community Education and Outreach SJ Action which earned Wyckof 10 points towards their Silver Certification (350 points) within the Sustainable Jersey Program.
(Photos #13 & 14)

Source: 10 - Township of Wyckoff website @ https://www.wyckoff-nj.com/recreation-parks/pages/passive-recreation

Source: 10 - The Monarch Butterfly Garden at Russell Farms Community Park, Wyckoff Shade Tree Commission Meeting Minutes https://www.wyckoff-nj.com/node/14/minutes
and Wyckoff Environmental Commission/Green Team Meeting Minutes https://www.wyckoff-nj.com/environmental-commissiongreen-team/pages/meetings

VEGETATION REFERENCES and RESOURCES:

Source: 1 - Getting it All Together, The Application of Environmental Information to Land Use Planning. *Elisabeth A. Fraser & Anne F. Morris (1995)*
Source: 2 - Getting it All Together, The Application of Environmental Information to Land Use Planning. *Elisabeth A. Fraser & Anne F. Morris (1995)*
Source: 3 - Wyckoff Shade Tree Commission, Wyckoff Community Forestry Management Report, Period: January 2009 - December 2013, Submitted December 2008, 32 pages. Community Overview p. 4-5 and p. 22.
Source: 4 - *Real Simple magazine*

Source: 5 - James A. McFaul Environmental Center Website (2017) LINK HERE
http://www.co.bergen.nj.us/123/J-A-McFaul-Environmental-Center

Source: 6 - Michael Mitchell, NJ Rosarian and Rose Specialist of The Gardens of Wyckoff from 1996 - present (not including 2000-2002), njrosenut@aol.com

Source: 7 - Source: Susan Litt, President, Partners in Pride (PIP).

Source: 8 - Trees and Wildlife of Wyckoff List
Common Forest Trees of New Jersey. *Extension Bulletin 396 College of Agriculture & Environmental Service. (1995)*
Rutgers University: The State University of New Jersey. (1995 report)
Site visits to the Meer property and Brackett property by Connie Leich and John McRae
(1995 report)
Newcomb's Wildflower Guide. (1995 report)
Wildflower Checklist for Environmental Center. (1995 report)
Wyckoff Garden Club, Hedy Leutnei. (1995 report)

Source: 9 - The Wildflower list was reviewed and verified by the Wyckoff Area Garden Club, Past President, Janet Schulz, Master Gardener, Class of 1988.

Source: 10 - Township of Wyckoff website @ https://www.wyckoff-nj.com/recreation-parks/pages/passive-recreation The Monarch Butterfly Garden at Russell Farms Community Park, Wyckoff Shade Tree Commission Meeting Minutes https://www.wyckoff-nj.com/node/14/minutes
and Wyckoff Environmental Commission/Green Team Meeting Minutes https://www.wyckoff-nj.com/environmental-commissiongreen-team/pages/meetings

Photo's: Google Images (2017) See separate pages for; 1. Trees and Wildflowers of Wyckoff - 1 page and 2. Vegetation Photo's to be distributed throughout the final document - 5 pages.

WILDLIFE

Wildlife is important to humanity because animals are the most complex part of the ecosystem. They hold a strong dependence on the other natural factors of the environment.

MAMMALS

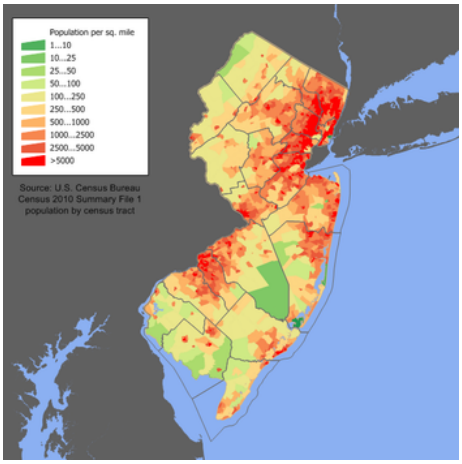
Animals such as beavers, bears, squirrels, fox, deer, and bobcats roamed the lands of Wyckoff. But the pressures of population and the increase in residential developments were more than they can handle. In 2017, a new development near Ramapo High School was created and will become an area for new homes to be built. As a result, we *are* left with a rather short list of mammals able to coexist with man and his ways.

The following is a list of mammals that are seen in Wyckoff area:

Big Brown Bat

Chipmunk

White Tailed Deer



In Wyckoff, the increase in white tailed deer is mainly due to residential developments. Since the habitats for the deer is being destroyed in an attempt to create residential area, they infest the streets and neighborhoods. The graph to the left depicts the increase in deer. The color red signifies large amounts of deer, and Bergen County falls in that category.

Red Fox

Groundhog

Eastern Mole

Star Nosed Mole

Meadow Jumping Mouse

Little Brown Myotis

Opossum

Eastern Cottontail Rabbit

Raccoon

Shaman Shrew

Skunk

Gray Squirrel

Red Squirrel

Southern Flying Squirrel

Longtail Weasel

Easter Woodrat

House cats

Canadian Geese

Big Brown Bat

Black Bears

In Wyckoff, there has been an increase in a bear's frequency to appear in neighborhoods rather than the woods because of the developments being built. .

Coyotes

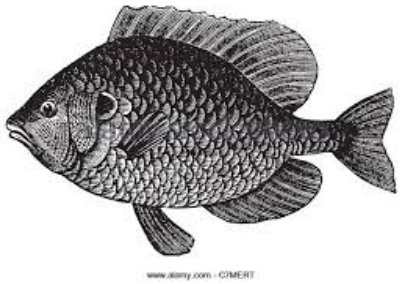
According to a Wyckoff resident on Facebook, coyotes have been lurking the streets of Wyckoff, even in the middle of the day!

Fish

While the great days of fishing in Wyckoff have followed in the footsteps of the Native Americans, there still remains a few lunkers swimming in our many ponds and streams. Each June, there is a fishing derby for children at Zabriskie's pond where many young anglers enjoy the thrill of a catch. The following list is what someone may find in the waters of Wyckoff:

- Brown Bullhead Catfish
- Blue Pumpkin Seed Sunfish
- Gill Sunfish: Yellow Perch
- Largemouth Bass

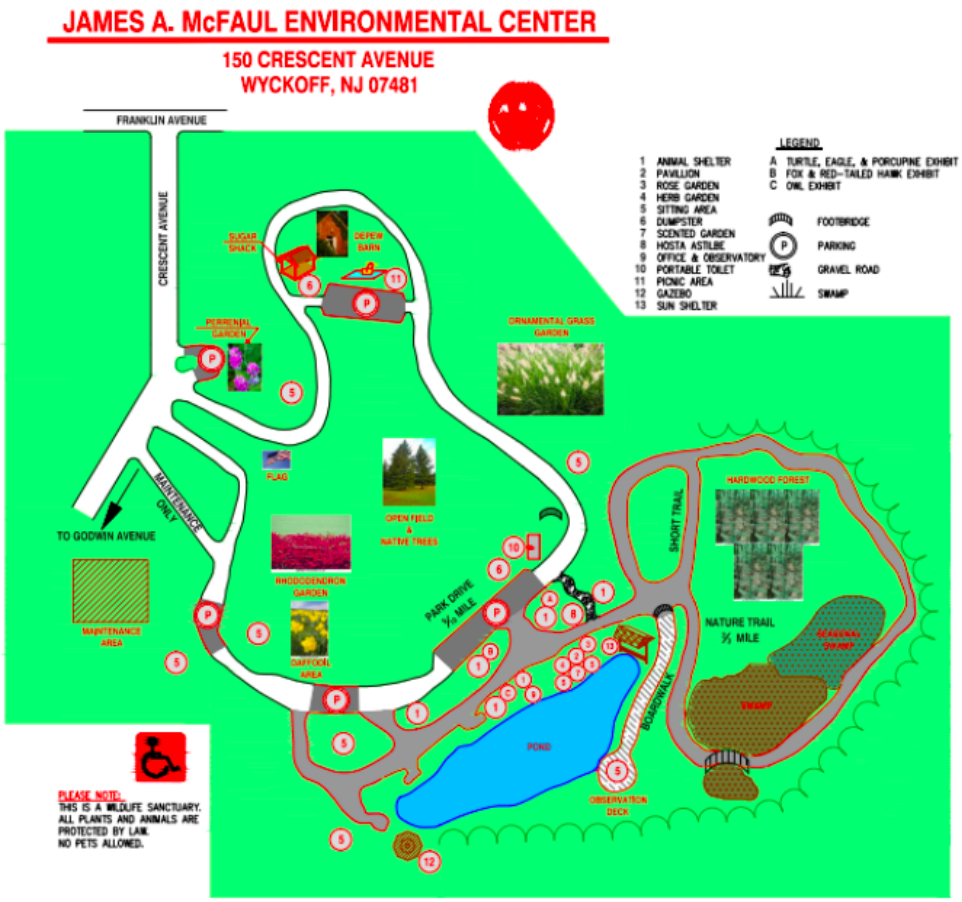
At the annual Fishing Derby at Zabriskie Pond, sponsored by the Wyckoff Environmental Commission in the summer, a sixth grade student at Eisenhower Middle School caught a largemouth bass. Zabriskie is an active pond and a common place to fish for Wyckoff residents

- Pickerel
- Shiners
- Trout
- 
- Pumpkin Seed Sunfish
    - This fish was a common catch at the local fishing derby at Zabriskie Pond Park.

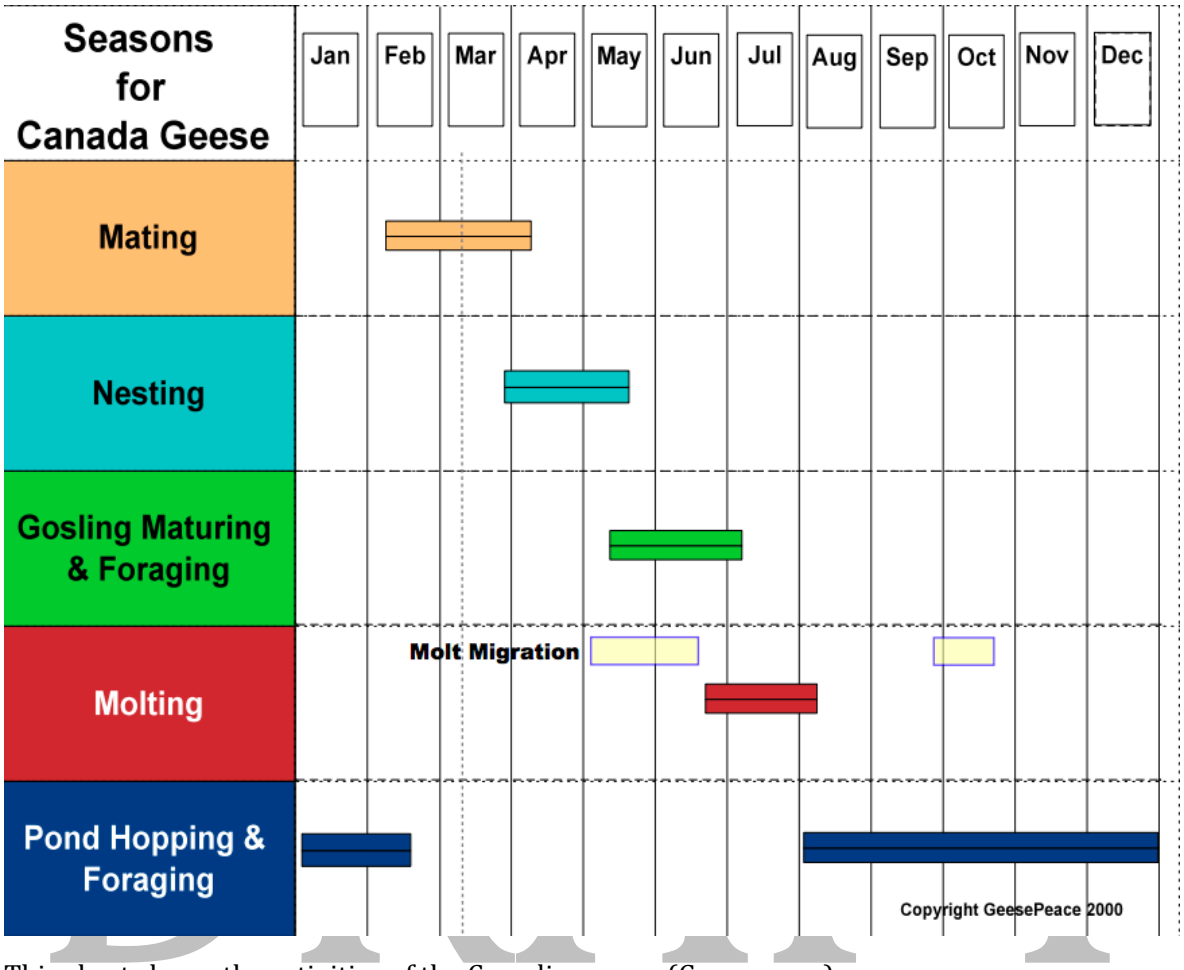
BIRDS

The bird lists provided by the J.A. McFaul Environmental Center informs that The Bird Count, which takes places each year roughly around February, and the Breeding Bird Census taken at Campgaw Mountain Reservation, in Mahwah, 130 species are nesting or passing through Wyckoff. The Breeding Bird Census is taken around Hemlock Trail at Campgaw between May and June, annually. It is alarming that the number of birds on the Breeding Bird Census have been dropping. The Christmas Bird Count covers a circle with a 15 mile diameter centering on Erskine Lake in West Milford and includes Wyckoff.

Wyckoff is fortunate to have the 81 acre James A. McFaul Environmental Center with its 2/3 mile woodland trail and pond. Its protected havens are homes for rescued and injured wildlife. The Wildlife Center is located on Crescent Avenue and offers films, programs for adults and children, has hands-on learning displays, a reference library of over 500 books and numer-ous exhibitions. There are several live exhibitions. Their advice to the public calling about baby birds is "If you care, leave them there." Contrary to popular belief, you can put baby birds back in their nests. Since birds have no sense of smell, they are not deterred by a human scent. The Wildlife Center urges those corning upon fledglings not to feed them.



This is a map of the James A. McFaul Environmental Center (Bergen County). Canadian Geese are considered a nuisance because of their large populations and their droppings. They keep the grass cropped, and they also eat aquatic plants and insects. Their nests are protected by migratory bird laws. Feeding the wildlife in the park is prohibited.



This chart shows the activities of the Canadian geese (Geesepeace).

In a short amount of time, 3-week old goslings that waddle around innocently can transform into 25-pound “residents” who continue to squawk non-stop. As they develop and grow as a community, they start to migrate to large areas of land, like soccer fields or front lawns. The James A. McFaul Environmental Center is only one of the areas that have seen the geese wobbling around their property. Geesepeace, a non-profit organization in Bergen County has been tackling issues like this since 1999. Their work has included the treatment of 180 eggs in 38 nests in Wyckoff and surrounding towns. Their services are humane compared to other methods.

The New Jersey Audubon Society's Lorrimer Sanctuary, located on Ewing Ave. in Franklin Lakes, offers short self-guided trails on its 14 acres and new picnic table from local Eagle Scout, William Rice. If you should visit Lorrimer, you may find school children studying reptiles, or come across bird watchers shortly after dawn as they sight migratory songbirds. Thistle seed, sunflower, millet, safflower and mixed seed will attract a wide variety of birds. (It is advisable to avoid corn which attract squirrels and other rodents when feeding birds.)

The woodpeckers love a piece of suet hung in a net bag or suet feeder. And of course, all birds are attracted by fresh water. It is recommended that if you put out seed in late Fall — let's say November, that you continue until April so that your avian friends don't perish when there is little or no food available.

Human expansion has been responsible either directly or indirectly for the demise of many species. By clearing forests, building cities and suburbs, stretching highways across the continents, draining wetlands, the environment is altered and there is less and less room for birds and other wildlife. Changes in the land destroy the habitat that provide the food and cover for birds.

There is no desert too hot or too cold, nor too wet or too dry and no sea too tempestuous to be forbidding to bird life (while birds are found everywhere, their distribution is uneven).

Each bird group has its preferred foods. Many avian species have extreme set patterns of behavior such as migration time and habitat. A temporary change in dwelling place can result in the decimation of a species even when feeding alternatives are available. Migration between winter and summer ranges requires changes in the diet. Species that feed in the tree tops have to forage on the ground.

Insects are the most numerous of all living things. By devouring infinite numbers, our avian friends keep some pests at manageable levels. The same is true of weed seeds, but birds are indiscriminate — frequently choosing fruit and grains planted for human needs.

Birds of Wyckoff

Listed by Order(latin name) *&* Family

Ciconiiforms HERONS, BITTERS

Yellow-crowned Night Heron
Pied Billed Grebe
Great Blue Heron
Green Heron
Great Egret
Snowy Egret
Mute Swan

Anseriformes WATERFOWL

Canada Goose Brant
Snow Goose Mallard
Black Duck Gadwall
American Wigeon Shoveler
Wood Duck,
Ring Necked Duck Redhead
Bufflehead Canvasback Lesser Scaup Hooded Merganser
American black duck
Green-winged teal
Common Goldeneye
Common merganser
Ruddy duck

Falconiformes VULTURES, HAWKS

Turkey Vulture
Hawks
Sharp-shinned Hawk
Red-tailed Hawk
Cooper's Hawk Broad-winged Hawk
Rough-legged Hawk
American Kestrel
Bald Eagle

Osprey

Red-shouldered hawk

Merlin

Galliformes TURKEYS

Wild Turkey - **Gruiformes**
RAILS

Virginia Rail

Common Gallinule MoorHen American Coot

Gaviiforms

Common loon

Cathartiformes

Black vulture

Apodiformes

Hummingbird

Charadriiformes FOYERS, SANDPIPERS, GULLS
Killdeer

Spotted Sandpiper Herring Gull
Great Black Backed Gull Ring-billed Gull

Colurribiformes DOVES
Rock Dove Mourning Dove

Columbiformes
Feral pigeon

Strigiformes OWLS
Screech Owl
Brown Owl Great Horned Owl

Piciformes WOODPECKERS
Pileated Woodpecker
Red-bellied Woodpecker
Yellow-bellied Sapsucker
Hairy Woodpecker
Downy Woodpecker
Northern flicker

Passeriformes FLYCATCHERS, SWALLOWS. CROWS, TITMICE, CREEPERS, WRENS, THRUSHES, KINGLETS, WAXWINGS,
STARLINGS, VIROES, WARBLERS, FINCHES, BLACKBIRDS,

SPARROWS

Eastern Kingbird

Great Crested Flycatcher
Eastern Phoebe
Tree Swallow
Rough-winged Swallow
Barn Swallow
Blue Jay

Common Crow

ChiCkadee Tufted Titmouse White-breasted Nuthatch

Red Breasted Nuthatch Brown Creeper

House Wren Carolina Wren

Northern Mockingbird .Gray Catbird
Brown Thrasher

Robin Viery
Wood Thrush
Hermit Thrush

Thrush wainsan
Gray-cheeked Thrush

Golden Kinglet

Ruby-crowned Kinglet Cedar Waxwing

Starling Yellow-throated Vireo

Red-eyed Vireo

Black and White Warbler

Blue-winged Warbler

Northern Parula Warbler
Yellow Warbler Magnolia Warbler
Black-throated Blue Warbler
Yellow Rumped Warbler
Black-throated Green Warbler
Bay-breasted Warbler
Blackpoll Warbler
Pine Warbler

Palm Warbler Ovenbird
Common Yellowthroat

Canada Warbler

American Redstart
BobOlink
Yellow-billed Cuckoo
Eastern Meadowlark
Red-winged Blackbird
Northern Oriole
Common Grackle
Brown-headed Cowbird
Scarlet Tanager
Cardinal
Rose-breasted Grosbeak
Indigo Bunting
Evening Grosbeak
Purple Finch
House Finch
Common Redpoll
Pine Siskin
American Goldfinch
Rufous-sided Towhee
Dark-eyed Junco
Tree Sparrow
Chipping Sparrow
Field Sparrow
House Sparrow
White-throated Sparrow
Fox Sparrow
Song Sparrow
Swamp Sparrow
Fish crow
Common raven
Winter wren
Eastern bluebird
Red crossbill

Suggestions for all wildlife:

If you see wild birds that are injured or are in need of help, Raptor Trust is a non-profit organization that is willing to help any bird in need. Their phone number is 908-647-2353. They will guide you through the steps of how to handle the situation. If the bird has only fallen from its nest, it is best to place it back in its nest.

Deer are the cause for some fatalities on the roads. Each year, New Jersey experiences over 15,000 deer crashes. Always watch for deer, but beware that they are usually seen from dusk

till dawn, on rural and suburban roads, and during the fall mating season, which is October through December. In order to protect the deer in Wyckoff, slow down because if one deer is spotted, many may come to follow. Do not swerve. It is better to brake firmly than risk the lives of others on the road. Use headlights when necessary, and always buckle your seatbelt. One question that many may ask is: should I feed the deer? The answer is NO.

Bears are also a wildlife problem in Wyckoff. Since bears can be quite dangerous, it is important to take the right precautions to prevent encounters. It is crucial to place garbage in airtight containers. In the event in which you do encounter a bear, remain calm, do not run or play dead, and make sure the bear has an escape route.

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CLIMATE

Imagine, Halloween being cancelled because of the WEATHER?
Well that happened in NJ, two years in a row!!!

2011 - October snowstorm gives N.J. a 'white Halloween'
2012 - October Super Storm Sandy hits

Governor Christie orders Halloween in N.J. postponed until Monday due to unsafe conditions throughout New Jersey in the wake of Hurricane Sandy.

Molly Sullivan, 8 is a little bummed out, her mother says, that trick or treat for Halloween is cancelled as children play in their Halloween costumes on Montague Street to celebrate Halloween after Hurricane Sandy in Scotch Plains on Wednesday, October 30, 2012.

Ed Murray/The Star-Ledger

Figure 1 photo - Source: NJ Advance Media for NJ.com by Christopher Baxter, October 31, 2012

In 2012 Gov. Chris Christie signed an executive order to postpone Halloween until Monday because of unsafe conditions throughout New Jersey in the wake of Hurricane Sandy. Gov. Christie hoped local officials would abide by it to prevent any injuries from downed trees, utility poles, power lines and flooding.

"In too many communities in our state, the damage and losses from this storm are still being sorted out, and dangerous conditions abound even as our emergency management and response officials continue their work," Christie said in a statement.
Source 2: By Christopher Baxter | NJ Advance Media for NJ.com October 31, 2012, updated October 17, 2013.

http://www.nj.com/politics/index.ssf/2012/10/christie_orders_halloween_post.html

In 2011, a Nor'ester brings snow to New Jersey for Halloween.
October snowstorm gives N.J. a 'white Halloween'
By Star-Ledger Staff , October 31, 2011, updated October 17, 2013 at 1:18 PM

STATEWIDE —After a record October snowstorm that left at least two dead over the weekend, New Jersey is waking up to a white Halloween, with icy roads littered with downed trees and power lines, and heat and electricity still out for thousands.

On Saturday, the freak nor'easter dumped as much as 19 inches of snow on parts of New Jersey, the most ever for the month of October since record keeping for the state began in 1895, said David Robinson, the state climatologist at Rutgers.

"No question that this is the largest October snowstorm on record in New Jersey," Robinson said Sunday. The unusually early snowstorm arrived just two months after the devastating floods from Hurricane Irene, and seemed as bizarre as the earthquake that shook New Jersey a few days before that.
Source 3: By Star-Ledger Staff, NJ Advance Media for NJ.com *October 31, 2011 at 6:00AM, updated October 17, 2013 at 1:18*
http://www.nj.com/news/index.ssf/2011/10/october_snowstorm_gives_nj_a_w.html

Quote #1
One way to open your eyes is to ask yourself, "What if I had never seen this before? What if I knew i would never see it again? Rachel Carson

Wyckoff's Climate -

Wyckoff's climate, designated Modified Continental —is quite variable due to its proximity to the Atlantic Ocean and to the prevailing western winds which originate from the west and northwest in the winter, and from the west and southwest in the summer.

As a moisture-laden ocean air mass moves inland, it is modified to include water that has been recycled via precipitation/evaporation/condensation. In addition to the Atlantic Ocean and the Gulf of Mexico principal sources of moisture are local and upwind land surfaces, as well as lakes, pond, streams, and reservoirs from which moisture evaporates into the atmosphere.

Figure 5 diagram -

The major factors that control climate in New Jersey in general, and Wyckoff in particular, vary seasonally. During the winter, an intensified semi-permanent high pressure system is located over Canada and the north central US. This system produces frequent surges of cold air masses that move southward over the state and often produce temperatures close to zero degrees Fahrenheit. Extreme low temperatures have been recorded below minus 30 degrees.

These outbreaks of cold weather are preceded by a frontal system, generally in association with a vigorous cyclonic system that can cause heavy rain and snow. In winter and early spring, frontal storms can cause flooding which is intensified by the frozen, snow covered ground. The rain melts snow from previous storms and the frozen ground acts as an impervious surface, increasing runoff into streams.

In summer, the main system that affects the area is, the Bermuda high.
This semi-permanent high pressure cell is generally located over an area extending from the Sargasso Sea region of the North Atlantic Ocean to the eastern Gulf of Mexico.

Because of the clockwise movement of winds from this system, warm, moist air from the Gulf is brought to much of the eastern third of the US. The result is hot, muggy summer days with temperatures that can reach 100 degrees Fahrenheit. The highest temperature on record in New Jersey is 107 degrees.

Instability in the north-moving flow of air and the passage of frontal systems can produce intense thunder showers. The storms that have the greatest impact on Wyckoff emanate from the Great Lakes and the St. Lawrence valley. Rain from summer cloudbursts falling on relatively small drainage areas can cause locally severe floods. Thunder storms with or without hail occur most frequently between May and September.

Coastal storms of tropical origin produce the most intense and widespread rains in Wyckoff. The center of these storms generally passes offshore and the rainfall and winds are more intense near the coast. On several occasions, however, tropical storms have moved inland along the South Atlantic coast and then moved northward through New Jersey or further west.

Source 4:

The New Jersey Climate Zones -

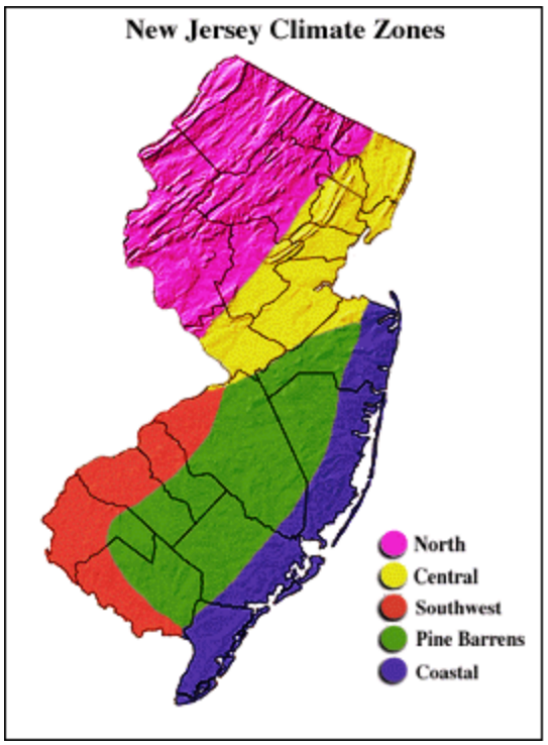


Figure 6: The New Jersey Climate Zones
Source: Office of the New Jersey State Climatologist

Figure 6: Five Distinct climate zones. New Jersey has five distinct regions. The state's climate varies across these five regions. Wyckoff is located within the North Climate zone.

Figure 6 diagram -

Temperature & Precipitation -

Wyckoff (zip 07481), New Jersey, gets on average 50 inches of rain per year while the US average is 39. Snowfall is 24 inches, the average US city gets 26 inches of snow per year. The number of days with any measurable precipitation is 80. On average, there are 218 sunny days per year in Wyckoff (zip 07481), New Jersey. The July high is around 84 degrees.
Source 7: Bert Sperling's Best Places @
http://www.bestplaces.net/climate/zip-code/new_jersey/wyckoff/07481

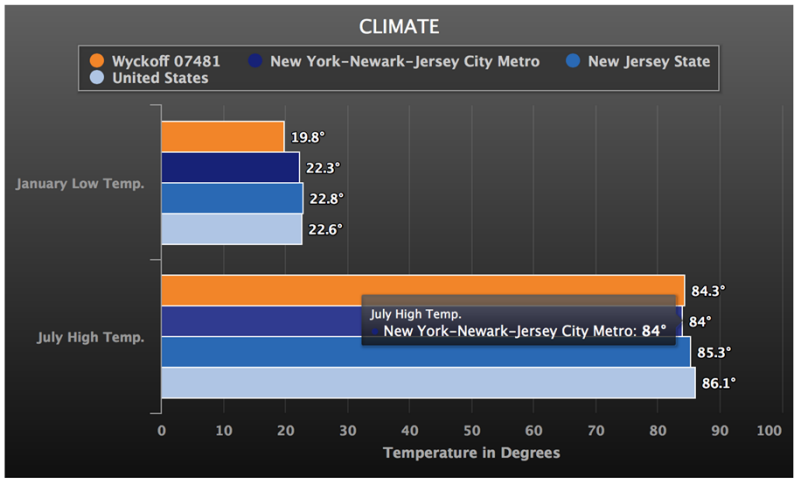
Figure 8 chart - Climate Comparison. Source: Bert Sperling's Best Places @ http://www.bestplaces.net/climate/zip-code/new_jersey/wyckoff/07481

CLIMATE COMPARISON

CLIMATE	Wyckoff, New Jersey	United States
Rainfall (in.)	49.7365	39.2
Snowfall (in.)	24.4016	25.8
Precipitation Days	79.7	102
Sunny Days	218	205
Avg. July High	84.32	86.1
Avg. Jan. Low	19.76	22.6
Comfort Index (higher=better)	50	54
UV Index	3.8	4.3
Elevation ft.	319	1,443

Figure 9 chart - Climate Temperature by Month. Source: Bert Sperling's Best Places @ http://www.bestplaces.net/climate/zip-code/new_jersey/wyckoff/07481

CLIMATE - Temperature by month



Source 10: NJ State Climatologist

Average Temperature by month and year.
https://climate.rutgers.edu/stateclim_v1/monthlydata/index.php?stn=KTEB&elem=avgt

Average Precipitation by month and year.
https://climate.rutgers.edu/stateclim_v1/monthlydata/index.php?stn=KTEB&elem=pcpn

Climate Concerns & Changing Trends -

The early 2017 hurricane season brought the U.S. three devastating storms. As Puerto Rico and the U.S. Virgin Islands struggle to recover from Maria, Florida from Irma, and Texas from Harvey, New Jersey approaches the fifth anniversary of its own terrible Hurricane Sandy
Despite the lessons we should have learned from the $70 billion of damage brought by Sandy, and the numerous storms that preceded it, our 130 linear miles of coastline and 239 coastal towns remain as vulnerable to another hurricane as they were in 2012. Governor Thomas Kean Sr. was the 48th Governor of New Jersey from (1982–1990).
Source 11: The Star-Ledger Guest Columnist, Thomas H. Kean and Peter Kasabach, October 15, 2017. Gov. Kean: Rethinking the Jersey Shore's future in an age of climate change | Opinion
http://www.nj.com/opinion/index.ssf/2017/10/gov_kean_rethinking_the_jersey_shores_future_in_an.html

National Climate Assessment (NCA) -
The 4th National Climate Assessment (NCA) was released on November 3, 2017. The NCA is a comprehensive assessment of the current understanding of climate change science. The assessment includes an overview of present and likely impacts in the United States on a region-by-region basis, and it also details regional adaptation and mitigation strategies (i.e. how communities cope with impacts, and the actions they have implemented to reduce heat-trapping emissions and slow the pace of climate change).

The report assesses the many ways in which climate change affects our social, ecological, and policy systems. It is designed to inform strategies and policies on global warming for federal, state, and local governments, as well as *to provide critical information for the private sector and individuals.*
Source 12: The National Climate Assessment (NCA)
http://www.ucsusa.org/global_warming/science_and_impacts/science/us-global-change-nca-1.html#.WgB0x4ZrxE4

National Climate Assessment's three key messages for New Jersey are:

1. Average annual temperatures have increased by 3°F in New Jersey over the past century. Under a higher emissions pathway, historically unprecedented warming is projected by the end of the 21st century. Heat waves are projected to be more intense while cold waves are projected to be less intense.

2. Precipitation has been highly variable, with wetter than average conditions over the last decade. Winter and spring precipitation and extreme precipitation events are projected to increase in the future.

3. Sea level along the New Jersey coast has risen by more than 16 inches since 1911, double the global average. Global sea level is projected to rise another one to four feet by 2100. Sea level rise poses substantial risks, including greater vulnerability to severe coastal flooding.

Source 13: NOAA National Centers for Environmental information for Environmental Information State Climate Summaries, New Jersey, January 2017.
https://statesummaries.ncics.org/nj

Quote #2
Something to ponder…… *But man is a part of nature, and his war against nature is inevitably a war against himself.* Rachel Carson
……

RECOMMENDATIONS -

Suggested by Gov. Kean in his climate change article.
"New Jersey's municipalities urgently need state-level direction and assistance to move forward with a regional approach for climate adaptation and preparedness."
Gov. Kean: Rethinking the Jersey Shore's future in an age of climate change | Opinion, October 15, 2017 NJ.com
http://www.nj.com/opinion/index.ssf/2017/10/gov_kean_rethinking_the_jersey_shores_future_in_an.html

Climate Quote #3
"If the next four years are spent rolling back whatever progress has been made on emissions, then almost certainly the temperature targets that world leaders set in Paris 2015 will be breached. In fact, even if the next four years are spent making more progress, it's likely that the targets will be breached. In the case of climate change, to borrow from Dr. King once again, tomorrow really is today." Elizabeth Kolbert, staff writer – The New Yorker; Pulitzer Prize winner, "The Sixth Extinction: An Unnatural History." September 2016, The New Yorker. Source: Climate mama website blog https://www.climatemama.com/blog/10099#.WibopGWFH_Q

What does this mean for municipalities like Wyckoff?

"Climate change is here, now and happening, caused in large part by the actions of people in society. Municipalities across New Jersey are using the NCA and other similar peer reviewed reports to take proactive stands, developing and designing actionable policies both for climate adaptation and building resiliency. Many communities are adopting 100% committed campaigns to move forward as quickly as possible to achieve100% renewable energy resources - both to save money and help reduce local, state and national emissions. When looking forward to local budgetary issues impacted by climate change, items like road repairs, flood mitigation, drainage, energy efficiency, and local health issues, the municipality has a direct role and responsibility to it's community in proactively addressing these issues.

Source 14: Harriet Shugarman, Founder & Executive Director ClimateMama https://www.climatemama.com, policy analyst and economist.

SOURCE & REFERENCES -

Figure 1 photo - Source: NJ Advance Media for NJ.com by Christopher Baxter, October 31, 2012

Source 2: By Christopher Baxter | NJ Advance Media for NJ.com October 31, 2012, updated October 17, 2013. http://www.nj.com/politics/index.ssf/2012/10/christie_orders_halloween_post.html

Source 3: By Star-Ledger Staff, NJ Advance Media for NJ.com October 31, 2011 at 6:00AM, updated October 17, 2013 at 1:18
http://www.nj.com/news/index.ssf/2011/10/october_snowstorm_gives_nj_a_w.html

Source 4: Data from Douglas R. Clark and Andrea Lage, Wisconsin Geological and Natural History Survey. U.S. Geological Survey Water. National Water Summary 1988-89 Floods and Droughts: New Jersey p. 401 Digitized by Google.

Figure 5 diagram - Principle sources and patterns of delivery of moisture into New Jersey. Size of arrow implies relative contribution of moisture from source shown. Source: Data from Douglas R. Clark and Andrea Lage, Wisconsin Geological and Natural History Survey.

Figure 6 diagram- The New Jersey Climate Zones, Source: Office of the New Jersey State Climatologist.

Source 7: Bert Sperling's Best Places @
http://www.bestplaces.net/climate/zip-code/new_jersey/wyckoff/07481

Figure 8 chart - Climate Comparison. Source: Bert Sperling's Best Places @
http://www.bestplaces.net/climate/zip-code/new_jersey/wyckoff/07481

Insert 9 - chart labeled Climate - Temperature by Month. Source: Bert Sperling's Best Places @
http://www.bestplaces.net/climate/zip-code/new_jersey/wyckoff/07481

Source 10: Links to NJ State Climatologist on; Average Temperature by month and year.
https://climate.rutgers.edu/stateclim_v1/monthlydata/index.php?stn=KTEB&elem=avgt

Average Precipitation by month and year.
https://climate.rutgers.edu/stateclim_v1/monthlydata/index.php?stn=KTEB&elem=pcpn

Source 11: The Star-Ledger Guest Columnist, Thomas H. Kean and Peter Kasabach, October 15, 2017

Gov. Kean: Rethinking the Jersey Shore's future in an age of climate change | Opinion
http://www.nj.com/opinion/index.ssf/2017/10/gov_kean_rethinking_the_jersey_shores_future_in_an.html

Source 12: The National Climate Assessment (NCA)
http://www.ucsusa.org/global_warming/science_and_impacts/science/us-global-change-nca-1.html#.WgB0x4ZrxE4

Source 13: NOAA National Centers for Environmental information for Environmental Information State Climate Summaries, New Jersey, January 2017. https://statesummaries.ncics.org/nj

Source 14 Climate Recommendation: Harriet Shugarman, Founder & Executive Director ClimateMama https://www.climatemama.com, policy analyst and economist. The Climate Reality Project 2017 "Green Ring Award" recipient and profiled in Al Gore's latest book "An Inconvenient Sequel, Truth to Power" . Past chair of the Wyckoff Environmental Commission and Green Team, Advisor to local, regional and national environmental and social justice organizations.
https://www.climatemama.com/about-us-46552/mission-and-goals-3

Source: general information from Environmental Resources of Wyckoff 1995 Report, additional Information from Ludlum, David 1983 N.J. "Weather Book, Rutgers University Press- Bowen, John.

Climate Quotes: 1& 2 - Rachel Carlson, 3 - Elizabeth Kolbert, staff writer – The New Yorker; Pulitzer Prize winner, "The Sixth Extinction: An Unnatural History." September 2016, The New Yorker.

AIR QUALITY

Local air quality on any particular day depends on a number of climatic factors, including temperature, wind speed and wind direction. As a result, even though Wyckoff is primarily residential, and has little or no industry that regularly spews pollutants, its air quality may not be significantly different from a more urban or industrial area such as Paterson or Newark.

The Federal Environmental Protection Agency, through its Division of Air Quality, has adopted national Air Quality Standards for the common air pollutants. The states, however, have the primary responsibility to attain and maintain these standards. In New Jersey, the Division of Air Quality, a part of the New Jersey Department of Environmental Protection, is responsible for monitoring the air quality in the state.

The goal of the Division of Air Quality is to ensure that the air is clean from both a public health and welfare perspective. The impacts of air pollution include damage to plants and property. Air pollution can also cause adverse health effects, which can be short term (acute) or long term (chronic).

The New Jersey Division of Environmental Protection manages air quality with ambient air monitoring, inventories of sources, emission reduction plans, permits, stack testing, air quality modeling and risk assessment, vehicle testing, inspection and enforcement. Air quality data on any particular day can be accessed from New Jersey's air monitoring sites on-line at www.njaqinow.net/.

The Air Quality Index (AQI) is an index for reporting daily air quality. The AQI focuses on health effects a person may experience within a few hours or days after breathing polluted air. The federal Environmental Protection Agency calculates the AQI for five major pollutants regulated by the federal Clean Air Act. These pollutants are: ground level ozone; particle pollution (particulate matter); carbon monoxide; sulfur dioxide; and nitrogen dioxide. Ground level ozone and airborne particles are the pollutants that pose the greatest threat to human health. Although New Jersey air quality, and hence Wyckoff's air quality, has improved significantly over the last 40 years, it still exceeds the current federal standards for ozone throughout the state and fine particles in urban areas. New Jersey has attained the sulfur dioxide (except in portions of Warren County), lead and nitrogen dioxide standards.

The AQI is a scale from 0 to 500. The higher the AQI, the greater the level of air pollution and therefore the greater the health concern. An AQI value of 100 generally corresponds to the national air quality standards for the pollutant. AQI levels under 100 are generally thought to be satisfactory. AQI values above 100 are considered to be unhealthy- at first for certain sensitive groups of people, then for everyone, as the AQI gets higher.

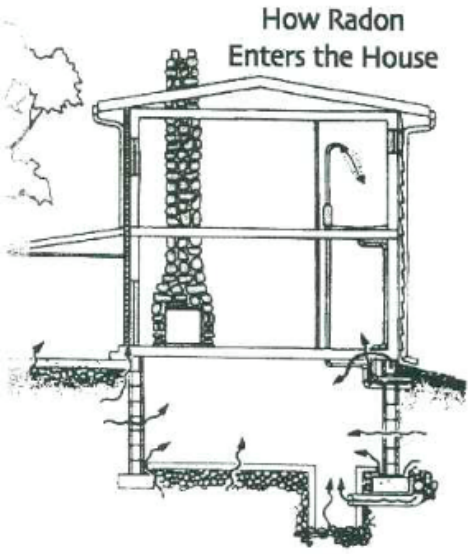
To obtain the air quality information for the Wyckoff area on any day in the past five years one can log into the Air Now website at airnow.gov/index.cfm?action=airnow.mapsarchivecalendar. The website has an archive of daily air quality for the region for every day in the past five years.

Radon

Radon is a cancer-causing, radioactive gas that comes from the breakdown of naturally occurring uranium in soil and rock. It is invisible, lacks odor and taste, and can only be detected by specialized tests. Radon is found in all 50 states. Radon enters homes through openings that are in contact with the ground, such as cracks in the foundation, small openings around pipes, and sump pits. Once radon is produced, it moves up through the ground into the air and can also dissolve into ground and surface water.

Like other radioactive materials, radon undergoes radioactive decay that forms decay products. Radon and its decay products release radioactive energy that can damage lung tissue. The more radon a person is exposed to, and the longer the exposure, the greater the risk. According to the U.S. Environmental Protection Agency, radon is the leading cause of lung cancer among non-smokers. Overall, radon is the second leading cause of lung cancer. Radon is responsible for about 21,000 lung cancer deaths every year. About 2,900 of these deaths occur among people who have never smoked. Indoor radon levels are more important than outdoor levels because people generally spend more time indoors and the air is trapped indoors.

The New Jersey Department of Environmental Protection recommends that all homes be tested for radon. According to the federal EPA, the radon level in a building or structure should be remediated if an occupant's long-term exposure will average 4.0 picocuries per liter (pCi/L) or higher. Nearly one out of every 15 homes in the United States has a radon level the federal EPA considers to be elevated. The NJDEP has divided the state into radon zones. Wyckoff is located in a “low to moderate” radon potential zone.



Radon testing should be conducted by a licensed professional. The testing device must be placed in the lowest livable level of the home that is used or could be used as living space. This could include a first floor without a basement, or a finished or unfinished basement, but not a crawl space. The testing kit should not be placed in an area exposed to direct sunlight, drafts, high heat or high humidity, or in kitchens, bathrooms, laundry rooms or closets. Radon testing in kitchens is not recommended because moisture, heat and exhaust systems can impact testing conditions.

In the event a home or building is found to have unacceptable levels of radon, remediation should occur. The most common method of radon gas remediation is sub-slab ventilation, which uses a fan to draw the radon gas out from below the slab or foundation, thereby preventing its entry into the house. Based on New Jersey data, this method is effective in almost every case in reducing radon gas to levels lower than 4 pCi/L. The cost to remediate is typically about $1,300.00, but varies according to the type of the house and the type of soil or aggregate under the slab. Unless specified by contract, builders are not responsible for testing or subsequent remediation of radon.

For further information, including a list of New Jersey certified radon measurement and mitigation businesses, visit the NJDEP website at http://www.njradon.org

Source: New Jersey DEP website
www.homefacts.com
www.njradon.org.

HYDROLOGY

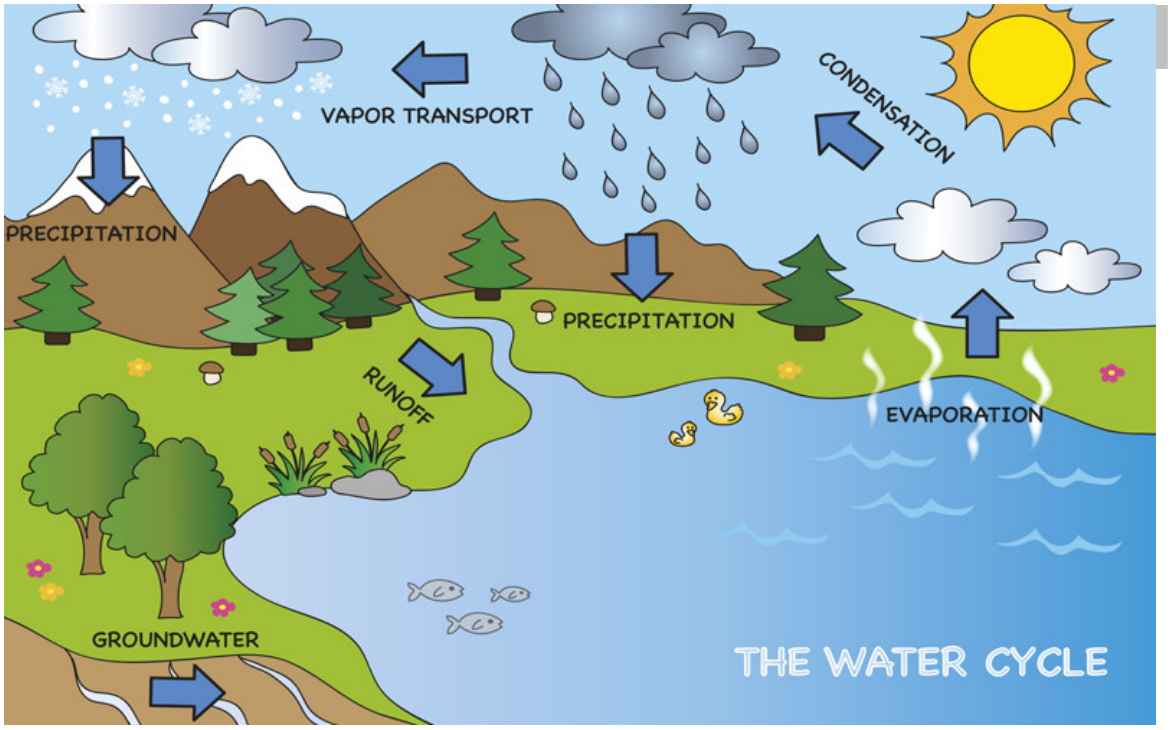
Water *is precious because life could not exist without it. Life was born as a result of water, from plants to animals to humans. Despite Earth's appearance of watery abundance, less than one percent of the water on Earth is actually fresh and usable.* Earth's Precious Water - National Geographic

http://www.nationalgeographic.com/kidsnetwork/water/session_01.html

We drink it, wash with it, flush it, and mix chemicals with it. We use it for recreation, power, and greenbelts. And, unfortunately, we allow it to be abused by inadequate infrastructure systems and pollution.

Earth's water is always in movement, and the natural water cycle, also known as the hydrologic cycle, describes the continuous movement of water on, above, and below the surface of the Earth. Water is always changing states between liquid, vapor, and ice, and these processes have been happening over millions of years. The water cycle, U.S. Geological Survey (USGS) Water Science School

https://water.usgs.gov/edu/watercycle.html



http://www.basicplanet.com/water-cycle/

POTABLE (DRINKING) WATER

The primary source of water in New Jersey is its ample precipitation, which averages 45 inches per year. New Jersey also receives about 134 million gallons per day from the

Delaware River. Water lost daily due to river outflows adds up to over 8,000 million gallons per day (MGD) and an additional 9,700 million gallons per day are lost from evaporation of surface water due to solar radiation.

In Wyckoff virtually all potable water has the Brunswick Aquifer as its source. An aquifer is an underground water storage facility resulting from naturally occurring permeable rock. The Brunswick Aquifer was created by the Pleistocene glaciations, which overrode the entire Piedmont region some 10,000 years ago. As the glacier moved southerly, it removed the loose, weathered matter leaving the less porous exposed bedrock. Over the years, erosion, deposition, and decomposition of organic matter has covered the Brunswick Aquifer. An example can be found along Wyckoff Avenue where there is a rocky outcropping filled with a layer of rounded gravel and pebbles within a sandstone matrix.

Recharging of the aquifer occurs mainly through infiltration of precipitation through sediment of up to 300 feet deep. These deposits are classified as terminal moraine otherwise known as glacial drift, and overlay the Brunswick series. In addition to the permeability of the Brunswick/Newark series, considerable storage of water occurs in fractures in the rock due to folding and faulting of the bedrock itself.

A major portion of Wyckoff's potable water is the responsibility of the Ridgewood Water Co. http://water.ridgewoodnj.net/. Ridgewood Water monitors all the water that is publicly distributed within the township. While there are a considerable number of private wells within the township limits, it is the individual property owners who are ultimately responsible for the quality of their own water.

In general, water quality has been degraded due to urbanization, industrialization, agriculture, the disposal of waste, and even atmospheric deposition (e.g. acid rain). In 1991, Congress established the National Water Quality Assessment (NAWQA) https://water.usgs.gov/nawqa/ an ongoing project to address where, when, why, and how the nation's water quality has changed, or is likely to change in the future.

SURFACE WATER

Scattered within the boundaries of Wyckoff are a number of lakes and ponds with their winding streams and brooks that serve as inlets and outlets. The preponderance of surface water is found in the irregular circle comprising the northeasterly quadrant of the township. The drainage system is classified as "deranged" which is characteristic of recently glaciated regions where the shape of the Iandscape is determined by glacial scouring rather than by more common stream erosion.

The watershed of Wyckoff consists of four drainage basins:

- The Molly Ann Basin: located in the southwest, it has the highest topography of the township. The drainage has its beginnings in the vicinity of Mountain Ave.

- The Deep Brook Basin: named after the brook that crosses under Grandview Ave. and continues southeasterly, crossing the boundary of Hawthorne near Lafayette Ave.

• The Goffle Brook Basin: located in the center of the township, it has its drainage in the area bounded by Sicomac Ave., Russell Ave., and Lemmerman's Pond, adjacent to Russell Farm's Park. Hartung Ponds, Staggs Pond, Rambout Pond, and Demarest Pond are all surface water components of this basin. Maple Lake is also part of Goffle Brook Basin which empties into the Goffle Brook as it crosses into Midland Park.

• Hohokus Brook Basin: the most northerly watershed, it consists of Zabriskie's Pond, Spring Lake and Parsons Pond.

18% of New Jersey's potable, treated water had detectable concentrations of one or more organic contaminants. In addition, the possible effects on ground water of pesticides, fertilizers, and atmospheric deposition of contaminants are not yet fully understood or documented. New Jersey Water Pollution Control Act *declares that* ***pollution of the ground and surface waters*** *of this State continues to endanger public health.*

http://www.nj.gov/dep/landuse/download/58_10a.pdf

STORM WATER

When rain or snow falls onto the earth, it starts moving according to the laws of gravity. A portion of the precipitation seeps into the ground to replenish Earth's groundwater. Most of it flows downhill as runoff. Storm water runoff quality and control is extremely important because it keeps rivers and lakes full of clean water, and also reduces the damage caused by erosion. https://water.usgs.gov/edu/runoff.html

Storm water is directed either to the Wyckoff municipal storm water system or to storm water systems maintained by the property owners. These systems must meet chapter 163 Storm Water Management to the Township Laws & Code. https://ecode360.com/31942229

Green Infrastructure refers to methods of storm water management that reduce wet weather/storm water volume, by allowing the storm water to infiltrate and be treated by vegetation or by soils, or be stored for reuse. http://www.nj.gov/dep/gi/index.html. The rain garden located at the Wyckoff Library is an example of green infrastructure.

Trees are increasingly recognized for their importance in managing runoff. Their leaf canopies help reduce erosion caused by falling rain. They also provide surface area where rainwater lands and evaporates. Roots take up water and help create conditions in the soil that promote infiltration. https://www.epa.gov/soakuptherain/soak-rain-trees-help-reduce-runoff

Non-point source pollution, found in storm water, is a universal cause of water pollution. By way of example, sources of non-point water pollution are: the emptying of antifreeze or motor oil into the water system, over-application of fertilizer or pesticides, and organic waste of pets. Limiting these sources of pollution requires sensitivity to the problem by all members of the community.

WASTE WATER

The treatment of wastewater is interconnected with the other uses of water. Wastewater is water that contains substances such as human waste, food scraps, oils, soaps and chemicals. Treatment plants reduce pollutants in wastewater to a level nature can handle.

https://water.usgs.gov/edu/wuww.html

Few things in life are as insidious as "bad water." Water can carry disease, yet still look pristine in a glass. Agricultural, municipal, and industrial sources, including each and every one of us, create pollution in its broadest sense.

72% of Wyckoff is connected to the sanitary sewage system of the Bergen County Utility Commission http://www.bcua.org/. There remains a portion of the township with septic systems. These systems must meet chapter 214 Subsurface Sewage Disposal Systems of the Township Laws & Code. https://ecode360.com/11432627 DRY SEWER PIPES- RESIDENTIAL- locations in town not referenced and yet to be hooked up to sewer lines)

FLOOD WATER

*"USGS reports document **New Jersey floods** from 1896 to the present. Early spring and winter flooding in New Jersey tends to occur as a result of widespread, steady rain of moderate intensity that falls on frozen ground. Snow and ice melt may increase the chance of winter flooding. Summer flooding resulting from thunderstorms typically occurs in small streams and is of local extent. Late summer and fall flooding associated with frontal storms, tropical storms and hurricanes can be widespread, resulting from heavy intense rains across the entire state.* (Storm Sandy is the latest example) *New Jersey's major floods are those that are the most severe in terms of magnitude, areal extent, loss of life, and property damage."* USGS New Jersey Water: Archive of Flooding Events in New Jersey

https://nj.usgs.gov/hazards/flood/archive.html

Wyckoff local law attempts to minimize public and private losses due to flood conditions. https://ecode360.com/``11429425

In New Jersey, water supply development has not kept pace with increases in demand, leading to water supply shortages during periods of average or less than average precipitation. With continued development of vacant unimproved land, ground water withdrawals have resulted in a significant water level decline. Urbanization, industrialization,

agriculture, and climate change must continually and consistently be assessed in order to manage our finite ground water resource effectively.

REFERENCES;

National Water Summary New Jersey

Ground- Water Resources, Surface- Water Resources
Water Supply and Use

U.S. Geological Survey, Department of the Interior
Water Fact Sheet, Ground- Water Studies in New Jersey

U.S. Geological Survey.
Water Data Report NJ 91-1

Hydrology Overview of New Jersey
New Jersey Geological Survey October 1992

Water Resources Sector Technical Input Report in Support of the U.S. Global Change Research Program, National Climate Assessment - 2013. 31 pp

RESOURCES:

Ridgewood Water: A public water supply utility serving Wyckoff. http://water.ridgewoodnj.net/

NJDEP WaterWatch: NJDEP enables users to view drinking water information for NJ water systems
https://www9.state.nj.us/DEP_WaterWatch_public/

United States Geological Survey on National Water-Quality Assessment (NAWQA
https://water.usgs.gov/nawqa/

DrinkTap: information available about water – from where it comes from and how to protect it, to what's in it and how to turn it off.
http://www.drinktap.org/

New Jersey Department of Environmental Protection NJDEP
http://www.nj.gov/dep/

SOLAR

More energy from the sun falls on the earth in one hour than is used by everyone in the world in one year. ***(National Renewable Energy Laboratory)***

SOLAR comes from the Latin word SOL for sun—a powerful source of energy that can be used to heat, cool, and light our homes and businesses. That's because *more energy from the sun falls on the earth in one hour than is used by everyone in the world in one year*. A variety of technologies convert sunlight to usable energy for

buildings. The most commonly used solar technologies for homes and businesses are solar water heating, passive solar design for space heating and cooling, and solar photovoltaics for electricity. "National Renewable Energy Laboratory" https://www.nrel.gov/workingwithus/re-solar.html 1 JR

1 - Source: NREL National Renewable Energy Laboratory
https://www.nrel.gov/workingwithus/re-solar.html
2 - Source: U.S. Department of Energy @ energy.gov

Photo # 1 - SJ Logo

SUSTAINABLE JERSEY states that sunlight is a 100% clean and renewable source of energy, and it is one of the fastest-growing renewable energy alternatives in the country. 3

WHY IS SOLAR IMPORTANT?
Using solar energy is one of the most impactful strategies available for reducing greenhouse gas emissions and making the energy supply more sustainable. All solar energy generated on-site directly displaces the purchase of less sustainable energy supplies from traditional sources. Solar is considered one of the purest forms of renewable energy and is demonstrably "cleaner" then virtually any other alternative. Beyond environmental value, however, solar energy brings numerous economic, social, and political benefits, as well as the creation of local jobs. The State of NJ has been a national leader in recognizing and encouraging the use of solar energy, and it is considered an "inherently beneficial use" for most properties. 3CK

New Jersey has one of the strongest solar markets in the country for solar photovoltaic, second only to California by many measures. As of the end of 2014, approximately 32,000 solar installations had been completed in New Jersey, on residential, commercial, and public properties. These systems collectively represent over 1.4 billion watts of capacity, and at peak times, solar generates more power than NJ's largest nuclear plant! This peak-generation benefit is particularly important, since peak times are when electricity is most expensive. Solar power is more economically viable than ever before and most solar projects result in electricity costs that are lower than those from traditional suppliers. 3CK

3 - For more information on Solar, visit the SJ Solar Action @
http://www.sustainablejersey.com/actions-certification/actions/#close

3 - Source for this section: SJ Action On Site Solar System, Why is it Important? (This action has variable points: 10, 20, 30, 40) http://www.sustainablejersey.com/actions-certification/actions/#open/action/108

SOLAR ELECTRIC POWER
You don't have to look far in New Jersey to see one of the thousands of solar electric systems providing clean power to homes, businesses, schools and government

buildings. All homes and business in Wyckoff, including those with photovoltaic systems, are connected to power infrastructure owned by either PSE&G or Rockland Electric. 4JR

Under New Jersey's energy deregulation law, the supply portion of your electric bill is separate from the delivery portion. With the supply portion open to competition, purchasing your energy supplies from a company other than your electric company has no impact on the reliability or safety of your service. 4JR

For more information on Third Party Suppliers the Board of Public Utilities has created an entire website with helpful information, explanations and tips, visit NJ Powerswitch. http://nj.gov/njpowerswitch/ 4JR

4 - Source: State of NJ Power Switch http://nj.gov/njpowerswitch/

Photo # 2 - How Solar Works

WYCKOFF'S SOLAR ORDINANCE

The purpose of this section is to understand the current requirements for the installation of solar panels within the Township of Wyckoff. 5

SOLAR ENERGY SYSTEM

A solar energy system and all associated equipment which converts solar energy into usable electrical energy, heats water or produces hot air or other similar function through the use of solar panels. 5

SOLAR PANELS

A structure containing one or more receptive cells, the purpose of which is to convert solar energy into usable electrical energy by way of a solar energy system. 5

SOLAR PERMITS

No solar panel shall be installed without a permit issued by the Township. 5

SOLAR INSTALLATION REQUIREMENTS

In addition to the required signage for safety purposes, property owners shall provide the Township Fire Official with a map illustrating the location of the disconnect switch, as well as any information regarding the vendor authorized to deactivate the solar panel. 5

5 - Solar Code, Solar Panel Installation 186-36.1 (Added 1-17-2012 by Ord. No. 1675) @ https://ecode360.com/16125175?highlight=panels,solar,solar%20panel,solar%20panels#16125175

5 Source - Township of Wyckoff, NJ Website, eCode360, Township Laws and Codes, 186-36.1. LINK here § 186-36.1
Solar panel installation.

Chapter 186 - Zoning

Township of Wyckoff website https://www.wyckoff-nj.com

WHO HAS SOLAR, WYCKOFF'S FUN FACTS ABOUT SOLAR…
Less than 1% of private residences, businesses and schools have solar in Wyckoff, with a total of 27 buildings through November 2017. There are 5542 single family residences (including condos and town houses) in Wyckoff.
The number of Solar Projects completed grouped by years:
2006-2007 = 3
2008-2012 = 13
2013-2017 = 11
Businesses include; Stop & Shop, Goffle Road Poultry Farm.
Schools include; Eastern Christian School Association, Grace United Methodist Church, Sicomac Elementary School and Eisenhower Middle School. 6 - Wyckoff Board of Health.

6 - Source, Solar resident information, Cindy Risseeuw, Technical Assistant, Wyckoff Building Department. Secretary, Wyckoff Board of Health, wyckoffboh@wyckoff-nj.com

SOLAR FROM A BUSINESS PERSPECTIVE
A private Solar company explains how Solar works…
Enough sunlight hits the earth every hour to power all of the world's energy needs for a year! Solar energy systems silently and efficiently convert sunlight into electricity with no moving parts and minimal maintenance. In addition, solar systems operate pollution-free. Solar panels, found on things like (spacecraft, rooftops, and handheld calculators) are made of semiconductor materials like those found in computer chips. When sunlight hits the cells, it knocks electrons loose from their atoms. As the electrons flow through the cell, they generate electricity. 7

SOLAR ENERGY SYSTEMS, EPA, ELECTRIC PRICES, INCENTIVES & FUNDING
DID YOU KNOW?
According to the EPA, buildings and homes alone are responsible for producing 35% of all carbon emissions in the United States. A typical residential installation alone eliminates enough carbon in our atmosphere to compensate for planting 100 trees per year. As our knowledge of the environmental benefits of Solar Energy has increased, consumers and communities are looking to do business with companies that are committed to operating with a green philosophy. 7

Average electric prices which increase every year have done so by 18% over the last 15 years, as noted in this comparison, in 2002 electric prices were 8.5 cents and in 2017 18.5 cents. Most people spend on average $150 to $250 per month on their electric bill however solar monthly bills come in under $5 per month. 7

Incentives & Funding - Today, Government incentives have been a driving force behind solar economics. Energy savings are the backbone of your solar project, but making use of federal tax credits and state incentive programs are critical to making solar work financially. Some of the incentives include; Tax credits, Solar Energy Credits (SRECs), Rebates, and Net Metering. 7

Net metering is a billing mechanism that credits solar energy system owners for the electricity they add to the grid.

SREC (Solar Renewable Energy Certificate) represent the environmental attributes from a solar facility, One SREC is awarded each time a solar system produces one thousand Kilowatt-hours (KWh) of electricity. Homeowners and businesses can then utilize the sale of the SRECs they generate to help finance their solar systems.

Top "10" Things you should know about solar.

http://www.geoscapesolar.com/why_go_solar

7 - Source: http://www.geoscapesolar.com/solar_101

Photo # 3 - NJ Clean Energy Program

New Jersey's Clean Energy Program is a statewide program that offers financial incentives, programs and services for New Jersey residents, business owners and local governments to help them save energy, money and the environment. This program includes solar installation. http://www.njcleanenergy.com/ As of September 30, 2017 over 81,810 New Jersey homes and businesses have installed a solar electric system. 8

Source 8 - NJ Clean Energy Program Source: NJ Clean Energy Program
http://njcleanenergy.com/renewable-energy

Photo's - please insert as noted above.

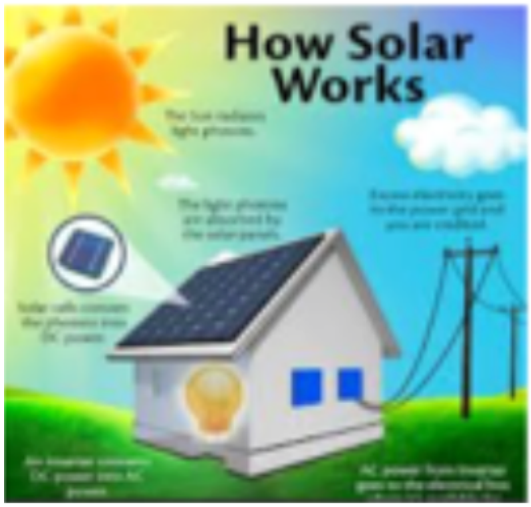


Photo # 1 - SJ Logo

Photo # 2 - How Solar Works

Photo # 3 - NJ Clean Energy Program

SOLAR REFERENCES and RESOURCES

1 - Source: National Renewable Energy Laboratory, NREL https://www.nrel.gov/workingwithus/re-solar.html
2 - Source: U.S. Department of Energy @ energy.gov
3 - Source for this section: SJ Action On Site Solar System, Why is it Important? (This action has variable points: 10, 20, 30, 40) http://www.sustainablejersey.com/actions-certification/actions/#open/action/108
4 - Source: State of NJ Power Switch http://nj.gov/njpowerswitch/
5 Source - Township of Wyckoff, NJ Website, eCode360, Township Laws and Codes, 186-36.1. LINK here § 186-36.1 Solar panel installation.
Chapter 186 - Zoning
Township of Wyckoff website https://www.wyckoff-nj.com
6 - Source, Solar resident information, Cindy Risseeuw, Technical Assistant, Wyckoff Building Department. Secretary, Wyckoff Board of Health, wyckoffboh@wyckoff-nj.com
7 - Source: http://www.geoscapesolar.com/solar_101
8 - Source: NJ Clean Energy Program Source: NJ Clean Energy Program http://njcleanenergy.com/renewable-energy

REDEVELOPMENT

Reuse of once desirable land provides many positive benefits to society. Successful redevelopment of former contaminated or possible contaminated sites that

have the potential to be restored is of utmost importance to improving the environment and economy and offers vital environmental and economic rewards to the community. Redevelopment allows for smarter growth and promotes the sustainable revitalization of former contaminated sites. Redevelopment is the recycling of land as it helps repurpose land for new uses

Redevelopment of contaminated sites, also known as *brownfields*, provides many positive gains for local municipalities. The trickling economic benefits such as job creation, tax revenues and expansion of the tax base can enhance and improve local communities. The cleanup and redevelopment of polluted properties makes productive and wise use of existing transportation, water, and utility infrastructures. Along with the economic benefits, restoration of these properties helps to improve the welfare of the community by providing health and ecological benefits. The mitigation of environmental hazards by the reduction and removal of toxic contaminants from the air, water and land help to improve overall quality of life. Redevelopment safeguards the preservation of green space. With limited amount of green space available, redevelopment takes developmental pressures off of green spaces and working lands and can be a catalyst for improving the quality of life for neighborhoods. Research suggests that for every one acre of brownfield redeveloped, up to 5.6 acres of greenfields may be diverted from development, depending on the land use.

Brownfields, known as potential redevelopment sites, are defined under NJ state law (N.J.S.A. 58:10B-23.d) as "any former or current commercial or industrial site that is currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant." (NJDEP) It is considered a “national priority” to redevelop these often-neglected brownfield sites and transform them back into productive reuse. According to the USEPA, nationwide there are estimated to be more than 450,000 brownfield sites. New Jersey State has some of the greatest amount of brownfield sites in the country.

Brownfields are often abandoned, closed, under-utilized industrial or commercial facilities. They can be as large as an abandoned factory in a town's former

industrial section, a closed commercial building, a warehouse in a suburban setting or smaller establishments such as local dry cleaning businesses and gas stations. Many of these contaminated brownfields can sit idle and unused for decades due to the high and unpredictable cleanup costs to redevelop. Over time, the vacant properties can have adverse effects on the community; pollutants can affect the air, soil and water of surrounding areas ultimately exposing residents (people and wildlife) to toxic substances and unsafe structures present hazards to the public and are considered eyesores thus creating a negative social and economic impact on the community.

Redevelopment of a brownfield involves 2 steps: the remediation (cleanup) and restoration (redevelopment) of sites for new uses. Initially, the process begins with the detection of the actual presence of contaminants on properties which is determined by a carefully planned investigation known as an Environmental Site Assessment (ESA). The performance of an ESA is essential for any potential buyer of property. New Jersey law now requires a private Licensed Site Remediation Specialist (LSPR) to conduct the site assessment, investigation and cleanup plan. Keeping public safety and health as their main priority, the LSRP leads the cleanup until the issuance of a Response Action Outcome (RAO), which basically states no further action is required and the property poses no unacceptable risk to human health or the environment thus ready to be redeveloped. According to the NJDEP, prior to the LSRP program, New Jersey had as many as 20,000 active cases at any given time. Currently 14,075 cases are active and of these 9,045 are under the direction of an LSRP

The end use of the redeveloped property is usually determined by the developer, local municipality and various involved stakeholders from the community. Historically, many successful former redevelopment projects have shown that involvement at the planning stage is detrimental to the effective outcome of the redevelopment project.

Redevelopment in Wyckoff

A recent redevelopment project in Wyckoff comprises the continued cleanup of a former petroleum distribution facility that operated from 1930-1960 on Greenwood Ave and Main St. In the 1960's, the site was converted to a commercial strip mall. Prior

to redevelopment, petroleum and chlorine contaminants were located where soil and groundwater contamination was detected. Chemical oxidation, a remedial technique used to rectify and reduce the levels of soil and groundwater contamination to acceptable levels, was successfully used in the remediation of the soil contaminants at the site. Source area removal and natural attenuation of groundwater were utilized to remove water contaminants. The site has been remediated and is currently under construction for commercial redevelopment as a Shop Rite supermarket. This is a great example of how the redevelopment of a once blighted, formally productive site will be restored to future commercial development.

Russell Farms

Another successful redevelopment project in the Township of Wyckoff is Russell Farms, a 5-acre farm. Originally a 33-acre farm, it was sold to John Duryea in 1878. Edward Russell purchased the farm in 1906 and ran it as a wholesale apple farm. It was sold to Dorothy Long in 1941, and in 1950, it functioned as a retail farm. Until recently, Russell Orchards, as it was known, was owned and operated by Mark Cole and Paul Burke. Russell Farms previously operated as an orchard farm. Prior to redevelopment, commonly used pesticide contaminants were detected and two de-commissioned underground storage tanks used by the orchard farmers to fuel the vehicles were also identified, thus prompting their removal. After the contaminants were removed, the site received the proper Response Action Outcome and in April 2012, the NJDEP issued a No Further Action letter. The township proceeded with the closing as a result of the completion and verification of all relevant environmental testing. The site was purchased by the township along with a Bergen County Open Space Grant and converted into a beautiful passive recreation area. Russell Farms has now been transformed into a passive recreation park that includes 22 new trees, a new Dutch-style barn pump house, walking trails, dog-waste stations and a monarch butterfly garden. The park will see future enhancements such as historic signage highlighting the parks past, the installation of donated benches, and creation of an area as a tree farm. Wyckoff is proud to proclaim this as an excellent model of restoration and

redevelopment of a potential brownfield site into usable green space that provides positive recreational benefits to the community.

Resources

US EPA, Overview of Brownfields Program Website
NJ DEP- Site Remediation Program Website

NJDEP, JERSEY'S CONTAMINATED-SITE CLEANUP PROGRAM HITS MILESTONE, June 2017
Wyckoff Patch, January 20, 2011
ANJEC/CCLR Publication, Remediating and Redeveloping Brownfields in NJ

Links:

https://www.epa.gov/brownfields/overview-brownfields-program
https://www13.state.nj.us/DataMiner/Search/SearchByCategory?isExternal=y&getCategory=y&catName=Site+Remediation
http://www.state.nj.us/dep/newsrel/2017/17_0069.htm
http://www.nj.gov/dep/srp/brownfields
http://wyckoffhistory.org/index.php/farms/Russell-Farms.htlm
http://www.cmap.illinois.gov/about/2040/supporting-materials/process-archive/strategy-papers/brownfields/impacts

OPEN SPACES

The State of New Jersey has allowed Environmental Commissions to inventory both public and privately owned open spaces.

"Open space means any parcel or area of land or water essentially unimproved and set aside, dedicated, designated or reserved for public or private use or enjoyment or for the use and enjoyment of owner and occupants of land adjoining or neighboring such open space; provided that such areas may be improved with only those buildings, structures, streets and off street parking and other improvements that are designated to be incidental to the natural openness of the land."

In 2017, the Township of Wyckoff undertook an inventory of open spaces which resulted in a list of 21 parcels of land totaling 248.6 acres. A copy of this report with detailed maps may be found in the Wyckoff Public Library. Data from the Master Plan, along with the tax records of the township were used to compile the 2017 open space inventory according to the above definition. Open Space in Wyckoff consists of farms, private open land in excess of 2 acres, parks and recreation, water company land, and schools/playgrounds, excluding buildings. These categories total 455.6 acres, or 10% of the total land available. The total acreage of Wyckoff is 4,288 acres. There is 289 acres, or 6.74% of total open space and conservation easement.

As of January 2018, Abma's Farm is the only commercial working farm, which is comprised of 30 acres.

The centerpiece of Wyckoff open land is the James A. McFaul Environmental Center located on Crescent Avenue. In 1962, Bergen County purchased an 81 acre pig farm at a cost of $400,000, of which $200,000 was provided through Green Acres funding. In 1966, the county excavated a two and a half acre pond, erected a 5,000 square foot building, paved a mile long drive and parking areas, installed bench shelters and picnic areas and laid out a nature trail

More recently, shelters for birds and animals were built, and an aquarium was

completed inside the main building. Thousands of daffodils were planted, as well as trees and shrubs. In 1994, an accessible observation platform was completed.
The Environmental Center is more than just a park; it is a museum, a wildlife sanctuary, a native wild animal zoo, an arboretum with extensive collection of horticultural plants, and an environmental education facility. Along with thousands of visitors who come to the Environmental Center each year, some 5,000 children take advantage of the formal programs and learn about our environment.

The Wyckoff Township Committee acquired and zoned three pieces of property to remain as parks for use by Wyckoff residents. In August of 1992, Wyckoff re-zoned the Meer property, totaling almost 18 acres, as recreational land. Volunteers raised funds to develop the property into ball-fields, a nature walk and a parking lot. The facility was opened in 1994 and named the Wyckoff Community Park.
In 1993, Mr. Warner W. (Bud) Brackett gifted to the township 12.8 acres to be used as a park. The land is heavily wooded, with a stream, a small lake, and several open areas. A nature trail system and magnificent rose garden were developed. The park was given the name "The Gardens of Wyckoff" and it officially opened in 1994.

In 2012, the town purchased a 5-acre parcel now called Russell Farms Community Park. It was purchased with local open space funds and a county grant. At the time of this writing, the township has one application pending at the former Maple Lake property located at the end of Maple Drive for the purchase of property for open space.

As of January 2018, Robert J. Shannon Jr, Wyckoff Township Administrator provided the following:

> "A few years ago the Township obtained two grants totaling 1.8 million dollars for the purchase of the Maple Lake property. The property owner obtained a tax appeal reduction to approximately 1.8 million dollars, but the owner still wanted an amount significantly exceeding the two Green Acres appraisals (standard procedures for the acquisition of open space for which the state and county will issue grants). The township by law was unable to pay more and therefore could not effectuate a sale. Currently the property owner became an intervener challenging the Township's affordable housing plan. As of the date of this publication, the Township

continues its efforts to purchase the Maple Lake property's environmentally sensitive sections of the parcel.

Another purpose of an environmental inventory is to identify environmentally sensitive properties for the purpose of raising awareness, to protect them from development, and inappropriate resident use such as fertilizers, litter, and building next to waterways. Included are properties with steep slopes, wetlands and streams running through them and properties that help with drainage.

The Federal Clean Water Act established a number of protection measures that mandated municipalities to perform without funds for implementation. Wyckoff adopted measures in user-friendly language and communicated those measures to property owners. This would be an effective benefit of the environmental inventory.

Open space means many things to many people. For example, to some it means passive recreation, to others it means active recreation facilities. The following is a list of open spaces in Wyckoff and you will see it has taken the form of environmental and conservation protection easements, wellhead protection areas, as well as parks.

Wyckoff pays the 6th greatest amount of county taxes of Bergen's 70 municipalities and when you look at the NW Bergen county, Wyckoff pays the 3rd greatest amount of taxes to Bergen County of the 13 municipalities that comprise the Northwest Bergen area. What is often overlooked and not mentioned is the vast amount of open space that is available for enjoyment to Wyckoff residents in adjacent municipalities that Wyckoff taxpayers have funded through their local property taxes..

INVENTORY OF OPEN SPACE IN THE TOWNSHIP OF WYCKOFF

1. Wyckoff Community Park 18 acres

   Township Committee obtained in 1995 at no cost)

2. Gardens of Wyckoff Nature Sanctuary 13 acres

   (Township Committee obtained in 1994 at no cost)

3. Larkin House Park 5 acres

   (Township Committee obtained in 1999 at no cost)

4. Bergen County Wildlife Center 81 acres

5. Pulis Soccer Field & Leaf Recycling Facility 24 acres

6. Town Hall Athletic Complex 27 acres

7. Sicomac Avenue Woods 7 acres

8.	Zabriskie Museum/Gardens & Pond Park	6 acres
9.	Township Spring Lake property leased to YMCA	13 acres
10.	Russell Farms Community Park (purchased in 2012)	5 acres
11	Fire Company 2 woods at 180 Wyckoff Avenue	3 acres
12	Township property at Demarest Avenue	3.4 acres
13	Route 208 North/Cedar Hill Avenue	2.7 acres
	Ridgewood Water well head protection Properties:	
14	Cedar Hill Avenue Fields	10.6 acres
15	Hartung Drive Fields	3 acres
16	Mountain Avenue Fields	3.6 acres
17	Stonybrook Lane Fields	1.5 acres
18	Carlton Road Fields	10.0 acres
19	Vance Avenue Field	2.55 acres
20	Lafayette Avenue Field	5.75 acres
21	Weisch Lane Woods Field	3.50 acres
	TOTAL	248.6 acres

CONSERVATION EASEMENT AREAS REQUIRED BY PLANNING BOARD SITE	

PLAN APPROVALS	
Cedar Hills Condominium Conservation Easement Area	11.48 acres
Allison Village Association Conservation Easement Area	8.20 acres
Fieldstone Condominium Assoc. Conservation Easement	2.27 acres
Barrister Farms Conservation Easement along and in the Ravine	7.40 acres
Barrister Court Condominium Conservation Easement Area	7.50 acres
Deep Brook Road Conservation Easement along and in the Ravine	3.50 acres
TOTAL	40.40 acres
TOTAL OPEN SPACE & CONSERVATION EASEMENT ACREAGE	**289.0 acres**
Total Acreage in the Township of Wyckoff	4,288 acres
Percentage of Open Space/Conservation Area	**6.74%**

ALL OF THESE ACRES ARE LOCATED IN A MUNICIPALITY ADJACENT TO WYCKOFF OR WITHIN A 10 MINUTE OR LESS DRIVE FROM WYCKOFF. (WYCKOFF IS THE 7th LARGEST MUNICIPALITY OF BERGEN COUNTY'S 70 MUNICIPALITIES AND WYCKOFF TAXPAYERS PAY A SIGNIFICANT PERCENTAGE OF THE BERGEN COUNTY TAX BILL.)

DESCRIPTION	ADDRESS	FACILITIES	OWNED/OPERATED/ PURCHASED	ACREAGE
Campgaw Mountain Reservation	Campgaw Road Mahwah, NJ	Ski Mountain/Hiking Trails/ Picnic Facilities/Archery/ Open Space	Bergen County	1,315 acres
Darlington Golf Course	Campgaw Road Mahwah, NJ	18 Hole Golf Course	Bergen County	120 acres
Darlington County Park	Campgaw Road, Mahwah, NJ	2 Swimming Lakes, Beaches, 1 Fishing Lake, Picnic Groves, Tennis/Handball Courts	Bergen County	22 acres
Ramapo Valley Reservation	Ramapo Valley Road Mahwah, NJ	Open Space Hiking/Fishing/Scenic Views	Bergen County	2,145 acres
Boy Scout Camp Glen Gray	Oakland, NJ	Open Space Hiking/Fishing/Camping	Bergen County owns it, Friends of Glen Gray Operates it. Trust for Public Land Purchased It.	756 acres
Phillips Property	Mahwah & Oakland, NJ	Open Space Hiking	Bergen County owns it & Operates it. Trust for Public Land Purchased It.	32 acres
Saddle Ridge Horseback Riding Area	Shadow Ridge Road Franklin Lakes, NJ	Wooded Bridle Trails & Panoramic Views	Bergen County	28 acres
The Bike Path	Ridgewood & Glen	Asphalt Walking & Biking Path	Bergen County	6 miles

	Rock			
Alice & Bud's Meadow	Franklin Lakes	Meadows-Woods Trail	Bergen County	12.2 acres

RESOURCE RECOVERY/RECYCLING/CONSERVATION

Don't Treat Your Recyclables Like Trash

Recycle, Recycle, Recycle

The advent of Wyckoff's recycling efforts began in the 1970's when local Boy Scout troops collected newspapers and transported the newspapers to a recycling market. Far

from the simple efforts of these troops, in 1988, the Township of Wyckoff adopted ordinance #1025 which established its first town-wide recycling The ordinance to establish its first official recycling program was created in compliance with the Municipal Recycling Law in 1986, the Clean Communities and Recycling Act (N.J.S.A. 13:1E-92 et seq.) urging municipalities to provide recycling services to their communities.

Wyckoff's recycling program is managed through the Recycling and Conservation Center under the direction of the Township Administrator Recycling Team.
The recycling program was originally created to limit the high garbage disposal costs and reduce the amount of solid waste Wyckoff residents send to the landfills, but has since grown into a mass effort to support the town's goal of achieving a 50% residential recycling rate. Along with recycling, the township operates a residential solid waste garbage and trash pickup. The Township continues to encourages residents to separate their recyclables from household garbage and further promotes recycling through its convenient weekly single-stream curbside recycling collection. Residents can now mingle their recyclables for easy pick-up. The township houses a Recycling Center whereby residences and businesses can unload many scrap and bulk item materials such as electronics, curbside household items, white goods pick up and compost materials (see list below). A comprehensive list of household items and how to dispose of them, can be viewed at this website: https://www.wyckoff-nj.com/recycling-trash

Wyckoff Recycling Center List of Recyclable Items: A list of Allowable items only!

Materials allowed at the Recycling Center

- Aluminum cans
- Appliances
- Books (hard covers removed)
- Brown paper bags
- Corrugated cardboard
- Clear, green, & brown glass
- Gently used clothing
- Newspapers, magazines, & junk mail
- Plastics #1, #2, #3, #4, #5, #6, #7
- Scrap metal
- Tin
- Wax Coated Paper Cartons

Materials allowed at the Conservation Center:

- Branches (less than 3 inches in diameter)
- Brush (no root ball)
- Grass
- Leaves
- Twigs

Metal Bulk Items (White Goods) Collection

Metal bulk items and household appliances are collected at the curb by the Wyckoff DPW on Wednesdays by appointment only.

- Residential washer and dryer (removal of doors recommended)
- Residential stoves and ovens (removal of doors recommended)
- Residential refrigerators and freezers (removal of doors REQUIRED)
- Metal grills (propane tank must be removed by the homeowner before placing grill at curb)
- Dehumidifiers
- Hot water heaters (water removed - light enough to pick up)
- Metal basketball poles and rims (without cement)
- Water coolers

Bins are also available to accept clothes and shoes that you no longer want or cannot use, but which someone else can. Please do not leave clothing or shoes outside the bins.

RECYCLING is **E A S Y**!

Every week curbside pick-ups
As many containers as you want
Single Stream – (no sorting of recyclables required)
You can help us reach the Nifty-Fifty

Wyckoff 's commitment to recycling has continued to grow over the years. The Township Committee along with the Environmental Commission and Green Team volunteers, coordinate education and awareness programs for the community and conduct outreach efforts on sustainable practices and "green living" through participation in local events such as Wyckoff Day, Team Up to Tidy Up Day and Shred Fest Day. From public service announcements and weekly E-News blasts to broadcasts on social media sites such as Facebook and Twitter, residents can have up to the minute information about recycling, garbage collection schedules and green events throughout the year. The annual 2018 Wyckoff Calendar is dedicated to the many recycling programs in town and celebrates ways local residents and businesses can implement these best practices.

Composting/Vegetative/Yard Waste

The Township recognized the impact and need for composting so they established efforts to encourage backyard composting for local homeowners. Grass clippings and composted leaves provide many benefits to the environment and they act as a natural fertilizer for the lawn. Prior to 2005, grass clippings accounted for 10-15% of the total municipal solid waste stream. The town established a yard waste program for leaves, grass clippings and small branches so they would not be part of the solid waste pickup. Alternative green options for homeowners such as the "Cut It and Leave It" approach, backyard composting and alternate means of disposal at the Wyckoff Recycling Center are available to homeowners. The Wyckoff Environmental Commission distributes information on the usage and benefits of composting.

"Waste It Once, Pay For It Twice"

Programs:

Many of the towns recycling programs have helped Wyckoff earn points toward meeting their notable Sustainable Jersey Silver Certification . The SJ Certification program is a distinguished program for all municipalities of New Jersey to become recognized for their efforts toward becoming an environmentally sustainable community. Through the hard work and leadership of the Wyckoff Environmental Commission and Green Team Taskforce volunteers, the following actions have helped

Wyckoff receive their Silver Certification status.

Nifty Fifty Program

Nifty Fifty, the latest recycling initiative, encourages residents to help increase their household recyclables and keep our town-wide solid waste disposal costs down. This single-stream recycling collection system is a weekly curbside program aimed at reaching a 50% residential recycling goal. The program helps divert recyclable items out of landfills and into secondary markets. A 50% recycling rate (by weight) will save the local taxpayers approximately $85,000 - $100,000 annually and help the township to reduce the (2018) cost of $65.38 per ton of solid waste. Households are further encouraged to recycle electronics, bulk items and various scrap metals directly at the Recycling Center. Additionally, residents can request curbside DPW collection of large bulk items or white goods, which will help contribute toward the Nifty Fifty goal. The 2017 recycling rate was 33.93%. For more information on the program visit www.wyckoff-nj.com/NiftyFifty

Each month, Wyckoff publicly posts its progress through its *Recyclometer.*

2017 Monthly Nifty Fifty Recycling Rate (Percent %)

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec

38.21	35.05	31.18	34.48	34.46	31.23	32.18	31.7	32.27	36.22	33.80%	35.26%

Team Up to Tidy Up Day

The Township of Wyckoff hosts its annual community-wide Team Up to Tidy Up Day in April sponsored by a NJ Clean Communities Grant Award. Coordinated by the Wyckoff Environmental Commission, the event raises awareness of the negative impacts of litter in our community and in our water streams. It includes the efforts of many volunteer residents and students to help clean up litter from quasi-public places around town. Students from local schools are encouraged to partake in the event. In previous years, students participated in a t-shirt contest and submitted their t-shirt design about "What Recycling Means to Them". One student from each elementary school and the middle school are chosen as winners. The Grand Prize

winner's artwork is chosen as the t-shirt design. In 2018, more than 200 residents volunteered and cleaned up 62 bags of trash and 43 bags of recyclables.

Annual Shredfest Days

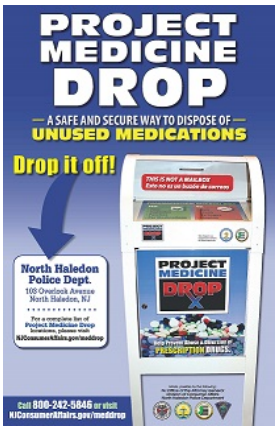
The Wyckoff Shredfest is a free, semiannual event for residents who want to dispose of large quantities of confidential documents. This is a convenient way for residents to drive up and drop off their personal documents and watch as their documents are shredded right in front of them. Ultimately, the paper enters the recycling stream for secondary use. At the Spring 2018 Shredfest, approximately 110 residents deposited their personal documents, which resulted in approximately 6,000 pounds (3 tons) of shredded

recycled paper from more than 300 households. The event is held in the spring and fall of each year.

According to the United States Environmental Protection Agency, for every ton of paper that is recycled and re-directed into post-consumer production, 17 trees are allowed to grow and are not required as raw material for the production of paper.

2018 Shred Fest Day

Medication Disposal



The town recently implemented a Project Medicine Drop where residents can bring their unused or expired medications to the collection box located in the lobby of the Wyckoff Police Department. Both prescription and over-the-counter medications are accepted for recycling. *(Syringes and Epi-pens are not accepted).* The first full year of placing the medicine drop box in the police lobby of the police department resulted in 450 lbs. of drugs recycled. The police department

participated at the local Shred Fest Day so that citizen can dispose of their expired medications in a separate drop off box.

***Recommendation: Do not dispose of prescription or over the counter drugs in the sewer or septic systems as they can leach into the ground and enter the water supply. They can affect and disrupt the good bacteria in the septic tank system.*

Plant a Tree in Your Yard Program to Celebrate Arbor Day

The Shade Tree Commission of Wyckoff pledges to preserve the greenery of our town by hosting an annual Arbor Day Ceremony held in April of every year.

The Shade Tree Commission is a member of Tree City, USA, a nationwide movement that provides the framework necessary for communities to manage and expand their public trees. Donations from local arborists and volunteers have helped to beautify various properties in town by planting trees. In 2018, trees planted at the Russell Farm tree farm yielded 4 trees that were transplanted to the Wyckoff Community Park to provide shade for community spectators at the local ballfield. To learn more info on the Shade Tree Commission please visit https://www.wyckoff-nj.com/shade-tree-commission

2017 Arbor Day

Wyckoff Day

The Wyckoff Environmental Commission and Green Team volunteers participate in the annual Wyckoff Day event hosted by the YMCA. A booth is set up to display information about the Environmental Commission and information on recycling, conservation and sustainability. WEC members educate the public about such topics as home composting, recycling, energy and water conservation and best practices tips. Compost machines and rain barrels are also available for purchase.

2017 Wyckoff Day

Resources:

Township of Wyckoff- Public Service Announcement-

http://sj-site-persistent-prod.s3.amazonaws.com/fileadmin/cicbase/documents/2013/8/31/13779538875769.pdf

https://ecode360.com/11430028

http://www.state.nj.us/dep/dshw/rrtp/compost/combined_manual.pdf

Wyckoff Community Newsletter, Spring 2013

The Villadom Times, April 2013

Links:

https://www.wyckoff-nj.com/environmental-commissiongreen-team/pages/programs
https://www.wyckoff-nj.com/recycling-trashhttps://www.wyckoff-nj.com/sites/wyckoffnj/files/uploads/recycling_further_info_revision_hs_psa2.pdf
https://www.facebook.com/pg/Wyckoff-Local-Government-343594129154241/posts/
https://twitter.com/WyckoffTownship/media?lang=en&lang=en
https://www.wyckoff-nj.com/sites/wyckoffnj/files/uploads/referencetable_-_updated_5.16.20172_0.pdf

Summary