OPEN SPACE AND RECREATION PLAN UPDATE - 2010

for the

Borough of Ringwood

County of Passaic

Compiled by

The Land Conservancy of New Jersey
An accredited land trust

with

Open Space, Conservation, Recreation, Farmland, and Historical Advisory Committee

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EXECUTIVE SUMMARY

"The Highlands is the last area of contiguous greenspace in the New York/New Jersey metropolitan area. Ringwood is in the center of it and the threats of development are greater every day. We must preserve the undeveloped tracts that are left to protect our water, biodiversity, and quality of life."
-- Comment from Borough of Ringwood 2003 Open Space Survey

Located in northwestern Passaic County, Ringwood Borough is 28 square miles of forested land and pristine streams in the New Jersey Highlands. This community embodies the characteristics of the Highlands—rich in water resources, habitat, steep slopes, spectacular vistas, and outdoor recreation. The community surrounds a drinking water resource upon which more than 2 million New Jersey residents rely. More than a quarter of the town (4,784 acres) consists of North Jersey District Water Supply Commission property bordering Wanaque and Monksville Reservoirs. Development, primarily residential in nature, surrounds these critical water supply properties and other, smaller public and private lakes that dot the town's mountainous landscape. Ringwood takes seriously its role as a steward of a clean, plentiful water supply, an important factor contributing to the economy, sustainability and quality of life in New Jersey.

In December 2002, the majority (73%) of Ringwood residents overwhelmingly supported the establishment of an Open Space Trust Fund to preserve land in their hometown. An Open Space, Conservation, Recreation, Farmland and Historical Preservation Advisory Committee (OSC) was established to advise Ringwood's governing body on the use of the Borough's Open Space Trust Fund. The Committee worked with Morris Land Conservancy (now The Land Conservancy of New Jersey) to develop an Open Space and Recreation Plan to shape the future of the landscape in Ringwood, which was completed in February of 2004. The OSC is updating the original Plan and its goals to meet the Green Acres recommendation that Plans be updated every six years, consistent with the Master Plan updates.

Based on input from the OSC and the public, the following areas are identified to promote the vision encompassed in the goals and objectives of the updated Open Space Plan:

- West Brook/Burnt Meadow Brook Greenway
- Wanaque Preservation Area
- Long Pond/Ringwood Greenway
- Ringwood Park Connection
- Community Gateway
- Meadow Brook Greenway
- Natural Heritage Area
- Trails and Connections

COMMUNITY RESOURCES IN THE BOROUGH OF RINGWOOD

"Our highest priority should be to preserve clean drinking water for future generations."
Comment from Borough of Ringwood 2003 Open Space Survey

The Borough of Ringwood is located within the Ramapo Mountains in northern Passaic County, New Jersey, surrounded by Orange County (New York), West Milford Township, Bloomingdale Borough, and Wanaque Borough (Passaic County), and Mahwah Township (Bergen County). Lying entirely within the Highlands region, the landscape of Ringwood is identified by its breathtaking views and dramatic ridgelines. So valuable is Ringwood to the health and beauty of the New Jersey Highlands, the Highlands Council has identified large portions of the Borough as Special Environmental Zones and Conservation Priority Areas in need of protection from further development.

The waters of the Monksville and Wanaque Reservoirs, located partially in Ringwood and formed by damming the Wanaque River, provide 2 million New Jersey residents with clean drinking water. Large portions of the forested hills and valleys form part of a vast network of publicly and privately held parkland within the Borough that embraces not only natural features but historic elements such as the Skylands and Ringwood manor homes. Trails and paths lead to spectacular views of the ridgelines that define Ringwood's steep slopes and mountainous terrain. Hiking, bicycling, fishing, and bird watching opportunities abound. The continuation of a planned system of open space preservation can help steward these community resources, preserve critical natural resources, and maintain the quality of life for Borough residents.

Natural Resources

Geology

Ringwood Borough is situated in the Highlands physiographic province. The New Jersey Highlands are part of the larger New England Upland physiographic province that begins in Connecticut and stretches south to Reading Hill in Pennsylvania. This physiographic province is home to the greatest natural resource diversity in the state, and its water resources provide drinking water for a large portion of residents in northern New Jersey. Furthermore, this area contains vital wildlife habitat for many species including state listed threatened and endangered species *(The New Jersey Highlands: Treasures at Risk).*

The Highlands are characterized by northeast-southwest trending ridges that provide Ringwood with its rocky terrain, steep slopes and marshy depressions. The rugged terrain of Ringwood Borough offers elevation from about 300 feet above sea level within Wanaque Reservoir to more than 1,100 feet above sea level in the vicinity of Norvin Green State Forest in the southwest corner of the Borough. High elevations can also be found near the border with Mahwah Township and Sterling Forest Lake in the northwest. Also, there are three peaks over 850 feet above sea level on lands owned by the North Jersey District Water Supply Commission (NJDWSC) *(Borough of Ringwood Natural Resources Inventory).*

Steep slopes characterize much of the Highlands, including Ringwood Borough. Areas of steep slope place limits on development because of their instability for structures and buildings. In addition, steeply sloped areas can lead to problems in building of roads and driveways and in the construction and performance of foundations and private septic systems. Disturbance of steep slopes can cause erosion and consequent silting of wetlands, lakes and ponds, as well as the loss of habitat quality and degradation of scenic vistas. Presence of steep slopes signals the need for extra safety measures to minimize soil erosion, flooding and groundwater pollution, and to ensure public safety. The ridgelines adjacent to Mahwah Township have slopes over 50%. The peaks located west of the Wanaque Reservoir on the North Jersey District Water Supply Commission lands also are steeply sloped *(Borough of Ringwood Natural Resources Inventory).* Preserving steeply sloped land is an investment in soil and water conservation. According to the draft *Highlands Environmental Resource Inventory* for Ringwood, Steep Slope Protection Area affects 52% of the Borough. there are 1,043 acres of Moderately Constrained Slopes (defined as slopes of 15% to less than 20% in non-riparian areas that are forested) and 8,358 acres of Severely Constrained Slopes (slopes of 20% or greater in non-riparian areas and 10% or greater in riparian areas). *(Highlands Environmental Resource Inventory for the Borough of Ringwood)*

Soils

All forms of vegetation depend on soils for support and nutrients. Soils also help maintain the balance between the atmosphere, land and water. The quality and type of soil has an important influence on forest composition, animal life, farming success, drainage conditions, aquifer viability, and general water quality. Furthermore, the condition of the soil must be determined before construction of community facilities and services such as septic systems, roads, and buildings.

Four components make up soil: rock particles, organic material, air pockets between the particles (or pore space), and water. In Ringwood Borough, the parent material of soil comes both from erosion of underlying bedrock and from glaciation. While most of the soil in Ringwood developed from the weathering, or erosion, of granite and gneisses in the bedrock, glaciation overlaid some bedrock with rock fragments and an unconsolidated mix of clay, silt, sand, cobbles and boulders. Glacial transportation leaves the underlying material not only firm and compact, but of varying types and sizes.

Soils can be classified into associations, or areas of land with a particular pattern of major and minor soils. In Ringwood, soils range from gently to very steeply sloped, from moderately to somewhat well drained, and often are very or extremely stony. The most

prevalent soil types in Ringwood Borough are listed in the table below. The remainder of the soils are loams of various types and Urban land complexes, generally less than 15% slopes, with several being very to extremely stony. Less than 2% are identified as being frequently flooded.

Ringwood Borough Prevalent Soil Types			
Name	*Description*	*Acres*	*%*
Rockaway sandy loam	0-25% slopes, very to extremely stony, deep, moderately well drained to well drained soils on uplands, formed in glacial till	5,139	29%
Rock outcrop-Rockaway complex	15-35% slopes; 60% rock outcrop of lithic bedrock; 40% Rockaway extremely stony, deep, moderately well drained soils on uplands, formed in glacial till	3,019	17%
Hibernia loam	0-15% slopes, very to extremely stony, poorly drained, found in depressions/ground moraines on till plains and mountains; formed in glacial till or colluvial material	2,046	11%
Rockaway-Rock outcrop complex	8-15% slopes; 55-70% Rockaway very to extremely stony, deep, moderately well drained to well drained soils on uplands, formed in glacial till; 25-30% rock outcrop of lithic bedrock	2,022	11%
Ridgebury loam	0-8% slopes, extremely stony, poorly drained, found in depressions on till plains	1,371	8%
Sources: SSURGO 2008; Natural Resources Conservation Service Soil Data Mart			

While the soils in Ringwood support many vegetative species, they are not conducive to farming. The steep slopes characteristic of the Borough offer little topsoil and the soil is more stony and hard-packed. This does not produce a favorable condition for successful farming. Furthermore, steep slopes mean that water will not penetrate deep underground and will instead run over or just beneath the surface *(Borough of Ringwood Natural Resources Inventory)*. Most of the soils have a very low available water capacity, which is the measure of the soil's ability to support plant use. The Borough's agriculturally significant soils consist of loams and muck *(County of Passaic Farmland Preservation Plan)* and total just 219 acres, or 1.22% of the Borough. They are located in scattered pockets on state, NJDWSC, municipal, nonprofit, commercial and residential properties. The only farmland assessed properties containing prime agricultural soils belong to the Windbeam Club. Most other farmland assessed properties in the Borough are under woodland management plans.

Land Use/Land Cover

According to the New Jersey Department of Environmental Protection (NJDEP) 2002 Land Use/Land Cover data (see *Land Use Map* in *Maps* section and table below), ***forested*** areas represent 66% of land use in Ringwood Borough. This includes all upland areas covered by woody vegetation and farmland-assessed land with a woodland management plan. ***Urban*** land use, at 16%, includes the various lake communities, other residential areas and commercial uses.

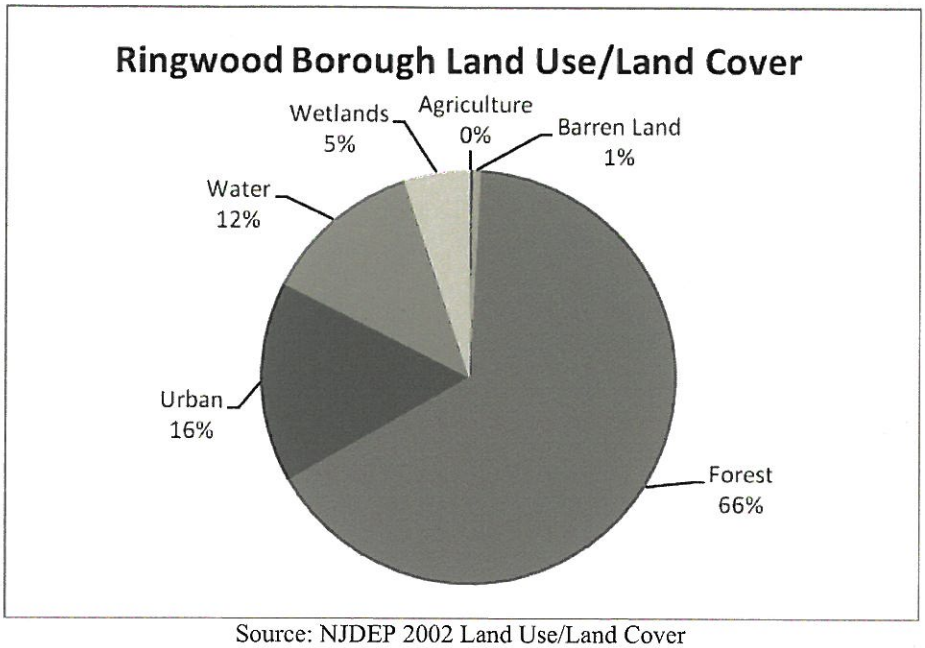
Water accounts for roughly 12% of land cover in the Borough. This includes the many lakes and rivers or streams greater than 80 feet in width as well as the Wanaque Reservoir and its smaller partner, Monksville Reservoir, which dam the Wanaque River and provide drinking water to more than two million people.

Wetlands such as bogs, herbaceous swamps and wet meadows represent 5% of the Borough's land cover. Ringwood's wetlands are predominantly forested wetlands with a few instances of emergent wetlands. These wetlands occur along tributaries and streams such as West Brook, Cupsaw Brook, High Mountain Brook Ringwood Creek near its confluence with Wanaque Reservoir, and in scattered pockets in forested uplands.

Barren land occupies only 105 acres, or .6% of land cover. It is most generally defined as any land without vegetative cover. This may include naturally occurring barren areas, such as rock outcrops, and artificially created barren areas, such as mines, dumps, quarries and undeveloped urban lands. In 2002, a quarry and development in progress along the Borough's western border, cleared land near Tranquility Ridge County Park and land in the vicinity of old mine sites on Borough-owned property between Tranquility Ridge and PSE&G land accounted for the majority of barren land.

Agricultural use is minimal at .2%. This includes all land associated with agricultural production, plus support structures including barns, corrals and stables. *(NJDEP 2002 Land Use/Land Cover)*

Land Use/Land Cover in Ringwood Borough		
Type	Acres	Percent
Agriculture	44.02	0.2%
Barren Land	105.15	0.6%
Forest	11,850.58	65.8%
Urban	2,837.43	15.8%
Water	2,235.39	12.4%
Wetlands	924.41	5.1%
Total	17,996.98	
Source: NJDEP 2002 Land Use/Land Cover		



Source: NJDEP 2002 Land Use/Land Cover

Watersheds, Surface Waters and Riparian Areas

Watersheds are areas of land that drain to a common receiving water body. Ringwood Borough's two watersheds, the Wanaque and the Ramapo, form part of the greater Passaic, Hackensack and New York Harbor Complex Basin. *(See Natural Features Map in the Maps section)* Most of Ringwood's land area drains to the Wanaque River, with only two small portions along the eastern border belonging to the Ramapo River watershed. Contained within these two watersheds are seven subwatersheds: Meadow Brook/High Mountain Brook, Wanaque River/Greenwood Lake, Wanaque River/Posts Brook, Wanaque Reservoir, West Brook/Burnt Meadow Brook, and two Ramapo River subwatersheds. *(Borough of Ringwood Natural Resources Inventory).*

Surface Waters in Ringwood include a number of artificial water bodies that have been created throughout the municipality, such as the Wanaque and Monksville Reservoirs, Erskine Lake, Cupsaw Lake, and Skyline Lake. Shepherd Lake in Ringwood State Park is one of the few natural bodies of water in the Borough. Several major streams also lie within the municipal boundary. The largest waterway is the Wanaque River, which flows from West Milford Township through the Monksville Reservoir and into the Wanaque Reservoir. In Ringwood, the river travels through Long Pond Ironworks State Park and the North Jersey District Water Supply Commission properties. Other streams in the Borough include Blue Mine Brook, Burnt Meadow Brook, Cupsaw Brook, High Mountain Brook, Lake Rickonda Outlet Stream, Ringwood Creek, and West Brook. These streams and their tributaries are shown on the *Natural Features Map* in the *Maps* section of this Plan.

NJDEP's Bureau of Water Quality Standards and Assessment divides all freshwaters in New Jersey into either Pinelands waters; Fresh Water 1 (FW1), which are those waters not subject to any man-made wastewater discharge; or Fresh Water 2 (FW2), which are all other waters. There are no FW1 waters in Ringwood.

The NJDEP further classifies waters according to their ability to support trout populations, an indicator of the health of the water body. The designations are TP (trout production), TM (trout maintenance) and NT (non-trout). A TM designation indicates that adult trout have been found in the waterway. TP indicates waterways where trout naturally reproduce during their first year of life. The table below identifies the trout production waters in the municipality.

The NJDEP also categorizes waters according to antidegradation standards, with Category One (C1) waters being those waters that *"are protected from any measurable change in water quality because of their exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or exceptional fisheries resources." (NJDEP)* All of Ringwood's rivers and streams, many of which provide drinking water, habitat for Threatened and Endangered species, and popular recreational and/or commercial species such as trout, have been classified as C1 waters and can benefit from this protection. According to the Highlands Council, all of Ringwood's subwatersheds have been identified as having some level of impairment. (*Highlands Council ERI)* Any pollutants from lawns, roads, and storm drains that enter these surface waters affect the quality of the water downstream. Steps to avoid further degradation and to improve water quality, where possible, are imperative in Ringwood. The following table lists the classifications for Ringwood's water bodies.

Water Body Classifications	
Waterways and Water Bodies	*Classification*
Blue Mine Brook	FW2-TP(C1)
Brushwood Pond	FW2-TM(C1)
Burnt Meadow Brook	FW2-TP(C1)
Cupsaw Brook	FW2-NT(C1)
Duck Pond	FW2-NT(C1)
Erskine Brook	FW2-TM(C1)
Erskine Lakes	FW2-NT(C1)
Glasmere Pond	FW2-NT(C1)
High Mountain Brook	FW2-TP(C1)
Lake Rickonda Outlet Stream	FW2-TM(C1)
Meadow Brook	FW2-NT(C1)
Monksville Reservoir	FW2-TM(C1)
Rickonda Lake	FW2-NT(C1)
Ringwood Creek	FW2-TM(C1)
Ringwood Mill Pond	FW2-NT(C1)
Shepherd Lake	FW2-TM(C1)
Swan Pond	FW2-NT(C1)
Wanaque Reservoir & Unnamed Tributaries	FW2-TM(C1)
Wanaque River	FW2-TM(C1)
West Brook	FW2-TP(C1)
Weyble Pond	FW2-NT(C1)
Source: NJDEP Surface Water Quality Standards. January 4, 2010	

Wetlands serve as a transition between dry land and open water. Areas of low topography, poor drainage, and standing water characterize these systems. They influence the quality of the water by controlling pollution and siltation. Furthermore, their storage capacity allows for retention of water during dry periods. These systems also help control flooding and provide habitat and water resources for a wide variety of wildlife. As indicated in the Land Use/Land Cover section, Ringwood has 924 acres of wetlands, representing 5% of the borough's land area. These wetlands are found predominantly along streams and in scattered upland pockets. (See *Natural Features Map).*

Riparian Areas, as defined by the Highlands Council, are areas *"hydrologically connected to surface waters through overland surface runoff, hydric soils, wetlands or subsurface flow."* These areas, as defined in the *Highlands ERI* integrate Highlands Open Waters (rivers, lakes, streams and connected wetlands) with associated flood prone areas, riparian (or hydric) soils and 300-foot wildlife corridors along streams. There are 9,049 acres of riparian areas in Ringwood, connecting 3,145 acres of wetlands, lakes and ponds and more than 88 miles of streams. The riparian areas in Ringwood are primarily High Integrity (except for Meadow Brook/High Mountain Brook and the Ramapo watersheds in the eastern portion of Ringwood). High Integrity Riparian Areas are defined as *"exhibiting predominantly natural vegetation, including high quality habitat for water/wetland dependents species, and a generally low incidence of impervious area, agricultural uses and/or road crossings." (Highlands ERI)*

Flood Hazard Areas are delineated on the official Zoning Map for the Borough of Ringwood as occurring particularly along the southern border with Wanaque, along sections of West and Burnt Meadow Brooks, along the edges of Wanaque Reservoir and Cupsaw Lake, and along Ringwood Creek near its confluence with the reservoir. (See also *Natural Features Map* in *Maps* section.*)*

Groundwater and Aquifers

Ringwood relies on both a public water supply system and private wells for household and industrial needs. The public water supply draws 30% from surface water (Wanaque Reservoir) and 70% from groundwater. Private wells are entirely dependent on a healthy groundwater supply, both in terms of quality and quantity. Two Ringwood neighborhoods already have experienced contamination of private drinking wells by MTBE (methyl tertiary butyl ether, an additive used in gasoline), and the Borough chose to connect those homes into Ringwood's public water supply.

The Precambrian bedrock underlying Ringwood Borough is a poor water supply source. The water can percolate through the bedrock only along fractures, which are irregular and unpredictable. The quantity of water stored in these fractures is also unpredictable. Aquifers located on lower slopes of Ringwood's challenging upland topography and in the bottom of valleys are better sources of water supply due to their sand and gravel beds. Water readily percolates through these materials and is able to replace pumped out water *(Borough of Ringwood Master Plan).*

Overall, Ringwood has 5,606 acres of Prime Groundwater Recharge Areas, which are defined by the Highlands Council as those lands that most efficiently provide 40% of total drought recharge volume. Its largest concentrations of prime groundwater recharge areas are found west and north of the Wanaque Reservoir, in residential and commercial areas as well as on NJDWSC and public lands, in a residential area east of the Skyline Drive shopping centers and in a small section along CR 511 near the Wanaque border. *(See Aquifer/Groundwater Recharge Map in Maps section)*

The Highlands *Regional Master Plan (RMP)* has developed a system of determining Net Water Availability, or the capacity for the system of streams and aquifers to sustain ecosystems and protect drinking water supplies, and has determined that Ringwood is in deficit, ranging from moderate to severe, in all seven of the subwatersheds in which Ringwood is located. The deficit in the western portion of the Borough is more severe than in the central and eastern portions. *(Highlands ERI)*

An *Aquifer/Groundwater Recharge Potential Map (*see *Maps* section*)* illustrates a ranking system that combines groundwater and aquifer recharge data to reveal the potential for aquifer recharge. The areas of greatest groundwater recharge have a ranking of "A" (20-23 inches per year) and the areas of greatest aquifer recharge potential have a ranking of "A" also (more than 500 gallons per minute). With this information the Borough should be better able to identify land that is critical to preserving its groundwater resources for residents who depend on groundwater as the source of their drinking water.

Flora and Fauna

Forest Resource Areas. As noted in the *Land Use/Land Cover* section, Ringwood is 66% forested. Not only do these forest areas stretch throughout the Borough but many are contiguous to forested lands in neighboring towns. They play a role in filtering the surface water that eventually finds its way to the drinking water reservoirs and provide habitat for animal and plant species, many of them threatened or endangered. Contiguous forest areas help to maintain biodiversity in the Borough and the region. The Highlands Council has assessed the ecological integrity of forest resource areas throughout the Highlands and assigned values of High, Moderate and Low Integrity. According to the *Highlands ERI,* the Borough ranks as a High Integrity Forest Area. *(Highlands ERI)*

Critical Wildlife Habitat. The New Jersey Division of Fish and Wildlife's Landscape Project 3.0 has mapped threatened and endangered wildlife habitat in the New Jersey Highlands. The Highlands Council has combined this data with a Conservation Ranking that assigns a Critically Significant ranking to Highlands habitats critical to the survival of a species in this state. The results indicate that Ringwood contains 14,448 acres of Critical Wildlife Habitat *"suitable to support populations of rare, threatened , and endangered species,"* including habitat suitable for birds, reptile and bobcat (see *Species of Critical Importance* table below). The mapping for the Landscape Project data shows that virtually all of this critical habitat supports State Endangered Species. The Landscape Rankings are as follows: 5-Federally Listed; 4, State Endangered; 3 – State Threatened; 2 – Special Concern nongame wildlife; 1 – Suitable – meets minimum habitat suitability. *(See Endangered Species Habitats Map in the Maps section)*

Species of Critical Importance	*Landscape Rank*
Arrowhead Spiketail	2
Brush-tipped Emerald	2
Cliff Swallow	2
Great Blue Heron Forage	2
Northern Copperhead Snake	2
Sable Clubtail	2
Barred Owl	3
Cooper's Hawk	3
Wood Turtle	3
Bobcat	4
Northern Goshawk	4
Red-shouldered Hawk	4
Timber Rattlesnake	4
Source: Highlands ERI. October 2009	

Significant Natural Areas identify regionally significant ecological communities of endangered and rare plant species. The *Highlands ERI* identifies one 32-acre area in Ringwood. This site has been identified as the "Seems Like a Good Place" Natural Heritage Priority Site." The New Jersey Natural Heritage Program determines the state's most significant natural areas through an inventory of rare plant species and representative ecological communities. The Program maintains a Natural Heritage Database that serves as a centralized inventory of information. In the database, "Seems Like A Good Place" is described an area of open rock ledges occurring on a wooded hillside situated between Skyline Lakes Drive and Ringwood Avenue. Of moderate biodiversity significance, it contains the only known extant occurrence of slender pinweed. (See *Natural Features Map* in the *Maps* section).

Vernal Pools are the third type of critical habitat identified by the *Highlands ERI.* The Highlands Council has called for a terrestrial habitat buffer of 1,000 feet around vernal pools to protect these seasonal wet depressions that support distinctive and often endangered species. Vernon has 12 acres of vernal pool and buffer located in the vicinity of Snake Den Road, on the border with Bloomingdale and Wanaque Boroughs.

Historic Resources

Prior to European settlement in the region, the Leni Lenape and a sub tribe, the Minsi Indians, called the Pompton area home. They used the Ringwood vicinity as their hunting, fishing, and camping grounds for months at a time. Campground sites have been found in Stonetown and in places around Ringwood State Park. The arrival of Europeans, most notably the Dutch and English, signaled an end to the Lenape way of life.

The European settlers introduced ironmaking to this area in the mid 1800s. Cornelius Board, the Ogden family and Peter Hasenclever are among those who established forges, blast furnaces and stamping mills in the Ringwood area.

Robert Erksine, who served as Geographer and Surveyor-General to the Continental Army, took over the Ringwood Ironworks from Hasenclever in 1771. In 1775, he organized the first militia in northern New Jersey, to defend the ironworks. The Ringwood Ironworks supplied the Revolutionary Army with iron hardware and ordnance.

Because of Ringwood's strategic location midway on the direct route from Morristown to West Point, George Washington visited the area many times. He and his officers had their horses shod at the blacksmith shop that is still standing within Ringwood State Park. General Washington's last visit to Ringwood was for a meeting with the Secretary of War on the day Congress officially declared an end to the hostilities (April 19, 1783). *(Tholl 1983)*

Martin Ryerson, owner of the Pompton Ironworks, bought the Ringwood Ironworks property in 1807. He and his sons ran the company for nearly 50 years, supplying shot during the War of 1812. In 1853, Peter Cooper bought the property to provide iron ore to his Trenton Iron Company. He expanded the mine facilities and turned the Ringwood area into a "company town" by building a general store, church, and housing for employees. While the Civil War increased demand for iron, eventually all furnaces on the East Coast closed due to unfavorable economic conditions and the availability of cheaper materials from Pittsburgh. The mines were sold and changed hands numerous times until all were abandoned by 1961. *(Borough of Ringwood Natural Resources Inventory, Borough of Ringwood Master Plan)*

Historic Properties

The New Jersey and National Register of Historic Places lists the following properties in Ringwood:

- Magee Road Bridge (over West Brook); SHPO 1996
- Ringwood Manor, Ringwood State Park and Long Pond Ironworks; NR 1966; SR 1971
- Ringwood Municipal Building, Margaret King Avenue; SHPO 1978
- Skylands (NJ State Botanical Garden), Ringwood State Park; NR 1990; SR: 1990
- Wheeler Saw and Feed Mill Archeological Site; SHPO 1984

SHPO = opinions of eligibility from the State Historic Preservation Officer; NR – National Register; SR = New Jersey Register

The two manor houses listed on the historic registers are located in Ringwood State Park; both were homes to figures who played significant roles in Ringwood's past:

Ringwood Manor

The Ogdens built the original Manor (or Ironmaster's House) in 1742. This structure survived until the early 1800s. Peter Hasenclever and Robert Erskine both lived here, and Mr. Erskine entertained George Washington here. Martin Ryerson tore down this Ironmaster's House and built a smaller, more modern one in its place in 1810. Abram Hewitt (the business partner of Peter Cooper's son and manager of Trenton Iron Company) and his wife, Amelia, moved into the house in 1857. The Hewitts extended the house and then enlarged it in 1878, creating the house that is seen today. Their son, Erskine Hewitt, deeded

the Manor and 95 acres to the State in 1936. *(Cottrell 1988, Borough of Ringwood Natural Resources Inventory).*

Skylands Manor
Joshua Morris bought the Skylands property in 1802 and, over the subsequent years, made improvements and additions to the property. By the time he sold it in 1891, the property was a working farm of more than 400 acres. Francis Lynde Stetson, the next owner, was a corporate lawyer and a friend and associate of Grover Cleveland. President Cleveland, J.P. Morgan, Ethel Barrymore and Andrew Carnegie are known to have visited the manor. The final owner was Clarence MacKenzie Lewis, who razed the building and built the current Manor and gardens in the 1920s. This once-private estate is now part of Ringwood State Park and is graced by the presence of the New Jersey State Botanical Gardens.

Community Growth

The New York and Greenwood Lake Railway, built around 1879, served as an outlet to the Cannon and Peter Mines and provided transportation for residents to schools and neighboring towns. It began near the Midvale Dam and ended at Greenwood Lake. The original rail line and a spur line to the area now occupied by the Borough Hall were disrupted by the damming of the Wanaque River and portions were rebuilt. The now abandoned right of way has been suggested as a multi-use recreational pathway.

At the time Ringwood Borough was formally incorporated in 1918, the town consisted of farmlands and homesteads. In the 1920's and early 1930's residential growth surged, as lakefront properties were developed with vacation homes. Over time, many of these lakefront homes have been converted into year round homes. Lake communities in Ringwood today surround Cupsaw Lake, Erskine Lake, Upper Lake, and Skyline Lakes in eastern Ringwood. *(Borough of Ringwood Master Plan).* Private homes also ring Harrison Mountain Lake and Lake Riconda in the western section of the Borough.

Recreational Resources

Resource-based Recreation
In August 2003 the Borough of Ringwood sent a survey to residents to determine the recreational interests and open space priorities of the community. The survey listed 15 types of recreation. Of these, the four most popular activities were hiking, swimming, bicycling, and boating (*see Recreation Table 1 below*). Residents also expressed interest in additional facilities for both passive and active recreational programs (*see Recreation Table 2 below*), with bicycling paths and hiking trails topping the list.

Ringwood residents have access to an extensive state park and forestry system. Portions of Ringwood State Park, Long Pond Ironworks State Park, Norvin Green State Forest, and Ramapo Mountain State Forest are located within the Borough. The state park and forest system contains many trails for hiking, walking, mountain biking, horseback riding, and cross-country skiing. Activities such as fishing, hunting, and boating are also permitted in the parks *(NJDEP - Division of Parks and Forestry). Recreation Table 3 (below)* lists the

recreational facilities for the state park and forest systems in Ringwood. (*See Open Space Map in the Maps section for the location of these public parks and open spaces)*

Ringwood State Park, which dominates the northeastern corner of Ringwood, 4,044 acres (*NJDEP Division of Parks and Forestry*) offers many resource-based recreational opportunities throughout the year, including swimming, boating, and canoeing at the Shepherd Lake Recreation Area; picnicking; fishing; ice skating; cross-country skiing; ice fishing; and sledding. Ringwood State Park's extensive trail system provides access to the region's natural resources and scenic landscapes. These trails extend into Ramapo Mountain State Forest and Bergen County's Ramapo Valley County Reservation, enabling Ringwood residents to hike miles of trails beyond the borders of the Borough. In addition to hiking-only trails, multi-use trails that accommodate mountain biking and horses can also be found in the park *(NJDEP - Division of Parks and Forestry).*

Ramapo Mountain State Forest consists of 4,200 acres of hilly forest, marshes, streams and ponds. Many resource-based recreational opportunities exist in the forest such as hiking, horseback riding, mountain biking, hunting, cross-country skiing, canoeing, fishing and birdwatching. The hiking trails afford views of the New York City skyline; two popular locations to visit are Cannonball Footbridge and Rotten Pond *(NJDEP - Division of Parks and Forestry).*

Norvin Green State Forest consists of 4,365 acres of undisturbed forest and rugged terrain, which offers sanctuary for birds and other wildlife. Visitors can enjoy activities such as boating and canoeing, hiking, bird watching, fishing, hunting, and cross-country skiing. Also, hikers can find beautiful scenic vistas of the New York City skyline, Burnt Meadow Brook and Lake Sonoma *(NJDEP - Division of Parks and Forestry).*

Long Pond Ironworks State Park consists of 2,591 acres of forest and includes a historic district. The historic district contains the remnants and restored structures of the once thriving ironworks community established by German ironmaster Peter Hasenclever in 1766. In addition to the historic district, visitors can enjoy hiking, mountain biking, horseback riding, boating/canoeing, fishing, hunting, cross-country skiing, and bird watching. Nearby Monksville Reservoir is open for boating, sailing, and fishing. This area is open all day and throughout the week *(NJDEP - Division of Parks and Forestry).*

Trails within these parks and forests are blazed and maintained by the New York-New Jersey Trail Conference, a volunteer organization of hiking clubs, which also publishes a series of detailed trail maps.

New Jersey Audubon Society (NJAS) owns 160 acres of preserved land adjacent to Norvin Green State Forest. NJAS's property is home to the Weis Ecology Center, a non-profit, environmental educational center established to educate visitors of all ages on the ecology found in the Northern New Jersey Highlands Region. The education programs focus on the animals that live at the center; as well as the forest, fields and streams found beyond the walls of their classrooms. The property is open to the public and can be explored via a well-

marked trail network that meanders over hills and through valleys. Many of the trails connect with trails in Norvin Green State Forest. *(New Jersey Audubon Society)*

Passaic River Coalition (PRC) owns the rugged, heavily wooded area of Tory Tract, which overlooks Wanaque Reservoir. The principal trail in Tory Tract is the Stonetown Circular, which runs north to south and provides connections to the Highlands Trail at either end. The area includes two large peaks, one of which is named Tory Rock, wetlands, vernal ponds and Burnt Meadow Brook, and serves as an important wildlife corridor. The public access points are Burnt Meadow Road and Magee Road. In addition, PRC now owns two parcels near the Monksville Reservoir – Waterview and Highlands Meadow– and plans to work with the New York-New Jersey Trail Conference (NYNJTC) to establish trails as well as provide an educational destination on the farm property. *(Passaic River Coalition)*

The New Jersey Conservation Foundation owns a small, wooded 12-acre parcel along West Brook. There are unmarked trails winding through the property, one of which provides an access point for fishing.

Passaic County Parks Department owns 1,300-acre Tranquility Ridge, a large parcel in the northwestern corner of Ringwood Borough. The Highlands Trail runs north-south through the West Milford section of the park, and the Hasenclever Iron Trail travels east-west. The park also connects with the Sterling Forest area in New York State. Tranquility Ridge is managed by the Palisades Interstate Park Commission.

Many of the lake associations in the Borough offer a variety of recreational programs and swimming activities for their members. *Recreation Table 4* details the recreational facilities on the privately held lands in the Borough.

Community Recreation

A wide variety of recreation opportunities exist in Ringwood Borough. Team and individually organized sports are offered year round, including opportunities for adults and youth. Between 1996 and 2002, recreational programs sponsored by the Borough grew from 56 to 68, while the number of participants and the number of participants increased from 3,700 to 4,208, reaching a high of 4,332 in 1999. The additional programs included baseball, men's basketball and lacrosse, for the most part, required the use of fields, placing a greater stress on existing athletic fields. Between 2004 and 2007, the number of programs hovered around 60 and participation peaked in 2005 at 6,061. In 2008 and 2009, there were 51 and 53 programs, respectively, and participants totaled around 5,200, almost 1,000 more than in 2002. The activities offered in Ringwood Borough for each year between 2004 and 2009 are listed in *Recreation Table 5*.

The active recreation areas are located primarily at the Hoffman Complex Van Dunk and Ballard Fields, and Skyline Field/Jenkins Park. The 12-acre Van Dunk and Ballard Field property is located next to the Municipal Building on Margaret King Avenue. This recreation site contains both adult baseball and Little League baseball/softball fields. The Hoffman Complex is also located on Margaret King Avenue and contains fields for softball and football, tennis and bocce courts and a skate park. Skyline Field is located off Skyline Lakes

Drive and has facilities for basketball and Little League baseball/softball. The latest addition is Martini Field, which is a multi-purpose field used for practice games. Borough parks and facilities are listed on *Recreation Table 6.*

Ringwood's recreation programs also utilize the fields and facilities owned by the Board of Education (BOE). The BOE facilities include E.G. Hewitt School, Martin J. Ryerson Middle School, Robert Erskine School, and the Stonetown Complex. The baseball, softball, t-ball, and soccer programs use these facilities for their practices and games. *Recreation Table 7* details the recreational facilities located on Board of Education properties in the Borough.

The Borough has been proactive in trying to steward the condition and maximize the usability of the fields by installing irrigation systems on both municipal and Board of Education fields. Although the Stonetown Complex property is owned by the Board of Education, development of the complex was underwritten by public funds, including NJDEP Green Acres, not as a Board of Education expense.

Current trends in Ringwood recreation programs are towards more sports being played in multiple seasons and a demand for participation in sports by a broader range of age groups, from very young to adult. Challenges for the program include heavy use of the fields, which does not allow sufficient rest time and lack of lighting at some fields. The recreation program also includes indoor recreation opportunities, such as basketball and indoor soccer, which are often held at the regional high school in Wanaque due to lack of facilities in Ringwood. Senior programs are an important component of the program also; however, these programs hosted at different venues around the community, such as the firehouse or St. Catherine's of Bologna, because there is no dedicated facility. Because of the lack of indoor recreation and senior facilities, the Recreation Department has put together a Building Feasibility team to assess whether there are properties or structures that could be put into use at minimal expense to the taxpayer. *(Personal communication with Michael Hirschman, Recreation Director, and Kevin Gibbons, Chair of the Recreation Commission)*

Recreation Tables 1 through 7 appear on the following pages.

Recreation Table 1. Survey Responses for Recreation Activities Currently Used by Residents

Types of Recreation Used	*Percent of Total Responses*
Hiking	74%
Swimming	62%
Biking	58%
Boating	50%
Picnicking	46%
Fishing	45%
Organized Sports	34%
Birding	31%
Cross-Country Skiing	14%
Camping	13%
Hunting	8%
Horseback Riding	7%
ATV Use*	7%
Snowmobiling	5%
Wind Surfing	3%
Source: 2004 OSRP	

Recreation Table 2. Additional Recreational Facilities Requested in Survey

Additional Facilities Requested	*Percent of Total Responses*
Bicycling Paths	59%
Hiking Trails	55%
Scenic Vista Areas	55%
Bird Watching	29%
Playgrounds	25%
Picnicking	24%
Golfing	23%
Water Sports	21%
Skateboard Park	20%
Equestrian Activities	17%
Baseball Fields	17%
Soccer Fields	16%
Tennis Courts	15%
Field/Ice Hockey	14%
Camping	12%
Lacrosse Fields	10%
Source: 2004 OSRP	

* There is no legal use of ATVs in the Borough of Ringwood.

Recreation Table 3. State-Owned Property and Facilities in Ringwood Borough

Long Pond Ironworks State Park	Hiking/Walking Path/Trails Horseback Riding Trails Mountain Biking Trails Cross Country Skiing Trails Hunting/Fishing/Ice Fishing Boating/Canoeing
Monksville Reservoir	Boating Sailing Fishing
Norvin Green State Forest	Boating/Canoeing: electric motors only Hiking Birdwatching Fishing Hunting Ice fishing Cross-country skiing
Ramapo Mountain State Forest	Cannonball Footbridge Fishing and Ice fishing Canoeing Hunting Hiking Mountain Biking Cross-country skiing Birdwatching
Ringwood State Park Includes: -Ringwood Manor -Skylands Manor -Shepherd Lake	Historic Tours Picnic Area Hiking/Walking Path/Trails Nature Trails Mountain Biking Trails Horseback Riding Trails Cross Country Skiing Trails Snowmobile Trails Shepherd Lake Mountain Trail Sledding Hunting/Fishing/Ice Fishing Boating/Canoeing Swimming Concession/Refreshment Formal Gardens Manor Houses

Recreation Table 4. Privately-Owned Property and Recreational Facilities in Ringwood Borough

Cupsaw Lake Property Owners Association (CLIA)	1 Lake 1 Beach Facility with clubhouse Swimming with lanes Diving Facility Volleyball Court Playground 3 Tennis Courts 2 Basketball Courts **Baseball Field** **3 Horseshoe Stations** Boating/Sailing Fishing/Ice Fishing Ice Skating
Erskine Lake Property Owners Association (ELPOA)	2 Lakes: Erskine Lake and Upper Lake 3 Beaches Playground Facilities Basketball Courts Boating/Sailing Tennis Courts Volleyball Courts Diving Facility Clubhouse Swimming Fishing/Ice Fishing Ice Skating
Highlands Pool	Hiking Recreational Swimming Water Aerobics Picnicking Ping Pong Softball Volleyball Basketball Various Classes and Programs Yoga
Lake Riconda Property Owners Association	Lake Beach Picnicking Facility

	Volleyball Swimming Boating Fishing
New Jersey Conservation Foundation property	Unofficial Hiking Trails Fishing
Skyline Lakes Property Owners Association	2 Lakes: Upper & Lower Skyline Lake Clubhouse Boating/Sailing Playground Picnicking Area Game Lounge Beach Swimming Diving Facility Ice Skating Fishing/Ice Fishing
Tory Tract	Stonetown Circular Trail
Weis Ecology Center	Outdoor Ping-Pong Tables Recreation Field Hiking Trails Cabins/Campsites On-site Programs/Classes
Windbeam Flyfishing Club Brook	Private fishing on 1 mi of West

Recreation Table 5. Recreation Programs in Ringwood Borough

RINGWOOD RECREATION REGISTRATION FOR SPORTS AND ACTIVITIES						
SPORT / ACTIVITY	2004	2005	2006	2007	2008	2009
Athletic Programs		-	-	-	-	-
1. BASEBALL-SPRING	416	421	382	371	356	345
2. BASEBALL - SUMMER TOURNAMENT	36	60	60	60	60	80
3 & 4.. BASEBALL - FALL & MICKEY MANTLE	84	84	116	142	136	130
5. BASEBALL - AAU	36	36	36	36	36	36
6. BOYS BASKETBALL	234	228	230	204	192	202
7&8.ROLLERHOCKEY & ADULT	150	122	88	59	0	18
9&10.GIRLS BASKETBALL & WOMEN	152	136	138	137	124	131
11. MENS BASKETBALL	9	12	12	12	12	18
12. SUMMER BASKET. CAMP	37	47	42	34	36	18

RINGWOOD RECREATION REGISTRATION FOR SPORTS AND ACTIVITIES						
SPORT / ACTIVITY	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
13&14.FOOTBALL CHEER & COMP.	90	108	90	70	86	84
15. BASKETBBALL CHEERING	13	16	22	24	18	30
16. SUMMER MULTISPORT CAMP/SQUIRT	27	24	31	20	28	18
17&18. FOOTBALL & FB CAMP	155	164	139	112	110	102
19. ICE HOCKEY	88	68	69	66	82	80
20. FLOOR HOCKEY/ULT.FRISBEE '09	13	12	13	0	0	28
21&22&23. G. SB & SUMMER & FALL	201	228	216	201	172	178
24.FASTPITCH SOFTBALL-MEN	70	72	60	76	68	70
25.FALL SOFTBALL -MEN	126	144	157	125	144	144
26.SLOWPITCH SOFTBALL-SPRING-MEN	146	142	124	129	128	127
27.WOMENS SOFTBALL	126	116	116	114	110	112
28.JUNIOR DANCE TEAM	0	24	12	15	22	14
29.BOYS SOCCER	227	216	289	286	244	341
30.WOMENS FASTPITCH SB- SUMMER	0	38	14	0	0	0
31.GIRLS SOCCER	206	192	264	255	202	301
32.SOCCER INSTRUCTIONAL	144	196	111	206	283	86
33.SOCCER CAMP	122	108	110	107	77	74
34.SOCCER INDOOR	109	104	102	197	242	204
35.TEE BALL	95	108	123	115	128	116
36.SUMMER BASEBALL CAMP	28	44	49	25	24	17
37.TENNIS LESSONS	55	55	55	55	55	55
38.TENNIS MEMBERSHIP/TEAM TENNIS	23	32	34	70	72	72
41.CO-ED VOLLEYBALL	21	28	20	24	29	32
42.WOMENS VOLLEYBALL	30	66	72	36	39	40
43.BOCCI SENIOR CITIZENS	42	42	42	42	42	42
51.A.C.E.P. COACHING CLINIC	150	150	150	150	150	150
52.JUST DESSERTS/FD HOCK CAMP-07	0	100	100	29	25	50
53. BOYS BASKET. TRAVEL	24	24	24	36	24	0
54.GIRLS BASKET.TRAVEL	24	24	24	24	24	12
55.SUMMER TENNIS CAMP	39	38	35	37	42	36
56.SUMMER CHEERING CAMP	22	20	15	12	12	14
57 & 58.SUMMER GLF& TEEN COF. HSE.	98	96	30	0	0	0
59.SUMMER VOLLEBALL CAMP	22	6	29	17	19	0
60.SUMMER RUN/SPEED CAMP	37	28	32	34	30	32
61.SKI DAYS-HIDDEN VALLEY/TUXEDO	180	180	180	180	180	180
62. LACROSSE	141	228	217	190	184	205
TOTAL PARTICIPANTS	**4048**	**4387**	**4274**	**4134**	**4047**	**4024**
% INCREASE YR. TO YR.		8.37%	-2.58%	-3.28%	-2.10%	-0.57%
Non-Athletic Programs						
39.TICKET SALES	198	198	198	198	198	198
40.DAY TRIPS	39	42	60	60	60	60
44.SENIOR CITIZENS	190	190	190	190	190	190

RINGWOOD RECREATION REGISTRATION FOR SPORTS AND ACTIVITIES						
SPORT / ACTIVITY	2004	2005	2006	2007	2008	2009
45.EASTER BONNET PARADE	140	140	140	140	0	0
46.HALLOWEEN PARTY	280	280	280	280	0	0
47. SANTA PHONE CALLS	79	79	79	79	80	80
48.TREE LIGHTING CEREMONY	120	120	120	120	60	60
49.HOLIDAY WINDOW PAINT	300	300	300	300	300	300
50.SANTA HELICOP. ARRIVAL	325	325	325	325	325	325
TOTAL PARTICIPANTS	**1671**	**1674**	**1692**	**1692**	**1213**	**1213**
% INCREASE YR. TO YR.		0.18%	1.08%	0.00%	-28.31%	0.00%
TOTAL PARTICIPANTS ALL PROGRAMS	**5719**	**6061**	**5966**	**5826**	**5260**	**5237**
% INCREASE YR. TO YR.		5.98%	-1.57%	-2.35%	-9.72%	-0.44%
TOTAL PROGRAMS	**58**	**62**	**62**	**58**	**51**	**53**

Recreation Table 6. Borough-Owned Property and Facilities in Ringwood

Jenkins Park/Skyline Field	1 Little League Baseball/Softball Field 1 Basketball Court 1 Playground
Pioneer Park	1 T-ball Field 1 Basketball Court 1 Playground
Van Dunk & Ballard Fields	1 Adult Baseball Field (senior) (lighted) 1 Little League Baseball/Softball Field (lighted) Concession/Refreshment (with bathroom)
Hoffman Complex	1 Combined Use Field Happ Field – Softball (lighted) DeSimone – Football 4 Tennis Courts (lighted) Picnic Area Horseshoes/Bocce Court Skate Park Concessions/Refreshment
Martini Field	1 Combined Use Field
Ringwood Forest (by library)	Playground
Upper Ringwood	Playgrounds

Recreation Table 7. Board of Education-Owned Property and Recreational Facilities in Ringwood Borough

Stonetown Complex	2 Little League Baseball/Softball Fields 1 Basketball Court 2 Soccer Fields 1 Playground 1 Concession/Refreshment (with bathrooms)
E.G. Hewitt School	2 Combined Use Fields *(Adult Softball, Little League Baseball/Softball Field, T-ball Field)* Indoor & Outdoor Basketball Courts 2 Soccer Fields 1 Roller Hockey Rink 1 Playground Concession/Refreshment for Roller Hockey
Martin J. Ryerson Middle School	1 Combined Use Field *(Little League Baseball/Softball Field, T-ball Field)* 1 Indoor Basketball Court 2 Soccer Fields
Robert Erskine School	1 Little League Baseball/Softball Field 1 Indoor Basketball Court 1 Playground
Peter Cooper School	1 Playground 1 Indoor Basketball Court

The Built Environment

Open space lands complement the existing built areas and infrastructure in the Borough and can shape future growth in the community.

Demography

Assessed at 1,038 residents in 1930, Ringwood's population fell to 977 by 1940, but increased rapidly to 8,641 residents between 1950 and 1970, during which time the area was promoted as both a summer and year-round community. Ringwood saw more modest increases in 1980 to 10,873 persons and 1990 to 12,623. By the 2000 Census, the population had declined by 227 people, or 1.8%, to 12,396. Census Bureau population estimates suggest slight increases through 2008, bringing the population to slightly above its 1990 level. *(U.S. Census)*

The 28-square mile community had a population density in 2000 of 491 people per square mile, higher than its western neighbor West Milford, at 350, but lower than other municipalities in Passaic County, which has an overall density of 2,639 persons per square mile. Ringwood is predominantly a residential community, with less than one percent of the total land area devoted to commercial and office use. The median household income in 2000 was $81,636 versus $49,210 for the County as a whole.

Housing

In 2000 Ringwood Borough contained 4,108 households. Of those households, 84% (3,446) contained families. The average household size in the Borough is 3.00 people, compared to 2.92 for the rest of Passaic County. The average family size in Ringwood is 3.28 people per family. There were 4,221 housing units in the Borough as of 2000, an increase of 9% over the 20 year period since 1980. This continues the upward trend of increasing numbers of housing units, from 966 in 1940 to 1,948 in 1960 and 3,866 in 1980. Residential building permits issued between 2000 and 2008 indicate a potential increase of 226 single family units in that timeframe, for a total of 4,447 units, or an additional 5%. The number of permits issue in 2008 was 16, the lowest in the 2000-2008 period. *(NJ Dept. of Labor and Workforce Development)*

Transportation Infrastructure

Roads

The Borough of Ringwood has three county roads and access to one major interstate highway, I-287, which connects to the New York State Thruway in the north and to other major arteries such as I-80, I-78, the New Jersey Turnpike and the Garden State Parkway in the south. The remaining roads in town are smaller thoroughfares and residential roads. The completion of I-287 in 2003 provides better regional access to Ringwood and has led to an increase in traffic passing through the Borough. Ringwood can be accessed from I-287 via exit 55 in Wanaque to Ringwood Avenue and exit 57 in Oakland Borough to Skyline Drive.

- County Road 511, known as Ringwood Avenue and Greenwood Lake Turnpike, enters the Borough at is southern border with Wanaque and loops around the eastern and northern sides of Wanaque Reservoir before heading northwest towards West Milford, past Monksville Reservoir and Long Pond Ironworks State Park.
- County Road 692, or Skyline Drive, heads from the southeast corner of the town northwest until it connects with Greenwood Lake Turnpike. Skyline Drive is also the town's second access point from Interstate 287 (exit 57). The roadway goes through portions of Oakland Borough, Wanaque Borough, and the Ramapo Mountain State Forest before entering Ringwood.
- County Road 697, Sloatsburg Road, heads northeast from Greenwood Lake Turnpike to the New York State line.
- County Road 698, Margaret King Avenue, heads northwest from Sloatsburg Road to connect with Greenwood Lake Turnpike.
- Beech Road heads north from Greenwood Lake Turnpike to a Monksville Reservoir parking area.

Two local roads serve as thoroughfares in the western portion of the Borough:

- West Brook Road heads west from Greenwood Lake Turnpike in the southern portion of town to West Milford Township.
- Stonetown Road heads north from West Brook Road to connect with Greenwood Lake Turnpike.

Public Transit

There is currently no rail service in Ringwood, but residents can use the NJ Transit station in nearby Mahwah. NJ Transit bus lines do service the Borough and connect residents to neighboring communities in New Jersey and New York State and to New York City. There is a park and ride facility off Skyline Drive, adjacent to the Borough library on Cannici Drive.

Bicycle/Pedestrian

Improving opportunities for residents to connect between neighborhoods, shopping areas, the library, schools and other destination points was a recommendation of the *2004 Open Space and Recreation Plan.* In the interim, the Borough received a grant from the NJDOT Local Technical Assistance Program and commissioned RBA Associates to prepare a *Bicycle and Pedestrian Plan,* which was completed in April 2009. The Plan was adopted (excluding proposed one-way lake circulation) by Resolution 2009-281 on September 3, 2009. In 2009, the Borough submitted a pre-application to the NJDEP's Local Government Greenhouse Gas Reduction Grant program for a grant to help underwrite a sidewalk project and begin the implementation of the *Bicycle and Pedestrian Plan* vision. The project would connect the NJ Transit Park & Ride, Library and Farmer's Market to the Skyline Drive shopping centers by constructing a sidewalk along the western (southbound) side of the road that would allow pedestrians and bicyclists a safer and more convenient and direct access between these location.

Commercial & Industrial Development

Commercial development is limited in Ringwood and is concentrated along Skyline Drive and Ringwood Avenue/Greenwood Lake Turnpike. Two shopping centers consisting of small stores can be found on Skyline Drive, servicing the basic needs of town residents. Office and professional buildings are also limited in Ringwood and are not concentrated in any one area of town.

Industrial development occurs mainly along Margaret King Avenue, although it only accounts for a small percentage of land in Ringwood. A gravel mining operation is located on West Brook Road, near the border with West Milford Township.

Utilities

Water System

Much of Ringwood, including the area west of the Wanaque Reservoir, is dependent on private wells for its water supply. A public water supply serves the lake communities and other neighborhoods in the eastern portion of the Ringwood. The Borough of Ringwood owns and operates four groundwater wells, which supply 70% of the public water supply. The Borough purchases the other 30% of its public water supply from the Passaic Valley

Water Commission, which draws surface water from the Wanaque Reservoir. Both the wellheads serving the public water supply and a number of public non-community wells fall under the Highlands Act mandate requiring a Wellhead Protection Ordinance to protect groundwater supply used for drinking water. Ringwood currently has a Wellhead Protection overlay ordinance (2005-#17) that addresses Ringwood Water Department wells. Ringwood is undergoing a process of water system improvements that include new water mains in some neighborhoods and a rechlorination building for the public well on Margaret King Avenue. *(Borough of Ringwood website and Jeffrey Yuhas, Borough Engineer)*

Sewer System

Wastewater disposal in Ringwood is mainly dependent on septic tanks and leaching fields that are usually on site. According to the 2000 Census, out of 4,221 single family units, 4,055 were served by Individual Subsurface Sewage Disposal Systems (ISSDS), with the other 166 units served by the public sewer system. The Borough administers the Wastewater Management Planning Agency and has the responsibility of reviewing all proposed sewage disposal development. In a 1994 referendum, residents voted against additional sewering in the Borough; thus, no expansion of the existing sewer service area is planned.

There are five active wastewater treatment facilities and one holding tank, which is at the Peter Cooper School. Only one facility is owned by the Borough, and that is Ringwood Acres (STP) serving residents in southeastern Ringwood. The other four active facilities are the Robert Erskine School Sewage Treatment Plant (STP); Ringwood Plaza STP, serving residential and commercial units south of Skyline Drive; Ringwood Manor STP, in the state park; the Franciscan Friary; and the Fieldstone Shopping Plaza STP, serving professional and commercial establishments north of Skyline Drive. Three of the facilities discharge to surface water and the other two to groundwater. *(Wanaque Valley Regional Wastewater Management Plan Amendment. October 2004)*

Education

Ringwood's school system consists of four schools: two elementary schools, one intermediate school, and one middle school. The Borough provides a bus service for school students who live more than two miles from the school they are attending, a complimentary service to both elementary schools and the intermediate school. Comparison of enrollment figures for the school system in 2003 and as of September 2009, as shown below, indicates that enrollment is declining. This trend can be taken into account when projecting future active recreational needs:

SCHOOL	GRADES	2004 OSRP	September 2009
Peter Cooper School	K – 3	314	294
Robert Erskine School	K – 3	321	252
E.G. Hewitt School	4 – 5	335	299
Martin J. Ryerson Middle School	6 – 8	480	475
TOTAL		1,450	1,320

The Borough provides educational facilities for residents from kindergarten through eighth grade. For high school, students attend Lakeland Regional High School in nearby Wanaque.

Lakeland Regional is a comprehensive high school district drawing from Wanaque and Ringwood school districts and several private schools in the surrounding areas. Enrollment as of September 2009 totaled 1,181 students, with about 60% of the student body coming from Ringwood. *(Personal communication with Kelley Rohde).* Private schools within Ringwood include Saint Catherine of Bologna and Ringwood Christian, both pre-school through eight.