

# SECTION IX - CONSERVATION PLAN



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## INTRODUCTION

The Township of Livingston is a suburban residential community in western Essex County and is in Metropolitan Planning Area (PA1) under the New Jersey State Development and Redevelopment Plan (State Plan). It is almost fully developed. Specific portions of the Township are water supply areas, each designated an Environmentally Sensitive Planning Area (PA5) under the State Plan.

With tree-lined streets, a vibrant downtown district, and limited non-residential development, it is home to three Essex County parks and a system of municipal parks and recreation facilities. The Lenape Trail traverses the Township, connecting the Essex County trail system to the Morris County Patriots' Path. The Lenape Trail is a segment of the Liberty-Water Gap Trail that will run from Liberty State Park in Jersey City to the Delaware Water Gap when completed. The Passaic River forms the western boundary of the Township, separating Essex and Morris Counties.

There are 428 acres of municipal parkland and 414 acres of county parkland in the Township. Nearly one-tenth of the Township's 8,960 acres is permanently protected parkland. An additional 1,470 acres, or 16% of the total Township area, is occupied by the East Orange Water Reserve and is zoned as a Water Resource Conservation District. This Master Plan proposes that another 367 acres, owned by the New Jersey-American Water Company, also be zoned into the Water Resource Conservation District.

This Section IX – Conservation Plan Element reviews the present and anticipated natural resource conservation needs of the community and the resources currently in place, and makes recommendations for maintenance, improvement and expansion. It is designed to meet Goals and Objectives presented in Section II of the Master Plan.

## SPECIFIC OBJECTIVES OF THIS CONSERVATION PLAN ELEMENT

1. Protect and enhance the quality of life for Township residents through preservation of “green corridors” and conservation of land and water.
2. Protect the beauty and physical appearance of the community, continuing the effort to create a “green landscape” of tree-lined streets and the creation of walking paths.
3. Permanently protect the East Orange Water Reserve and the New Jersey-American Reservoir properties from development.
4. Review and update identification and mapping of wetlands, woodlands and mature forests in the Township.
5. Protect woodlands, mature forests and wetlands in the Township.
6. Protect the aquifer recharge lands in the Township and conserve brooks, streams, and wildlife habitat for indigenous species, migratory birds, and threatened and endangered species.
7. Periodically review and maintain both an Environmental Resources Inventory of the Township's natural features and environmentally sensitive areas and an Open Space Inventory.

- Maintain and improve Open Space in the Township.

## **OPEN SPACE TRUST FUND**

In November of 2002, Township voters overwhelmingly approved establishing an Open Space Trust Fund to be supported by a Township Open Space Tax. The Trust is funded by a dedicated annual local property tax not to exceed three cents (\$0.03) per one hundred dollars (\$100.00) of assessed valuation. Since inception, the Trust has generated a total of \$6,453,978.60 with an average of \$324,206.5 every year. The Trust has expended \$3,441,781.16. It has preserved 5.25 additional acres of land since the 2007 Master Plan was adopted.

## **RECREATION & OPEN SPACE INVENTORY**

The Recreation and Open Space Inventory (ROSI) is a listing of properties that are “of interest” to the Township for open space acquisition or preservation. The parcels represent present or potential value for conservation, passive or active recreation, greenways or parkland. They are publicly or privately owned, undeveloped or partially developed. The definitions below are consistent with the categories included in the Vacant Land Analysis of the Housing Element and Fair Share Plan; and are:

Undeveloped – Properties in a natural state that do not have an existing building, structure, pavement, active or passive recreation facility, playing field, or playground. Included in this category are land-locked parcels and parcels that contain environmental constraints and steep slopes. These parcels are prime lands for preservation and can be developed for open space and recreation use; however, these parcels cannot be developed for any other use.

Underdeveloped – Under-utilized property has a building or structure, pavement or active or passive recreation facility, playing field or playground on-site, but 25 percent of the property is undeveloped land. Majority of the properties under this category contain large portions of land that are undeveloped due to existing environmental constraints or due to the Township’s Code limitation on the building and/or impervious coverage. For the purpose of this report, such lots greater than one acre in size for publicly owned properties and 1.5 acres for privately owned properties are considered to be under-utilized.

Developed – Land that has little to no open space value; the majority of the site is building or structure and/or pavement. However, these characteristics do not necessarily preclude these lands from being utilized for outdoor recreation.

The Township has inventoried 76 properties, containing an aggregate approximately 433 acres of land that are listed in the ROSI database maintained by NJDEP’s Green Acres Program. All Livingston properties listed in the ROSI are restricted to recreation and conservation purposes.

The Green Acres program provides funding to municipalities for developing and maintaining recreation and conservation lands within the municipality. The Township has received Green Acres funding for 11 of the 76 properties.

## ENVIRONMENTAL FEATURES

### Township Topography

Topography of the Township, as shown on the Topographic Map (Map I) is a natural condition that has not been significantly altered by development. The general character of the topography is gently rolling land, with some flat areas, some hilly sectors and some steep slopes that exceed 20 percent. The highest point is 560 feet above sea level and is located near the easterly boundary with the Township of West Orange and just north of State Highway 10. By contrast, the lowest area is to the west, along the Passaic River, at an elevation of 160 feet. A second area of “heights” with a north-south axis and elevations ranging to 440 feet above sea level is located along Hillside Avenue while a lower valley-like north-south area, at elevations ranging from 300 to 320 feet, is to both sides of Livingston Avenue.

Slopes of fifteen percent (15%) or more are found on the easterly high side of the Township from Interstate 280 south to the Millburn Township border and in the northwestern area bounded by Hillside Avenue, Beaufort Avenue, W. Northfield Rd. and the border with the Borough of Roseland.

### Soils

Soils are mixtures of minerals, air, organic matter and water in varying proportions and with varying consistencies. The primary component will be broken and weathered minerals. The Township lies within the Triassic Lowlands portion of what is known as the New Jersey Piedmont Province. An interim “General Soil Map – Essex and Hudson Counties, New Jersey” was published in 1993. On December 30, 2004, the U.S. Natural Resources Conservation Service published a comprehensive soil survey of the Essex County area. Soils are identified by prominent characteristics that are common at particular locales in the State. The primary soil groups found in the Township are: “Urban Land-Parsippany-Haledon Soils”, “Urban Land-Dunellen-Riverhead Soils”, “Boonton-Urban Land Wethersfield Soils”, and “Urban Land- Boonton-Wethersfield Soils” as shown on the Soils Map (Map J).

#### ***Urban Land-Parsippany-Haledon Soils.***

These soils are nearly level to steeply sloping, poorly drained and contain very deep silt loams. Parsippany soils are formed in stratified, silty, old lake sediments in depressions and on low level areas. Haledon soils are formed in sandstone, shale and basalt glacial till over shale and basalt bedrock along drainage ways on broad glacial till plains and on ridges. Parsippany soils are hydric and Haledon soils are non-hydric.

#### ***Urban Land-Dunellen-Riverhead Soils.***

This soil group consists of sandy loams, nearly level to strongly sloping, which are deep to very deep and of a well-drained gravelly nature. It is formed from sandy, stratified glacial outwash on outwash plains and terraces and on river and stream terraces. This soil is non-hydric.

#### ***Boonton-Urban Land Wethersfield Soils.***

This soil group is gently sloping to moderately steep, well drained to moderately well drained, deep gravelly loams formed in acid, reddish sandstone, shale, basalt and conglomerate glacial till over shale and basalt bedrock. It is found in the central portion of the Township, between the higher elevations. These soils are non-hydric.

### ***Urban Land- Boonton-Wethersfield Soils.***

These soils are gently sloping to moderately steep, well drained to moderately well drained, deep gravelly loams formed in acid, reddish sandstone, shale, basalt and conglomerate glacial till over shale and basalt bedrock. They occur on upland glacial till plains and ridges. These soils are non-hydric.

- Notes: (1) Hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil bed. Hydric soils along with hydrophytic vegetation and wetland hydrology are used to define wetlands.
- (2) Glacial till is the accumulation of unsorted, unstratified mixtures of materials such as clay, silt, sand, gravel and boulders deposited by a glacier.
- (3) Outwash is glacial till carried away from the glacier site by meltwater.

### **Woodlands**

Woodlands may be defined as forested areas containing deciduous, evergreen or mixed species of trees or shrubs. Trees reduce air and water pollution, act as sound absorbers, prevent soil erosion, provide natural habitat for wildlife and birds, provide aesthetic and scenic beauty, and protect and enhance community image and property values. Due to development, limited woodlands survive in the Township. In 2004, the Township enacted a Trees Ordinance. An updated ordinance in 2011 is designed to preserve and protect as many trees as may be practical during development and to require the multiple replacement of trees that are destroyed.

**Recommendation:** The Land Use Ordinance should be amended to require that when undeveloped or underdeveloped properties in excess of two (2) acres are developed a specified percentage of the property must be preserved in its natural state.

**Recommendation:** Identify woodlands appropriate for preservation in their entirety, and achieve such preservation by donation, or purchase, of title or of perpetual easements.

### **Wetlands**

Wetlands are of particular importance for flood control and as natural means of filtering stormwater run-off and returning rainwater to the ground to recharge the aquifers from which drinking water comes. Wetlands also provide critical habitat for birds and wildlife. To the layman's eye, stands of cattails and skunk cabbage and other plants, and periods of standing water, suggest the presence of wetlands. However, they may not always prove the presence of wetlands. Although those types of vegetation are typically present in wetlands, the nature of the soils, hydrographic factors and other technical factors govern the legal determination of the presence of wetlands. Wetlands may be, or include, woodlands.

Wetlands within the Township are "Freshwater Wetlands" and their protection is controlled by Federal and State laws and regulations. The New Jersey Department of Environmental Protection (NJDEP) regulations contain the following definition:

“ ‘Freshwater wetland’ or ‘wetland’ means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation; provided, however, that the Department, in designating a wetland, shall use the three-parameter approach (that is, hydrology, soils and vegetation) enumerated in the 1989 Federal Manual....”

Wetland areas within the Township have been identified by NJDEP and are shown on the Wetlands (Map K). The largest wetlands area is the East Orange Water Reserve in the southeastern portion of Livingston. Those wetlands extend into the adjacent communities of Millburn and Florham Park.

There are three (3) distinct types of wetlands in the Township:

- PFO1 - A wetland in the Palustrine System (P), forested (FO), with broad-leaved deciduous vegetation.
- PEM - A wetland in the Palustrine System (P), with emergent wetland (EM).
- PSS1 - A wetland in the Palustrine System (P), with scrub-shrub wetland (SS) with broad-leaved deciduous vegetation.

The Palustrine System encompasses the vegetated wetlands commonly known as marsh, swamp, bog, or fen and includes small, shallow, permanent or intermittent water bodies commonly known as ponds.

PFO1 wetlands are the predominate type in the Township, and are found in the East Orange Water Reserve portion of the WRC Water Resource Conservation District, along the borders with Florham Park and East Hanover, and in the center of the Township west of St. Philomena’s Catholic Church, Livingston High School and Memorial Park.

PEM wetlands are located along Eisenhower Parkway north of State Highway 10, along the border with East Hanover, and in the southwestern corner of the Township. PSS1 wetlands are present along the Passaic River. There are scattered small PSO1 and PSS1 wetlands throughout the Township.

NJDEP has the exclusive right to grant permits for the development or filling in of freshwater wetlands. For that purpose, wetlands are categorized into three (3) groups or resource values: exceptional value, intermediate value, and ordinary value. The values are set by NJDEP after site inspection. Protective transition areas or buffers ranging from 50 to 150 feet, according to the resource value of the wetlands, are required. Preservation of wetlands is essential for the protection of wildlife, reduction of the adverse effects of seasonal flooding, and assisting in the recharge of the aquifers.

**Recommendation:** Incentives for preservation of the wetland segments on developable properties should be provided in the Land Use Ordinance.

**Recommendation:** Acquire title to, or preservation easements on, wetlands by donation or purchase.

## Floodplains

Floodplains are areas, adjacent to a stream, river or watercourses that are subject to flooding during high water stages. Such flooding presents risks of loss or damage to structures, other property, and people. The Federal Emergency Management Agency (FEMA) defines flood plain areas subject to the risk of a 100-year flood and sets out their parameters on Flood Insurance Rate Maps. The Passaic River, Canoe Brook and Slough Brook, and their tributaries, and Bear Brook and Cub Brook all give rise to floodplains of varying dimensions.

## Riparian Zones

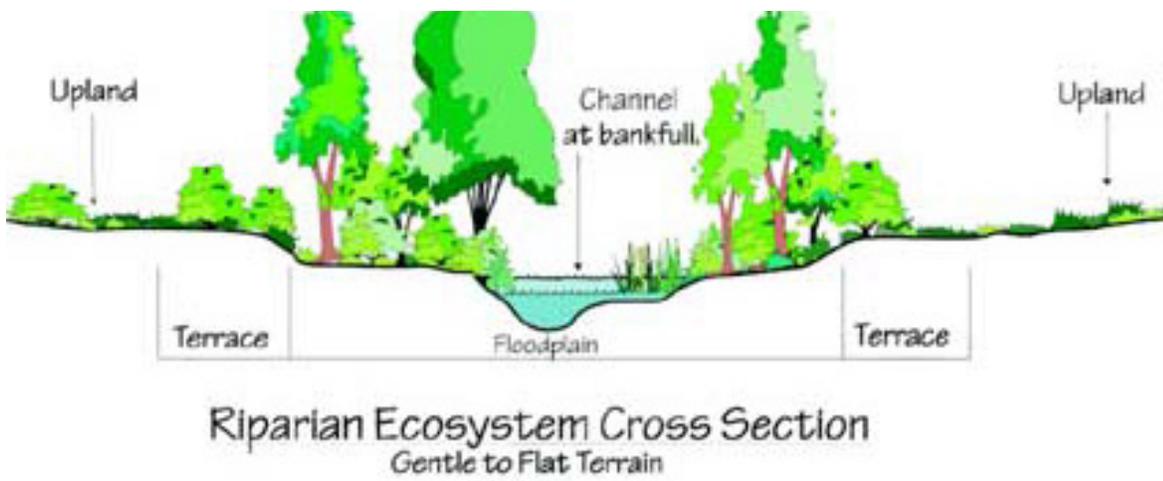
Riparian zones consist of lands adjacent to a watercourse that are adequately vegetated and provide an important environmental protection and water resource management benefit. These provide a variety of significant functions and values, such as reducing adverse effects to water quality by removing nutrients and pollutants from storm runoff, moderating storm flows to streams by providing flood storage capacity (which reduces downstream flooding), and stabilizing soils and stream banks naturally.

With a few exceptions, a riparian zone exists along all regulated water. The riparian zone is the land and vegetation within regulated water and extending either, 50 feet, 150 feet or 300 feet from the top of bank along both sides of the regulated water, depending on the environmental sensitivity of the water.

The Passaic River, Canoe Brook and Slough Brook, and their tributaries, and Bear Brook and Cub Brook all have a 50-foot buffer from the top of the bank on either side.

It is necessary to protect and maintain the beneficial character of riparian areas by implementing specifications for the establishment, protection, and maintenance of vegetation along the surface water bodies within the jurisdiction of Livingston. In 2011, the Township adopted Ordinance No. 8-2011 to designate riparian zones, and to provide for land use regulation to protect the streams, lakes, and other surface water bodies of Livingston; to protect the water quality of watercourses, reservoirs, lakes, and other significant water resources within the Township; to protect the riparian and aquatic ecosystems of the Township; to provide for the environmentally sound use of the land resources of the Township of Livingston, and to complement existing state, regional, county, and municipal stream corridor protection and management regulations and initiatives.

**Figure IX-I**



- Recommendation:** Acquire title to, or preservation and conservation easements on, riparian zones by donation or purchase.
- Recommendation:** Incentives for preservation and restoration of riparian zones on developable properties should be provided in the Land Use Chapter of the Township Code.
- Recommendation:** Riparian zones within the Township should be evaluated for recreational purposes. Some of the recreational activities conducted may include waterfowl and bird watching, fishing, hiking, boating or canoeing, and general nature observation.
- Recommendation:** Incentives for preservation of the wetland segments on developable properties should be provided in the Land Use Chapter of the Code.
- Recommendation:** Acquire title to, or preservation easements on, wetlands by donation or purchase.

### Stream Protection

Spills or discharge of hazardous substances or hazardous wastes contaminate or pollute surface waters.

Aquifers are geological formations that contain significant quantities of saturated permeable materials and yield water to springs and wells. Aquifer recharge areas are porous soils or rock formations through which water can work downward from the surface to the aquifer.

Aquifer protection is of critical importance to ensure that wells providing Township water supplies remain uncontaminated. Maintenance of open space contributes to aquifer protection; as does the control of stormwater runoff. Spills or discharge of hazardous substances or hazardous wastes can contaminate or pollute the aquifer.

### Potable Water Resources Protection

Public wells tapping the Passaic Valley buried valley aquifer are the primary source of potable water for the Township. The supply is supplemented by Township bulk purchases from New Jersey-American Water Company, which draws its supplies from surface watersheds and Brunswick Shale, Buried Valley and Gneiss Rock Formation aquifers. The supplies are regularly monitored for contaminants.

The Township owns and operates a water utility that supplies potable water to approximately 30,000 customers through a network of water source, treatment, transmission, distribution and storage infrastructure. Water from Township wells is supplemented with purchased water from New Jersey-American Water (NJAW). On average, the system delivers 3.8 million gallons of water per day (MGD). Summer water demand on the system peaks above 6 MGD.

There are fourteen (14) Township-owned production wells, and five (5) associated water treatment facilities that remove volatile organic chemicals (VOCs) from six (6) of the wells. Several of these wells are drilled in the Brunswick Formation as rock wells, and the others are sand and gravel wells drilled in the Valley Fill of the Northern Millburn Valley aquifer system.

<b>Table IX-I</b>		
<b>Summary of Well Information</b>		
<b>Well ID</b>	<b>Year Constructed</b>	<b>Treatment Type</b>
1 - Congressional	1948	None
2 - Harrison School	1955	None
3 - Dorsa Avenue	1956	Packed Tower
15 - Dorsa Avenue	2015	Packed Tower
4 - Memorial Park	1955	Diffused Air Bubbler
5 - Dorsa Avenue	1961	Packed Tower
16 - Dorsa Avenue	2015	Packed Tower
6 - Squiretown School	1966	None
7 - Old Pleasant Avenue	1965	None
8 - North Ridge Road	1970	Diffused Air Bubbler
9 - Route 10 West	1974	Packed Tower
10 - Park Drive	1973	None
11 - Elizabeth Avenue	1972	Diffused Air Bubbler
12 - Meadowbrook Road	1979	None

Additionally there are seven (7) water storage tanks with a combined capacity of over 8 million gallons.

<b>Table IX-II</b>	
<b>Summary of Storage Tank Information</b>	
<b>Tank ID</b>	<b>Storage Capacity</b>
Riker Hill Tank	1 MG*
Tank No. 2	2.65 MG
Mount Pleasant Tank	2.65 MG
Fawn Drive Tank	0.63 MG
Mine Hill Tank	0.15 MG
Chetwynd Tank	0.75 MG
Force Hill Tank	0.50 MG

\* MG = Million Gallon

There are three (3) booster stations that pump water between gradient zones and interconnections with NJAW in the NJAW high zone and with East Orange.

<b>Table IX-III</b>
<b>Summary of Booster Stations</b>
North Hillside Booster Station
Mountain Ridge Booster Station
Naylon Booster Station

There are over 160 miles of water main infrastructure with approximately 20 miles of piping in the NJAW zone.

**Recommendation:** As a preventative measure, the proximity of discharges of toxic and hazardous materials to sources of water supplies, should be restricted so that there will be sufficient time to find and clean up such spills or discharges before water supplies become contaminated

**Recommendation:** An ordinance protecting well-head areas should be enacted.

**Recommendation:** Permanently protect the East Orange Water Reserve and the New Jersey-American reservoir properties as proposed in the Land Use Plan.

More specific recommendations for protection of aquifers are in Section XIII – Stormwater Management Plan Element.

### Steep Slopes

In 2009, the Township adopted Ordinance No. 24-2009, a Steep Slope ordinance as recommended in the 2007 Master Plan.

### Environmentally Sensitive Areas Protected By State Law

The State Plan seeks to protect Environmentally Sensitive Planning Areas. Those areas are defined as large contiguous land with valuable ecosystems, geological features and wildlife habitats. This includes watersheds of existing or planned potable water supply sources.

The western and southern portions of the Township contain sections designated “Environmentally Sensitive Planning Area”. Along the Passaic River, the Essex County Park Commission owns and manages undeveloped passive recreation land that is part of West Essex Park. East of the county parkland is the Cedar Hill Golf and Country Club. Also to the east of West Essex Park is the reservoir owned by the New Jersey-American Water Company. The remaining environmentally sensitive land in the southern portion of the Township is owned by the City of East Orange Water Commission as a watershed for that city’s drinking water supply.

West Essex Park is an undeveloped 1360-acre park that remains largely a wetlands preserve. It lies within the flood basin of approximately six miles of the Passaic River; from Bloomfield Avenue in Fairfield, through Roseland and West Caldwell, and terminates at South Orange Avenue in Livingston. There are fishing areas, interpretive trails that have not been maintained in years, and boat and canoe landings at various points along the river.

The State Plan provides for the protection of critical natural resources and for the maintenance of the balance between ecological systems and beneficial growth. Thus, the State Plan suggests that new development be guided into Centers to preserve the open space and not be targeted for Environmentally Sensitive Planning Areas. That concept is adaptable to local community planning.

**Recommendation:** Encourage Essex County to continue and expand its programs for improving West Essex Park, including reclaiming the interpretive trails.

## RARE AND ENDANGERED SPECIES

Table IX-IV lists rare and endangered species that may be found in Livingston according to the New Jersey Natural Heritage Program of the Division of Parks and Forestry.

Table IX-IV		
Rare and Endangered Species		
Common Name	Scientific Name	State Protection Status
<i>Class Aves</i>		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Endangered
Barred Owl	<i>Strix Varia</i>	Threatened
Great Blue Heron	<i>Ardea herodias</i>	Special Concern
Long-eared Owl	<i>Asio otus</i>	Threatened
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	Threatened
Red-shouldered Hawk	<i>Buteo lineatus</i>	Endangered
<i>Class Mammalia</i>		
Bobcat	<i>Lynx rufus</i>	Endangered

**Recommendation:** Where habitats are privately-owned properties the Township should seek title by donation, or conservation easements, to preserve such habitats.

### Rare Plant Species and Ecological Communities

Rare plant species and ecological communities information in Table IX-V is based on the most recent Natural Heritage Database and the Landscape Project (Version 3.1) maintained by the State's Office of Land Management, Natural Heritage Program of the Division of Parks and Forestry

Table IX-V		
Vascular Plants		
Scientific Name	Common Name	Location
<i>Within the Township</i>		
Asimina Triloba	Pawpaw	Just East of the Passaic River, approximately 1.1 miles South of Columbia Bridge
<i>Within Immediate Vicinity of the Township</i>		
Carex Typhina	Cat-tail Sedge	West side of Passaic River, below Swinefield Bridge

**Recommendation:** Where habitats are on privately-owned properties the Township should seek title, or conservation easements, to preserve such habitats.

### Bear Management

In recent years, increasing numbers of bear sightings in suburban, and even urban, areas of the State have been

reported. This has resulted in adoption of a “zero tolerance” State policy for bears in the most-populated areas of the state. In 2016, there were 4 incidents of bears transiting the Township near schools, playgrounds and residences. All incidents passed with no harm to residents or their pets, and with minimal property damage. However, the hazards were real.

**Recommendation:** The Township should maintain a broad program of public education as to self-protection steps by adults or children when bears are present, and the actions to be taken to remove conditions that attract bears.

### Deer management

42 deer were involved in documented collisions with motor vehicles within the Township in 2015-2016; and 48 in 2016-2017. Fortunately, there were no human fatalities.

Ground-level vegetation of our woodlands has been severely degraded by over-browsing by deer. That wipes habitat for many plants and birds, and results in the inability of trees to reproduce themselves because their seedlings get eaten. NJDEP’s Division of Fish and Wildlife considers that deer population in excess of 20 per square mile will result in great damage to tree and plant life, including residential gardens.

The New Jersey Wildlife Action Plan states that “white-tailed deer pose a significant threat to forest health and forest regeneration...directly damage wildlife habitat and can eliminate rare plant communities”. They do this by browsing on native species, thus allowing alien plants to become established and thrive. This deprives ground and shrub nesting birds of the dense foliage that concealed their nests, thus exposing them to destruction by predators such as raccoons and wandering cats. The State Plan identifies reduction of the white-tail deer population through hunting as the best means of protect the environment. In developed areas where sport hunting is not practical or permitted NJDEP has authorized alternative lethal deer culling procedures that have been employed in Livingston.

Table IX-VI shows the number of deer killed in Livingston by motor vehicle accidents and by deer management hunts.

Table IX-VI		
Period	Killed in Accidents	Management Program
2010-2011	1	64
2011-2012	7	40
2012-2013	9	44
2013-2014	10	36
2014-2015	28	29
2015-2016	42	31
2016-2017	48	31

**Recommendation:** The Township should embark upon a public education program, in cooperation with the N.J. Division of Fish and Wildlife, NJ Audubon Society, and the NJ Conservation Foundation, as to the health and environmental dangers presented by excessive deer populations.

## Canada Geese Management

Large numbers of Canada Geese no longer participate in annual migration of their species. Instead, they have chosen to remain in New Jersey and are now called “Resident Canada Geese” by biologists. They are found on and around ponds, ball fields, golf courses, playgrounds and large lawns. Geese have digestive systems that produce greater volumes of fecal matter than do other birds of similar size. Fecal production of an adult Canada Goose is estimated at ½ pound per day. Because the geese tend to congregate in areas used for human recreation, they produce significant uncleanliness and potential health hazards for young and adult Township residents. Although migrating Canada Geese are protected by law, federal and state authorities have recognized the hazards presented by Resident Canada Geese and have authorized measures to reduce the population of those geese.

**Recommendation:** The Township should closely monitor the presence and impact of Resident Canada Geese and employ lawful population reduction measures when the geese have an adverse impact on public use of Township parks and facilities.

## Wild Turkeys

There are growing numbers of wild turkeys within the Township. Their presence remains something of a novelty, and they are not yet causing significant damage or disruption. However, these birds are showing a lessening fear of humans, and there have been reports of Tom Turkeys threatening and scaring off humans who approached too closely.

**Recommendation:** The Township should monitor the presence of wild turkeys and their impact upon residents, educate the community about risks, and identify what lawful measures may be taken if they become more of a problem.

## Coyotes

There are infrequent but growing numbers of reports of coyote sightings within Livingston. Although these predators reduce deer populations they also are a risk to small pets and small children.

**Recommendation:** The Township should embark upon a program to educate residents of all ages how to identify coyotes and to avoid hazardous encounters.

**Recommendation:** The Township should monitor the presence of coyotes and determine what appropriate lawful measures may be taken should they become a problem.

## Feral Cats

Feral cats are a danger to ground nesting birds; particularly with the loss of understory vegetation due to presence of deer. A human catch, neuter and release program has been instituted to slow growth of the feral cat population.

## ACQUIRING RIGHTS TO LAND FOR PURPOSES OF CONSERVATION

Numerous tools and funding sources are available to acquire title or to otherwise achieve conservation and preservation. The following descriptions are not exhaustive of the possibilities.

### Acquisition of Title

Purchase is the most direct and simple, but most expensive way of acquiring title. But, sufficient funds to make the purchase may not be available to the Township at the time. However, the cost may be eased by grants when available, or by entering into partnerships with conservation organizations. A number of alternative direct acquisition methods should be considered:

- Terms may be negotiated with the landowner for the purchase to be paid for over time or portions of a property acquired in discrete steps, Sale of property to the Township might be coupled with the seller retaining a tenancy in the property for a fixed term or for life, with rent to be paid to the Township.
- A property owner may be induced to sell property to the Township at below the market value so as to realize a charitable gift tax deduction for the price reduction.
- Opportunities to induce outright gifts of land to the Township should be explored. Such gifts provide a charitable gift income tax deduction for the donor and also result in saving, to the donor, of real estate taxes after title to the land is transferred.
- In instances of foreclosure upon property for failure to pay Township real estate taxes, the Township could elect to keep title and add the property to its parks or open space, or to trade the parcel for another with better environmental or recreational qualities. Periodic review of existing tax liens of all types on properties within the Township could identify opportunities for purchase of a lien and acquisition of the property for environmental or recreational use.
- The Township could exercise the right of eminent domain to acquire ownership of land with a high environmental or recreational potential from an owner unwilling to sell or to grant an easement or other right of use.

### Easements

Easements provide an opportunity to obtain use of land for specified purposes without the costs of acquiring ownership while keeping the land on the real estate tax rolls (although the value of the land for tax assessment may be reduced by the easement). Easement rights are written into the deed on the property and pass on with changes in ownership. Easements may be purchased or received as a gift.

Examples of types of easements are:

- A right to establish and maintain a trail or path through the owner's property.
- Owner's agreement that a natural setting, such as woodlands, will be preserved.
- A right of public access to a site for passive recreation.
- Preservation of the use of a property, such as farming or raising of livestock.

## Zoning

The Township may use its Land Use Ordinance to establish conditions, such as cluster zoning or other approaches consistent with the NJ Municipal Land Use Law, which increase the amount of open space or environmentally sensitive areas (such as wetlands, steep slopes, and stream corridors) preserved in site development.

## Funding Sources

Potential sources of funds for acquisition of property ownership or easements, and the amounts available, vary. Each may have specific and limiting objectives or types of uses.

### **Township's Open Space Trust Fund.**

This fund, generated by a special real property tax, is available for the acquisition of title or easements for conservation, recreation and preservation purposes. It can be most effectively used to qualify for matching grants or to cover Township down-payments or local contributions required by potential funding partners.

### **Potential Funding Partners.**

**New Jersey Environmental Infrastructure Trust (EIT)** is a partnership of NJDEP Green Acres and the Environmental Infrastructure Financing Program. The EIT provides very low interest loans for acquisition of open space that will preserve and protect surface and ground water resources and ensure the safety of drinking water supplies. The loan can be used as the Township's match of the Green Acres grant for the project.

**New Jersey Green Acres Program** will provide funds to cover up to 50% of the cost of acquisition of municipal parks and recreation lands under the municipality's open space and recreation plan.

**Essex County Open Space Trust** provides funding for projects consistent with the County open space and recreation plan.

**Federal Land & Water Conservation Fund (LWCF)** is funded by annual Congressional appropriations. It includes a State Grant Program under which the National Park Services provides funds to individual states to cover up to 50% of the costs of acquiring land, building or repairing recreation or park facilities, providing hiking and riding trails, enhancing recreation access and providing wildlife and hunting areas. Within New Jersey, municipalities generally receive funding through the Green Acres program.

**Transportation Enhancement Act (TEA-21)** The U.S. Department of Transportation has established that funding for trail development and enhancement is an eligible expenditure from the Federal Transportation Trust. The amount of funding for these purposes is substantial, and funds for land acquisition are available. A special category of funding is dedicated to enhancement of National Recreation Trails. An eligible project must show that the trail is part of the community's overall transportation system. Funds can be used for facilities such as signage, bike racks, surfacing as well as acquisition of land through easement or fee simple. TEA-21 funding can jumpstart a community's bikeway and walking trail system.

**Nonprofit Land Conservation Organizations** are eligible for Green Acres grants of up to \$500,000 and can partner with the Township on a dollar for dollar match. To do so, the organization "signs on" to a community's Open Space and Recreation Plan. Morris Land Conservancy is a conservation organization that has partnered with the Township in open space and recreation planning. The Passaic River Coalition is a non-profit Land Conservation Organization that has established a Land Trust to acquire and preserve open space. The Passaic River Coalition

Land Trust provides land and water resource management by permanently protecting and preserving land. The Passaic River Coalition Land Trust works with citizens, governments, and businesses to develop solutions to protect the environment within the watershed through land preservation. The Land Trust not only preserves land, it also provides guidance to local government in the efforts to identify and plan for protection of vital natural resource and develop a methodology to acquire and manage open space.

**Brownfields Redevelopment Funding.** The New Jersey legislature has implemented several financial and liability incentives to encourage municipal involvement in brownfields redevelopment. Grants of up to \$2 million per municipality per year are available through New Jersey's Hazardous Discharge Site Remediation Fund (HDSRF). Certain restrictions limit accessing this funding. First, the municipality must have some control over the property. Second, the town must have a redevelopment plan for the property. This funding is available on a rolling basis, and is applied for at a site-specific level.

Federal monies are also available for local government brownfields remediation. Assessment Grants and Cleanup Grants are available from the United States Environmental Protection Agency.

By utilizing existing infrastructure, brownfields redevelopment can be a financially attractive way to revitalize urban areas, restore local tax bases, lower overall development costs and preserve open space.