



*DRAFT*  
LAND PRESERVATION AND STEWARDSHIP  
TECHNICAL REPORT  
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PREPARED BY  
STATE OF NEW JERSEY  
HIGHLANDS WATER PROTECTION  
AND PLANNING COUNCIL  
IN SUPPORT OF THE  
HIGHLANDS DRAFT REGIONAL MASTER PLAN

# DRAFT LAND PRESERVATION AND STEWARDSHIP TECHNICAL REPORT

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## **EXECUTIVE SUMMARY**

One of the fundamental aspects of the Highlands Act is the emphasis on land preservation to ensure that public funds and other resources are focused on protection of critical Highlands resources. In order to accomplish this purpose, the case for land preservation and critical issues surrounding preservation must be addressed by the Highlands Council including the criteria for the identification of critical lands, the priorities for land preservation, implementation strategies for land preservation and stewardship, and a process to ensure that sufficient financial and institutional resources are available for land preservation and stewardship.

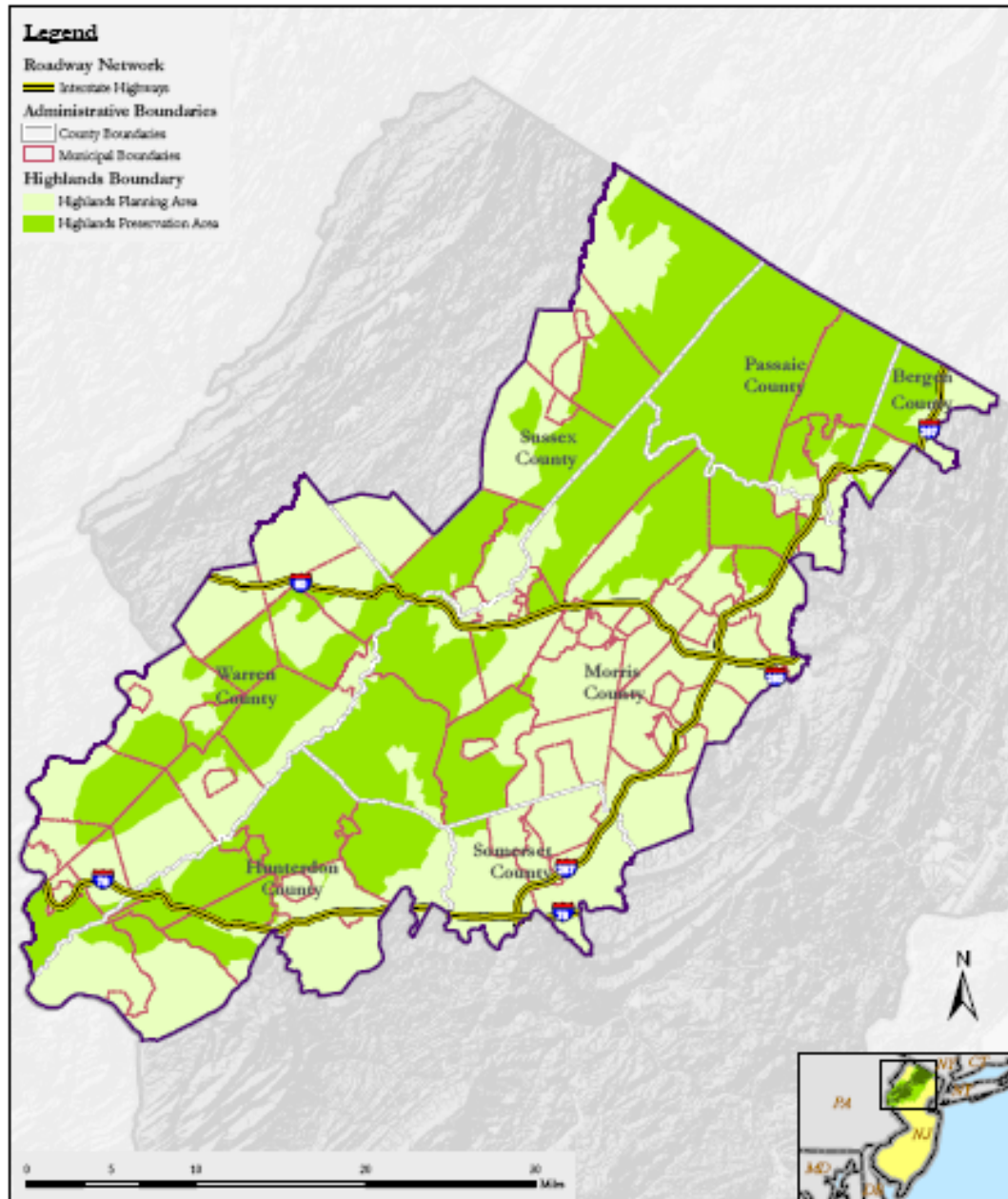
An important factor in protecting environmentally critical areas is identifying existing preserved lands in the Highlands Region and the resources that are already protected. A total of 274,675 acres of the Highlands Region are primarily preserved open space or preserved farmland in a combination of federal, State, county municipal, nonprofit and private ownership and represents a catalog of the public and private land and water areas available for recreation or presently protected as open space and recreation facilities.

Successful land preservation requires four basic ingredients—targeting of land acquisition priorities based on a sound rationale, buyers with funding or other incentives, sellers willing to accept a buyer's offer, and stewardship of the acquired open space. This technical report includes the examination of the available funding and stewardship programs in New Jersey for open space acquisition and land preservation.

## 1.0 INTRODUCTION

The New Jersey Highlands Region (Highlands Region) includes 859,358 acres comprised of two areas, the Preservation Area and the Planning Area (See figure Highlands Region). It is located in the northwest part of the State encompassing eighty-eight municipalities in seven counties. A region noted for its scenic beauty and environmental significance, it stretches from Phillipsburg, Warren County in the southwest to Mahwah, Bergen County in the northeast. It is the source of drinking water for nearly 5 million people.

### Highlands Region



The Highlands Water Protection and Planning Act (Highlands Act) was enacted on August 10, 2004. In adopting the Highlands Act, the Legislature “found and proclaimed that the New Jersey Highlands is an essential source of drinking water . . . for one-half of the State’s population, . . . that . . . [it] contains other exceptional natural resources such as clean air, contiguous forest lands, wetlands, pristine watersheds, and habitat for fauna and flora, [and that it] includes many sites of historic significance, and provides abundant recreational opportunities for the citizens of the State.” (Highlands Water Protection and Planning Act, Section 2).

The Legislature also recognized that the resources of the Highlands Region are a vital part of the public trust. It declared that the measures of the Highlands Act “should be guided, in heart, mind, and spirit, by an abiding and generously given commitment to protecting the incomparable water resources and natural beauty of the New Jersey Highlands so as to preserve them intact, in trust, forever for the pleasure, enjoyment, and use of future generations . . . .” The statutory mechanism imposed by the Highlands Act to protect the Region’s public trust resources includes the State’s commitment to provide state funds for land preservation along with a reorganization of land use powers to emphasize regional planning.

Through passage of the Highlands Act, the New Jersey Highlands Water Protection and Planning Council (Highlands Council) was charged with the important task of developing a Regional Master Plan to protect the critical natural resources and other significant values of the Highlands Region. The Act specifically emphasizes the protection of water resources for both potable supply and ecosystem viability but also includes goals relating to the protection of agricultural viability, ecosystems, species and communities, as well as scenic and historic resources.

Various systems have been developed in New Jersey for the identification of critical areas for land preservation. These systems have both similarities and fundamental differences. The Highlands Council needed to select or create a set of criteria for use in the Regional Master Plan that can be used to accomplish goals of the Highlands Act. In addition, the Highlands Council needed to determine whether to rely upon or augment the current State systems for identifying important open space and agricultural areas for preservation in the Highlands Region.

“Open space is not merely an amenity, a frill among other necessities on the map of a region, a watershed, or a community. Rather it is the matrix where most of the creatures in that region or community live, and it affects and controls and is affected by everything else that is there. In rural communities, this is so obvious that it needs no elaboration. But in developed communities, it is frequently forgotten. Open space, and especially natural open space (forest, wetlands), is the guarantor of biodiversity, of the continuance on the planet of natural communities of species, of fertility to feed all levels of the food chain including people, and of clean air and water essential to the biological health of all species, including *homo sapiens* (who frequently do not live up to their name). As natural open space is maintained, so will species richness, habitat diversity, and the health of all species be proportionally maintained. In short, the conservation of species, the protection of biodiversity, the maintenance of clean air, clean water and health is partly and significantly a function of habitat size, that is, amount of open space.” The Benefits of Open Space, GSWA, The Ecological and Biological Benefits of Open Space, Richard P. Kane, Director of Conservation, New Jersey Audubon Society

In order to evaluate the state of land preservation in the Highlands Region that affords these benefits, maps and tables showing the open space by ownership and by land use/land cover are

included in this technical report.

## **2.0 REQUIREMENTS OF THE HIGHLANDS ACT**

The Highlands Act includes specific legislative findings relating to land preservation:

“The Legislature further finds and declares that the New Jersey Highlands is an essential source of drinking water, providing clean and plentiful drinking water for one-half of the State's population, including communities beyond the New Jersey Highlands, from only 13 percent of the State's land area; that the New Jersey Highlands contains other exceptional natural resources such as clean air, contiguous forest lands, wetlands, pristine watersheds, and habitat for fauna and flora, includes many sites of historic significance, and provides abundant recreational opportunities for the citizens of the State.” Section 2.

In accordance with Section 6 of the Highlands Act, the Highlands Council is empowered to:

- To apply for, receive, and accept, from any federal, State, or other public or private source, grants or loans for, or in aid of, the council's authorized purposes, or in the carrying out of the council's powers, duties, and responsibilities;
- To identify and designate in the regional master plan special areas in the preservation area within which development shall not occur in order to protect water resources and environmentally sensitive lands while recognizing the need to provide just compensation to the owners of those lands when appropriate, whether through acquisition, transfer of development rights programs, or other means or strategies; and
- To identify any lands in which the public acquisition of a fee simple or lesser interest therein is necessary or desirable in order to ensure the preservation thereof, or to provide sites for public recreation, as well as any lands the beneficial use of which are so adversely affected by the restrictions imposed pursuant to this act as to require a guarantee of just compensation therefore, and to transmit a list of those lands to the Commissioner of Environmental Protection, affected local government units, and appropriate federal agencies.

In accordance with Section 10 of the Highlands Act, the overarching goal of the Regional Master Plan “with respect to the entire Highlands Region shall be to protect and enhance the significant values of the resources thereof in a manner which is consistent with the purposes and provisions of this act.” Section 10.a. The Highlands Act establishes specific goals relating to open space preservation. Those goals with respect to the Preservation Area shall be to:

- preserve extensive and, to the maximum extent possible, contiguous areas of land in its natural state, thereby ensuring the continuation of a Highlands environment which contains the unique and significant natural, scenic, and other resources representative of the Highlands Region;
- protect the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora;
- preserve farmland and historic sites and other historic resources;
- preserve outdoor recreation opportunities, including hunting and fishing, on publicly owned land; and
- promote compatible agricultural, horticultural, recreational, and cultural uses and

opportunities within the framework of protecting the Highlands environment.

In addition, the goals with relating to protection of open space with respect to the Planning Area shall be to:

- preserve to the maximum extent possible any environmentally sensitive lands and other lands needed for recreation and conservation purposes;
- protect and maintain the essential character of the Highlands environment;
- preserve farmland and historic sites and other historic resources;
- promote the continuation and expansion of agricultural, horticultural, recreational, and cultural uses and opportunities; and
- preserve outdoor recreation opportunities, including hunting and fishing, on publicly owned land.

### **3.0 INVENTORY OF EXISTING PRESERVED LANDS IN THE HIGHLANDS REGION**

#### **3.1 INTRODUCTION**

To evaluate the status of land preservation in the Highlands Region, it is important to first inventory existing preserved open space. This technical report records the public and private resources that provide existing recreation and open space opportunities for the Highlands Region. The inventory presents a catalog of the public and private land and water areas available for conservation and recreation or presently protected as open space and recreation facilities. The inventory considers significant recreation and conservation resources in the Highlands Region including:

- public and private land and water areas available for active and passive recreation;
- public and private land and water areas maintained as conservation areas dedicated to the preservation of natural and cultural resources;
- lands that provide access to inland water bodies;
- preserved farmland; and
- other public or private lands that may not be directly accessible to the public but that enhance the open space system in the Highlands Region.

The current status of ownership of open space, including active recreation areas and preserved farmland is represented in the figure “Highlands Open Space.” and the table “Open Space in the Highlands.” The current status of open space using a land use and land cover analysis is displayed in the figure “Open Space by Land Use/Land Cover” and the table “Highlands Open Space Land Use/Land Cover.” Since the data were acquired from numerous sources that measured their data at different scales, there may be discrepancies in the attribution of some sections of open space or preserved farmland. Additionally, certain assumptions were made in the creation of the figures. After reviewing the Anderson classification system of land use and land cover definition of “recreation,” it was decided that recreation areas shown on these maps represents active recreation. See Appendix A.

After analyzing the available data the following statistics represent the status of open space and preserved farmland in the 859,328 acre Highlands Region.



### **3.2 PRESERVED LANDS BY LAND USE/LANDCOVER**

**Highlands Land Use/Land Cover of Open Space and Preserved Farmland by Acres** - Of the 274,675 acres of open space or preserved farmland in the Highlands Region, 4,207 acres are in active recreation, 28,321 acres are in agriculture, 174,011 acres are forested, 18,416 acres are water bodies, 39,659 acres are wetlands, 9,371 acres are classified as urban, and 691 acres are barren. Urban land includes categories such as, buildings on open space, parking lots, military installations, county facilities, transportation, communication and utilities facilities, and cemeteries. Barren land includes bare exposed rock, rock slides, and disturbed lands. Of the 274,675 acres in the Highlands Region, 186,211 acres are in the Preservation Area and the remaining 88,464 acres are located in the Planning Area. A more detailed explanation of the above data is included in the attached tables. See the figure “Open Space by Land Use/Land Cover” and the table “Highlands Open Space by Land Use/Land Cover”.

### **3.3 PRESERVED LANDS BY OWNERSHIP**

**Ownership of Highlands Open Space and Preserved Farmland by Acres** - A total of 274,675 acres of the Highlands Region are open space or preserved farmland. 10,798 acres are in federal ownership, 5,592 acres are owned by the military, 100,403 acres are in State ownership, 1,708 acres are under State conservation easements, 32,015 acres are in county ownership, 30,138 acres are in municipal ownership, 28,765 are preserved farmland, 15,050 acres in nonprofit ownership, and 50,207 are watershed lands. See the figure “Highlands Open Space” and the table “Highlands Open Space”.

### **3.4 PRESERVED FARMLAND**

According to the State Agriculture Development Committee (SADC) there are 26,123 acres of preserved farmland in the Highlands Region. In the two Bergen County Highlands municipalities, 231 acres of farmland are preserved; in the fifteen Hunterdon County Highlands municipalities, 6,053 acres; in the thirty-two Morris County Highlands municipalities, 5,293 acres; in the five Passaic County Highlands municipalities, there is no preserved farmland; in the five Somerset County Highlands municipalities, 977 acres; in the ten Sussex County Highlands municipalities, 1607 acres; and in the nineteen Warren County Highlands municipalities, 11,961 acres. See the figure “Highlands Open Space” and the table “Preserved Farmland”.

### **3.5 METHODOLOGY**

In order to inform the analysis of the amount of preserved open space in the Highlands Region and develop a New Jersey Highlands Open Space layer, two datasets were examined: Open space, which includes preserved farmland and NJDEP 2002 Draft Land Use Land Cover. The two datasets are an assemblage of existing digital datasets concerning open space provided by federal, State, and county governments; local municipalities; and non-profit entities.

The process of developing the New Jersey Highlands Open Space layer required collecting existing digital data from multiple sources and combining this data into a uniform layer. The spatial and attribute synergy of the data sources varied. In many cases, this variation can be linked to an agency business model. All the existing digital data were assembled to present a comprehensive representation of open space throughout the Highlands Region. Retaining the origin of each of the

individual open space layers identified the level of government or agency most likely to administer or steward any particular area. The categories of administration or stewardship consist of the following:

- Federal Open Space
- State Open Space
- Preserved Farmland
- County Open Space
- Municipal Open Space
- Non Profit/Private Open Space
- Military Lands
- Watershed Lands (Not dedicated specifically as Open Space)
- Conservation Easements (Not dedicated specifically as Open Space)

This process has revealed numerous consistency and completeness obstacles in both the spatial representation and attribute recording. Multiple agencies record public land information for the same areas using varying base layers. This causes overlaps and differences in area boundaries which are not easily rectified. Overlaps were resolved, and general assumptions were made in attributing the administering agency. Metadata were evaluated for data completeness and accuracy and positioned accordingly. See Appendix B for brief metadata descriptions.

The sources used to create the open space file are the following:

#### **Federal Sources**

- United States Fish and Wildlife Service
- Refuge boundary information for National Wildlife Refuges, National Fish Hatcheries and USFWS administrative sites (Fws.unclip.shp)
- National Park Service
- The Park Service Boundaries to the Delaware Water Gap National Recreation Area (Delaware\_Water\_Gap\_National\_Recreation\_Area.shp)
- The Park Service Boundaries to the Morristown National Historic Park (Morristown\_National\_Historic\_Park.shp)

#### **State Sources**

- NJDEP
- The Federal Utility shapefile from the NJDEP of federal, non-designated, open space parcels boundaries (i.e., properties containing substantial amounts of undeveloped land but not intended for public use; often military installations) were taken from the same State source maps (Fedu0808\_Clip.shp)
- Green Acres
- All the land that is preserved by counties, municipalities, non-profit entities or the combination of the above (Local-np.shp)
- All protected conservation easements held by the NJDEP (Conesmt\_unclip.shp)
- All lands that are preserved by NJ Parks and Forestry, NJ Fish, Game and Wildlife, NJ Natural Land Trust and privately held exceptions (GreenAcres\_unclip.shp)

- Department of Agriculture – State Agricultural Development Committee
- All preserved farmland in New Jersey as of 10/28/2005 that are “preserved” or have “final approval” from SADC (Njfarm\_PF)

### **County Sources**

#### Hunterdon County

- Farmlands dedicated for preservation (PreservedFarms.shp)
- County recorded open space (Open\_Space.shp)

#### Morris County

- County land inventory (public) (CLIP.shp)
- All farmlands in Morris County that are preserved or applying for preservation (Farmland.shp)
- Public lands that are not owned by the county (PublicLandInventory)

#### Somerset County

- The base layer for county owned open space property (SomCoOS-BaseDM.shp)
- The newly updated open space for Somerset County (SomCoOS-UpdateDM.shp)
- A county owned property formerly owned by the King of Morocco, owned by the Somerset County Parks Department (Natirar.shp)

#### Sussex County

- The open space recorded by the county for its Strategic Growth Project compiled by the Morris Land Conservancy (Open Space.shp)

#### Warren County

- Open space owned by Warren County (county property.shp)
- Open space owned by Warren County municipalities (municipal prop.shp)
- Open space owned by non profit groups (non-p.shp)
- Preserved farmland for Warren County as of 2002 (warren county preserved farmland 2002.shp)

### **Non-Profit Sources**

- New Jersey Conservation Foundation
- Open space preservation projects of the New Jersey Conservation Foundation (Njcf\_openspace\_unclip.shp)
- The Nature Conservancy
- All Open space preservation areas from The Nature Conservancy (Tnc\_oshl\_unclip.shp)

## **3.6 CONCLUSION**

Developing a comprehensive open space dataset throughout the Highlands Region is a highly complex undertaking. There are over a dozen agencies or organizations which contribute to open space identification and each has its own structure for recording open space data to meet its business model. Time, accuracy, precision and completeness differences all play a role in making the assemblage a difficult and imprecise product. The Highland Council intends to work with all agencies and organizations who contribute to open space recordkeeping to develop a standard which meets each agencies’ or organizations’ individual needs while at the same time improving open space

representation and management at a regional scale.

## **4.0 LAND PRESERVATION CRITERIA**

### **4.1 INTRODUCTION**

In order to protect the important critical resources of the Highlands Region, preservation of the lands in which these resources are located must be encouraged and funded. However, since funds are not limitless, values must be placed on land to prioritize them in terms of their productivity and long-term viability. This section of the technical report examines factors and formulas used in natural resource protection programs in New Jersey to prioritize lands for preservation purposes.

### **4.2 CRITERIA TO ASSESS PRIORITIES FOR LAND PRESERVATION IN THE HIGHLANDS REGION**

#### **4.2.1 WATER AND WATER-RELATED RESOURCES**

The Highlands Act strongly emphasizes the need to protect ground and surface water resources for the benefit of Highlands and non-Highlands communities and natural resources. Most communities in the Highlands Region rely on ground water for their potable, industrial, agricultural and recreational needs. Surface waters from the Highlands are critical to the urban areas of northern and central New Jersey. Ecosystems rely on the natural pattern (from drought to flood) of precipitation, recharge, runoff and baseflow to streams.

Several criteria systems have been developed by regional interests and the State. The Green Acres program has developed a set of criteria and a priority setting system for water resources protection that applies statewide.<sup>1</sup> The US Forest Service (USFS) developed a different set of criteria for use in the Highlands as part of its 2002 Update Report on the Highlands Region of New York and New Jersey. The USFS system is part of a larger priority system that also addresses agriculture, recreation and natural habitats. Watershed management planning projects in the Passaic, Raritan and Upper Delaware regions have also developed criteria and priority systems for water resources protection.

The table “Comparison of Existing Land Preservation Programs Criteria in New Jersey – Other Than Farmland Preservation” provides a comparison of the criteria used in these systems. (The priority systems are addressed in another section of this report.) Each system was generated for specific purposes, and reflects both those purposes and the development process. The USFS system was developed by the Center for Remote Sensing and Spatial Analysis (CRSSA) at Rutgers University, working with USFS and a technical advisory committee. The three watershed project approaches were developed by the Passaic River Coalition, NJ Water Supply Authority (NJWSA) and North Jersey Resource Conservation & Development Council, respectively, working with stakeholder committees. NJWSA has also developed the Spruce Run Initiative Critical Areas Preservation Plan. Green Acres developed their approach in-house in response to a legislative mandate, using informal discussions with various stakeholders including the USFS and the three watershed projects. More detailed descriptions of these prioritization systems are available on the following Web sites:

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<sup>1</sup> The Green Acres analysis responds to P.L. 2002, c. 76, which required guidelines for the evaluation and priority ranking of lands to be acquired by the State for recreation and conservation purposes, with the criteria for water resources and floodprone areas given additional priority.

- Green Acres: [www.nj.gov/dep/greenacres/lpplan0507.pdf](http://www.nj.gov/dep/greenacres/lpplan0507.pdf)
- US Forest Service:
- [www.na.fs.fed.us/highlands/maps\\_pubs/regional\\_study/regional\\_study.shtm](http://www.na.fs.fed.us/highlands/maps_pubs/regional_study/regional_study.shtm)
- Upper Delaware Watershed Management Project/North Jersey Resource Conservation & Development Council: [www.northjerseyrcd.org](http://www.northjerseyrcd.org), [www.upperdelaware.org/Documents/tech\\_rep/wres/wres.htm](http://www.upperdelaware.org/Documents/tech_rep/wres/wres.htm)
- NJWSA Spruce Run Initiative: [www.njwsa.org/WPU/SRI/SRI\\_Plan.pdf](http://www.njwsa.org/WPU/SRI/SRI_Plan.pdf)
- Passaic River Coalition: [www.passaicriver.org/openspacepreservation.htm](http://www.passaicriver.org/openspacepreservation.htm)
- Raritan Basin Watershed Management Project: [www.raritanbasin.org](http://www.raritanbasin.org)

#### **4.2.2 HISTORIC & CULTURAL RESOURCES**

There are several categories of historic and cultural resources, according to the NJDEP Historic Preservation Office. The descriptions under “criteria” are taken from their Web site at [www.nj.gov/dep/hpo/1identify/identify.htm](http://www.nj.gov/dep/hpo/1identify/identify.htm)

The New Jersey and National Registers of Historic Places are the official lists of historic properties and districts worthy of preservation. Inclusion in the Registers provides benefits and protection for listed resources, and the information generated through the nomination process contributes to the growing body of knowledge about historic places in New Jersey. National Historic Landmarks (NHL) are buildings, sites, structures, objects and districts that have been determined by the Secretary of the Interior to be nationally significant in American history and culture. The NHL Program is administered by the National Park Service. New Jersey has over 50 NHL's, including Craftsman Farms and Ringwood Manor in the Highlands Region. Historic resources are those buildings, sites, structures, objects, and districts that meet the National Register Criteria for Evaluation. [www.cr.nps.gov/preservation.htm](http://www.cr.nps.gov/preservation.htm)

These criteria outline qualities for which a property may be considered significant at the local, state, and national levels. Those significant properties or districts that retain integrity of design, feeling or association are considered historic. Historic resources are generally considered either "above ground" (buildings, structures and objects) and "below ground" (archaeological sites), with consequent differences in identification and treatment for each discipline.

#### **4.2.3 HABITAT FOR RARE, THREATENED & ENDANGERED SPECIES AND RARE ECOSYSTEMS**

The New Jersey Division of Fish & Wildlife, Office of Nongame and Endangered Species, has developed with Rutgers-CRSSA the “Landscape Project,” which identifies habitats in which threatened and endangered vertebrate species are known, suspected or likely to be present or supportable. The project addresses four landscape types: emergent wetlands, forested wetlands, upland forests, and grasslands. For each, the maps rank the habitats in five levels, based on the certainty of species existence and the listed status of the species (e.g., federal, state, threatened, endangered). The Landscape Project is a peer-reviewed product.

Non-vertebrate species have also been documented, though no comparable habitat mapping project exists for them. The NJ Natural Heritage Program is the primary State database for confirmed sightings of rare, threatened and endangered plants and animals, and also identifies “representative

ecological communities.”<sup>2</sup> This program “Tracks the status of more than 1,000 species of plant and animals and more than 50 ecological communities that are exemplary, rare, or imperiled at the state or global level” according to the program web site.

The table “Comparison of Existing Land Preservation Programs Criteria in New Jersey – Other Than Farmland Preservation ” shows the species criteria used in various systems. Some watershed management projects used emergent and forested wetlands results from the Landscape Project as relevant to their focus on water resource protection. Other systems, including the USFS study, used more components of the Landscape Project, with ordinal ranks (e.g., highest rank for federally-listed endangered species). Two systems also used contiguous forests as a criterion for critical habitat.

#### **4.2.4 SCENIC RESOURCES**

The Highlands Act calls for the regional master plan to “protect the ... scenic... resources of the Highlands Region...” in the Preservation Area, and to “preserve extensive and, to the maximum extent possible, contiguous areas of land in its natural state, thereby ensuring the continuation of a Highlands environment which contains the unique and significant ... scenic... resources representative of the Highlands Region.” (Section 10). The goals for the Planning Area do not include the same language, but do call for the regional master plan to “protect and maintain the essential character of the Highlands environment” which can be construed to include scenic qualities as part of the Highlands’ essential character. (Section 10).

In general, other planning documents, such as the USFS Highlands Study, focus on scenic resources as landscape features that can be readily and routinely seen by people in public areas, such as roads, scenic viewing areas, trails and picnic areas. These landscape features may include agricultural areas, valleys, ridgelines, lakes and ponds, and rural townscapes. The emphasis is on the scenic qualities of the landscape resources, though they may also have many other values as well.

#### **4.2.5 OUTDOOR RECREATION LANDS**

The Highlands Act establishes a goal for both the Preservation and Planning Areas to “preserve outdoor recreation opportunities, including hunting and fishing, on publicly owned land.” (Section 10). The use of the same language for both areas emphasizes the legislative purpose on this issue. Outdoor recreation opportunities are generally accepted to mean activities that are not organized games (such as those requiring ballfields or capital construction) such as hiking, cross country skiing, birding, fishing, hunting, canoeing, picnicking and low-density camping. These are also activities that require more extensive land and water areas that are essentially natural in character, which means that many other criteria (e.g., water resource protection, habitat protection) identify lands that are also compatible for outdoor recreation activities. However, outdoor recreation can also be incompatible with some preservation criteria. Endangered species may be intolerant of any significant human activity, from motorized off-road vehicles to picnic areas to even limited hiking. Because of the large acreage requirements for outdoor recreation activities, these areas tend to be county, state and federal lands.

The Green Acres 2005-2007 Land Preservation Plan includes criteria for lands that make up

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<sup>2</sup> Information is available at: [www.nj.gov/dep/parksandforests/natural/heritage/](http://www.nj.gov/dep/parksandforests/natural/heritage/)

greenways, include or abut trails, include or abut designated Wild and Scenic Rivers, link to existing parks with significant outdoor recreational uses, or acts as a buffer to such areas. It also includes criteria for recreational needs relative to population and for a broad variety of recreational purposes. The USFS Highlands Study included a component for recreational resources, focusing broadly on outdoor recreational activities. Criteria in that study included recreational trails, scenic view sheds, visible ridge tops, existing parks and buffers, recreational waters and shoreline buffers, and historic and cultural sites.

#### **4.2.6 COMMUNITY RECREATION LANDS**

The needs for active recreation shift over time (as sports become more or less popular) and by community make-up, size, density and economic status. Planning for local active recreation at the regional scale is feasible in terms of broad needs analysis. However, regional analyses are extremely difficult with regard to location criteria, especially as active recreation lands tend to be interspersed among the broader development pattern so recreational lands can be in close proximity to their users.

National recreational planning practice, the State Comprehensive Outdoor Recreation Plan (SCORP), and other resources provide criteria for use by municipal and county governments to use in determining how much land is needed for active recreation, and the potential split among recreational uses.

The table “Comparison of Existing Land Preservation Programs Criteria in New Jersey – Other Than Farmland Preservation” is included in this report.

### **4.3 PRIORITY SETTING METHODS FOR LAND AREAS**

Once the criteria for identifying critical areas are established and the results mapped, the various criteria must be related to one another to define preservation priorities, which in turn will be affected by other policies, funding, willing sellers and interested purchasers. It is critical to note that a priority system cannot be “one size fits all” because funding sources and preservation organizations have different targets. To take an extreme example, those interested in the protection of endangered species will not be well served by a priority system that focuses on active recreation. Active recreation lands require considerable land modification, while species preservation requires maintenance of natural ecosystems. Moreover, a natural resource may have a wide variety of land uses associated with it that will need to be factored into a priority system and which will affect management activities for the resource. For instance, forest resources can be designated for wildlife management, forestry, watershed protection, or active recreation. These uses should be reflected in the priority criteria. For this reason, it will be necessary to have a system that is both useful in regional planning (using aggregated criteria to indicate where development should be limited or prohibited in the land use capability map) and for local planning and preservation/acquisition efforts (using aspects of the system as appropriate to each entity’s focus).

#### **4.3.1 PRIORITY SETTING METHODS FOR LAND AREAS**

There can be any number of priority setting methods. While each may draw on scientific information, the methods will reflect societal or organizational values and the influence of those who establish the priorities.

Priority systems generally can be grouped in the following types:

*Mathematical systems* – In this system, each land area is assigned a score based on the criteria met for that land area. Because of mapping difficulties, these systems tend to use grid cells, creating equal size areas across a region. Each preservation criterion is scored for the grid cell and then a final score is computed. The preservation criteria scores represent actual environmental measures, ordinal scores (e.g., 1 through 5, where all criteria have the same possible scale), or presence/absence if that is appropriate (e.g., with the criterion getting a score of 0 – absence – or the top ordinal value – presence). The final scores can be on a sliding scale (i.e., representing the aggregate score of all criteria for each cell), grouped into ordinals (e.g., 1 through 5), or weighted (e.g., where one criterion is given twice the weight of others). As an example of a mathematical system, the USFS Highlands Report has a tiered scoring systems, where each criterion is given an ordinal score from 1 through 5; then criteria are grouped according to major topic (e.g., water resources, forestry, agriculture, habitat, recreation) and again given ordinal scores from 1 through 5 based on the highest-ranked criterion in that group; and finally the scores for each topic were added and then divided by the number of topics to provide a final score ranging, again, from 1 through 5. The major difficulty with mathematical systems lies in deciding how to scale and weight each criterion, a value judgment process that can require extensive stakeholder discussion. They can also give a false sense of “science” because the results are numerical.

*Threshold or presence/absence systems* – In these systems, each criterion is based on a threshold or presence/absence (see above discussion on criteria, above). The results are mapped and then overlaid to provide a geographic sense of which land areas meet one or more criteria. No scoring is needed – the land areas either do or do not meet some criterion. The GIS coverage can be developed so that the user can visually see the number of criteria met in each land area. The user can also determine which criteria are met for any one area. This approach can use either grid cells or GIS polygon data. The Raritan system for identifying water resource critical areas uses this approach, with polygon data. The major difficulty with these systems is that, unlike mathematical systems, they do not provide a method for determining how each criterion is valued against all others. If one area is a priority for ground water recharge and dense forests, and another for wetlands and threatened species, which is more important? The major benefits of such systems are in their simplicity and clarity.

Either system can be used to allow one or more criteria to serve as overriding priorities, sometimes called the “trump card” concept. For example, an area with flood plains, dense contiguous forests, federally-listed endangered species or very steep slopes could be automatically given highest priority, regardless of whether any other criteria are met. Any priority system will need to address the issue of overlapping priorities. Systems can provide higher priority to land areas where several criteria all had high scores, or to land areas that met the largest number of criteria, etc.

#### **4.4 PRIORITY SETTING METHODS FOR PARCELS**

Most priority systems have one major problem – translating the results from criteria analysis to individual parcels – because the system designers lacked parcel data. However, the Highlands Council has GIS parcel data for every Highlands municipality, providing an immensely valuable opportunity for linking the preservation criteria and priority systems to individual parcels.

*Translating critical area delineations to specific parcels* – For the mathematical priority systems, the most



direct approach is to add the scores for each parcel, weighted by land area, and then divide by total parcel size. However, this approach can dilute or discount very high scores in one part of the parcel that do not exist in the remainder. Other approaches include identifying each parcel where more than a specified percentage of its area has higher scores, which indicates that the parcel as a whole (rather than a piece of it) is of high priority. For the threshold systems, the most direct approach is to identify the percentage of each parcel that meets at least one criterion. Similar to the mathematical models, this approach can result in two parcels having the same result, but one parcel meets only one criterion while the other meets several. Alternative approaches include combining the “percent critical” score with another indicator of how many criteria are met within the parcel, or using the “percent critical” results with a map showing how the critical areas lie within the parcels. (The latter approach is used within the Spruce Run Initiative system).

*Parcel size* – Not all parcels are equal, even if their coverage with critical areas is equal. Parcel size is a major consideration: the administrative, legal and due diligence costs of preserving a small parcel can be similar to those for a large parcel; the preservation of large parcels can more quickly assemble a major preserved area; and the cost per acre of small parcels is likely to exceed that of large parcels (due in part to reduced land development approval costs). Because most priority systems have not been linked to GIS parcel data, this issue has rarely been addressed. In the Spruce Run Initiative, municipal members decided to focus on parcels of 30 acres or greater, unless a smaller, undeveloped parcel would provide a critical link between larger parcels. This concept should be considered, though the appropriate threshold may differ by area.

*Parcel contiguity* – Parcels also differ in their contiguity to other parcels with significant critical areas or to existing open space. Municipal open space plans often address this issue, because they have at least paper maps of parcels, understand the terrain and wish to interconnect preserved lands. Having contiguous lands increases the aggregate potential to protect dense forests, habitat for rare species and scenic landscapes; it also reduces property management costs. Agricultural Development Areas are specifically delineated to include large areas of contiguous farmland, in part to reduce the intrusion of incompatible development. In the Spruce Run Initiative, municipalities decided that priority would be given to parcels (of 30 acres or more) that created contiguous areas of 100 acres or more.

*Intensity of critical areas in parcel* – Finally, parcels differ in terms of the intensity of critical areas in the parcel and the pattern of those areas. Two parcels may have similar coverage with critical areas, but in one the areas are concentrated along one side and in the other the areas are threaded through the entire property. The first might accommodate careful development that is sited well away from the critical areas; the second would be a potential acquisition target. Using this concept, the Regional Master Plan could include policies for regulatory preservation of critical areas on properties with limited critical areas and significant development opportunities. Other parcels with significant or widespread critical areas, sufficient size and contiguity to other parcels of concern could be designated for full preservation. The first concept would be more frequently applied in the Planned Community Zone, while the second concept would be more common in the Protection Zone.

*Partially or fully developed lands with critical areas* – Most preservation criteria and priority systems cannot identify parcels that contain both critical areas and some level of existing development. The Highlands Council will be able to do so using its preservation priority system in concert with GIS parcel data, zoning information and the NJDEP 2002 land use/land cover data. Doing so will allow the identification of parcels with critical areas that can be subdivided, and those with critical areas

that are already fully developed per local zoning. The former will include agricultural lands and non-agricultural lands, allowing different funding sources to be targeted to those parcels. The latter would not be acquired, but consideration can be given to regulations limiting harm to the remaining critical areas through additional site clearing. There is little benefit to acquisition of properties that are fully developed, in most circumstances. However, the Highlands Council may wish to include methods of identifying (perhaps through local initiatives) lands that are developed but abandoned, that have significant potential for restoration of critical resources such as floodplains, wetlands, ground water recharge or species habitat.

#### **4.5 OTHER CONSIDERATIONS**

The discussion above addresses the issue of land preservation priorities based on resource value. However, there is a second tier of issues that must be addressed regarding how actual acquisition occurs. These issues are critical because the decisions made here drive the need for financial and staff resources.

##### **4.5.1 “WILLING SELLER” REQUIREMENT**

The Garden State Preservation Trust legislation requires that direct acquisitions by Green Acres and the State Agricultural Development Committee be from willing sellers. Counties and municipalities do have eminent domain powers, under the Eminent Domain Act of 1971, N.J.S.A. 20:3-1 et seq., for a broad range of public purposes including recreational lands, and may use Garden State Preservation Trust Fund grants to cover part of the acquisition costs. Water supply utilities and NJDEP have eminent domain powers, but only for the development of water supply projects (e.g., reservoirs, pipelines, treatment facilities).

Recent court decisions, such as the Mount Laurel Township v. MiPro Homes L.L.C., have sided with municipal use of eminent domain where the municipality has a sound rationale and plan for its use. However, the use of eminent domain is often much more costly than “willing seller” purchases and is controversial, raising issues about appropriate use that have come to the forefront after the Kelo v. City of New London decision by the U.S. Supreme Court. Land trusts, because they are neither government or authorized by government, have no ability to acquire land other than from willing sellers.

##### **4.5.2 PROPERTY-BASED CONSIDERATIONS**

Given a willing seller, there are other considerations that determine whether a specific property will gain priority for acquisition. For instance, the property may represent the presence of a significant development threat affecting critical resources. It may be a very large parcel, or have a seller that is willing to consider a “bargain sale” (sale at less than market value, usually for tax benefit purposes), have strong public support, or have a buying entity that has a strong stewardship interest in the parcel and resources to properly manage it. However, these factors are very difficult, if at all possible, to map or predict. Therefore, they are considerations for acquisition entities but cannot be addressed through the Regional Master Plan.

##### **4.5.3 CONCLUSION**

In order to determine areas in the Highlands Region that the Council will target for preservation, the

Council will use the results of the Resource Assessment to identify and prioritize those lands within the Highlands Region which have the highest ecological resource values. These values are based on a combination of ecological indicators using methodologies heretofore discussed which will measure the quantity and quality of regional resources such as: watershed conditions, open waters, riparian areas, groundwater recharge areas, forests, critical habitat, and steep slopes. Moreover, existing protected lands, showing the historic pattern of land preservation activities in the Region, will be identified and integrated with the ecological resource value to identify priority areas for conservation.

## **5.0 LAND PRESERVATION**

### **5.1 INTRODUCTION**

One of the fundamental aspects of the Highlands Act is the emphasis on land preservation to ensure that public funds and other resources are focused on protection of critical Highlands resources. In order to accomplish this purpose, the case for land preservation and critical issues surrounding preservation must be addressed by the Highlands Council – the criteria for the identification of critical lands, the priorities for land preservation, implementation strategies for land preservation and stewardship, and a process to ensure that sufficient financial and institutional resources are available for land preservation and stewardship. This section of the technical report examines the available funding for acquisition and stewardship programs in New Jersey for land preservation.

### **5.2 EXISTING FUNDING PROGRAMS FOR ACQUISITION OF OPEN SPACE LANDS IN THE HIGHLANDS REGION**

#### **5.2.1 FEDERAL PROGRAMS**

##### ***USDA Forest Service, Forest Legacy Program***

The Forest Legacy Program is a partnership between States and the USDA Forest Service to identify and help conserve environmentally important forests from conversion to non-forest uses. The main tool used for protecting these important forests is conservation easements. The Federal government may fund up to 75% of program costs, with at least 25% coming from private, state or local sources. Since 1995, approximately \$21,624,000 has been provided to New Jersey for 11 projects totaling over 18,000 acres, all of which has been in the Highlands Region. <http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml>

##### ***National Park Service Land, Water & Conservation Fund (LWCF)***

The LWCF program provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities. The program is intended to create and maintain a nationwide legacy of high quality recreation areas and facilities and to stimulate non-federal investments in the protection and maintenance of recreation resources across the United States. Land is bought from landowners at fair-market value (unless the owner chooses to offer the land as a donation or at a bargain price). The Fund receives money mostly from fees paid by companies drilling offshore for oil and gas. Other funding sources include the sale of surplus federal real estate and taxes on motorboat fuel. In recent years, the federal budget request for the LWCF has been far less nationally than New Jersey commitments through the Garden State Preservation Fund. Emphasis for the use of the LWCF in New Jersey has been for National Wildlife Refuge purchases.

[www.fs.fed.us/spf/coop/programs/loa/flp.shtml](http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml)

### ***Highlands Conservation Act (HCA)***

The Highlands Conservation Act, signed by President Bush on November of 2004, is designed to assist Connecticut, New Jersey, New York and Pennsylvania in conserving land and natural resources in the Highlands region through federal assistance for land conservation projects in which a state entity acquires land or an interest in land from a willing seller to permanently protect resources of high conservation value. The USDA Forest Service will identify lands that have high conservation value in the Highlands of Connecticut and Pennsylvania through a Regional Study Update similar to that completed for the Highlands of New Jersey and New York in 2002.

Each year, governors of the four Highlands states may submit land conservation projects in the Highlands for funding not to exceed fifty-percent of the total cost; projects must be consistent with areas identified in the Update as having high resource value. The USDA Forest Service is responsible for doing the resource assessment and preparing the Update for the states involved; Department of the Interior has responsibility for project grants. To date, there is no direct funding. The HCA is authorizing legislation that allows for the expenditure of funds and gives direction to the Federal agencies, but any funding must be appropriated yearly. The legislation authorizes \$1,000,000 per year for the same time period for the Secretary of Agriculture to continue USDA and Forest Service programs in the Highlands. [www.na.fs.fed.us/highlands/con\\_act/index.shtm](http://www.na.fs.fed.us/highlands/con_act/index.shtm)

### **5.2.2 NEW JERSEY STATE PROGRAMS**

#### ***Garden State Preservation Trust***

On November 3, 1998, New Jersey voters approved a referendum which creates a stable source of funding for open space, farmland, and historic preservation and recreation development, and on June 30, 1999, the Garden State Preservation Trust Act was signed into law. The bill established, for the first time in history, a stable source of funding for preservation efforts.

The *Garden State Preservation Trust* is the financing authority that receives \$98 million a year through a constitutional dedication for the preservation of parks, natural lands, farmland and historic sites. The Trust is run by a nine-member board that disburses these dedicated funds for use by the NJDEP's Office of Green Acres, the State Agriculture Development Committee's Farmland Preservation Program, and the New Jersey Historic Trust. The GSPT has issued bonds to leverage this dedicated annual sum to provide the maximum funds for a 10-year preservation program from 2000 through 2009. To date the Trust has amassed \$2 billion for the land preservation effort, the largest such program in the United States to use public financing. The Trust has only limited funding remaining, and anticipates committing its last funds in 2007. [www.state.nj.us/gspt/](http://www.state.nj.us/gspt/)

#### ***New Jersey Department of Environmental Protection Green Acres Program***

The Green Acres Program was created in 1961 to meet New Jersey's growing recreation and conservation needs. From 1961 through 1995 New Jersey's voters overwhelmingly approved nine bond issues, earmarking over \$1.4 billion for land acquisition and park development. Green Acres provides low interest (2%) loans and grants to municipal and county governments to acquire open space and develop outdoor recreation facilities. Green Acres works with local governments from the time of application through project completion. Green Acres also provides matching grants to

nonprofit organizations to acquire land for public recreation and conservation purposes. The Planning Incentive Program provides grant and loan funding to local governments that have enacted an open space tax and have adopted an open space and recreation plan. Over 80,000 acres have been protected and hundreds of recreation development projects throughout the state have been financed through Green Acres' Local and Nonprofit funding program.

Green Acres also administers the Tax Exemption Program which provides exemption from local property taxes to eligible nonprofit organizations that own recreation or conservation lands and permit public use of their private lands. The Tax Exemption Program has protected over 38,000 acres of private lands.

The Green Acres Program serves as the real estate agent for the New Jersey Department of Environmental Protection (NJDEP), acquiring land - much of which has been offered for sale by property owners - that becomes part of the system of state parks, forests, natural areas, and wildlife management areas. Green Acres works with the NJDEP's divisions of Parks and Forestry, Fish and Wildlife, and the New Jersey Natural Lands Trust to determine which lands should be preserved. Green Acres does not own the land it acquires; instead land is assigned to the divisions for management. Since passage of the Garden State Preservation Trust, nearly all Green Acres acquisitions have involved the use of GPST appropriations. [www.state.nj.us/dep/greenacres](http://www.state.nj.us/dep/greenacres)

### ***New Jersey Natural Lands Trust***

The New Jersey Natural Lands Trust was created in 1968 by the Legislature as an independent agency with the mission to preserve land in its natural state for enjoyment by the public and to protect natural diversity through the acquisition of open space. The Trust acquires open space primarily by donations of land and easements. The Trust manages its properties to conserve endangered species habitat, rare natural features, and significant ecosystems. The Trust allows passive use by the public for recreational or educational purposes wherever such use will not adversely affect natural communities and biological diversity.

The Trust is established for constitutional purposes "in but not of" the Division of Parks and Forestry in the Department of Environmental Protection (DEP). The powers and duties of the Trust are vested in an eleven-member Board of Trustees. The Board is comprised of six representatives from the private sector and five from State government. Employees of the Office of Natural Lands Management (ONLM) serve as staff to the New Jersey Natural Lands Trust and implement the policy set by the Board. [www.state.nj.us/dep/parksandforests/natural/trust.html](http://www.state.nj.us/dep/parksandforests/natural/trust.html)

### ***Natural Resource Restoration/Office of Natural Resource Restoration***

Natural Resource Restoration is administered by the NJDEP Office of Natural Resource Restoration (ONRR), which was established in the early 1990s to restore the public value of natural resources from environmental injury caused by multiple oil spills and discharges. The authority for addressing injuries to the public's natural resources is derived from the Public Trust Doctrine. This common law provides that public lands, waters and living resources are held in trust by the government for the benefit of its citizens. Restoration is the remedial action that returns the natural resources to pre-discharge conditions. It includes the rehabilitation of injured resources, replacement, or acquisition of natural resources and their services, which were lost or impaired. Restoration also includes

compensation for the natural resource services lost from the beginning of the injury through to the full recovery of the resource. It is distinct from the pollution cleanup process itself.

ONRR coordinates restoration activities with a variety of NJDEP programs, such as the Site Remediation Program, Division of Fish & Wildlife, and the Green Acres Program. ONRR also has restoration partnerships with environmental organizations, and solicits input from environmental and local community groups with special resource expertise and knowledge of the restoration area. ONRR brings together the necessary ecological and legal expertise within the state to pursue natural resource restoration. In recent years, settlements and restoration efforts worth millions of dollars have resulted from this process. [www.state.nj.us/dep/nrr/](http://www.state.nj.us/dep/nrr/)

### ***Environmental Infrastructure Financing Program (EIFP)***

#### ***Open Space Acquisition***

Open space preservation is essential to protecting and enhancing the quality of life in New Jersey's communities. New roads and large, scattered housing sites create stormwater runoff that carries trash, road salts, oil and other contaminants into our streams and rivers. By some estimates, nearly 60 percent of current water pollution is attributed to stormwater runoff. Preserving open space protects land from development, safeguards our water supplies and other natural resources and provides outdoor recreational opportunities. Any acquisitions financed must demonstrate a water quality benefit. Headwaters, stream corridors, wetlands, watershed protection, and aquifer recharge areas are among the types of land that would qualify.

The EIFP provides low interest loans (generally one half or one quarter of market interest rates, using a combination of State and market financing) for certain types of land acquisition and is administered by the Environmental Infrastructure Trust (EIT) which is an independent State financing authority. While lands purchased through this program cannot be developed, they may be used for passive recreational activities, such as hiking, fishing and horseback riding. Application of a conservation easement on funded parcels assures that the water quality benefits are preserved. The EIFP works closely with the Green Acres Program to maximize a community's limited funds for land acquisition. Through this partnership, municipalities, counties and water utilities can receive the resources necessary to purchase larger and/or more expensive parcels before they are lost to development. If only a portion of a parcel is eligible for EIT financing, the remaining portion of the land can be financed through open space acquisition programs such as Green Acres or local programs funded by county and municipal open space taxes. This program is relatively new and has primarily been used in northern Hunterdon County for protection of water supply watersheds. [www.njeit.org](http://www.njeit.org)

#### ***Open Space Trust Funds***

Two-thirds of the municipalities, 60 out of 88, and all seven counties in the Highlands region have created dedicated sources of funds or trusts to purchase open space for natural and cultural protection, agricultural easements to preserve farmland, and to develop recreation facilities. These funds are all based on dedicated funds from the ad valorem (property) tax as approved by voters. In typical land deals, the local government contribution will leverage dollars from other sources. A detailed discussion of public funding of open space in New Jersey can be found at [www.anjec.org/pdfs/PublicFinancingOpenSpace.pdf](http://www.anjec.org/pdfs/PublicFinancingOpenSpace.pdf).

**COUNTY OPEN SPACE FUNDING PROGRAMS**

**HIGHLANDS REGION**

(December 2006)

County	Year Approved/Increased	Rate - Cents Per \$100	Annual Tax Collected
Bergen	1998/2003	1	\$15,390,000
Hunterdon	1999	1-3	6,977,000
Morris	1992/1998/2001	up to 5.25	35,940,000
Passaic	1996	1	4,078,000
Somerset	1989/1997	3	16,696,000
Sussex	2000/2005	up to 3.5	6,026,000
Warren	1993/1999/2002	6	6,916,000
		Highlands Region Total	\$92,023,000

NJDEP/Green Acres Program, November 15, 2005

SOURCE: 2005 Open Space Tax Data, New Jersey Department of Community Affairs, Division of Local Government Services and 2005 open space referenda results.

**COUNTY AND MUNICIPAL OPEN SPACE TRUST FUNDS  
COLLECTED IN 2005**

MUNICIPALITY	COUNTY	County Open Space Pres. Trust Fund by Municipality	Municipal Open Space Trust Funding
Mahwah Township	Bergen	\$517,907	\$408,843
Oakland Borough	Bergen	\$210,413	\$252,500
<b>Total in County</b>		<b>\$728,320</b>	<b>\$661,343</b>
Alexandria Township	Hunterdon	\$212,777	\$148,315
Bethlehem Township	Hunterdon	\$189,274	\$261,333
Bloomsbury Borough	Hunterdon	\$29,925	\$0
Califon Borough	Hunterdon	\$42,717	\$17,889
Clinton Town	Hunterdon	\$109,616	\$0
Clinton Township	Hunterdon	\$705,007	\$998,381
Glen Gardner Borough	Hunterdon	\$50,025	\$13,964
Hampton Borough	Hunterdon	\$32,805	\$0
High Bridge Borough	Hunterdon	\$109,763	\$0
Holland Township	Hunterdon	\$229,210	\$0
Lebanon Borough	Hunterdon	\$76,087	\$0
Lebanon Township	Hunterdon	\$289,904	\$300,000
Milford Borough	Hunterdon	\$42,670	\$0
Tewksbury Township	Hunterdon	\$491,729	\$648,575
Union Township	Hunterdon	\$258,103	\$131,394
<b>Total in County</b>		<b>\$2,869,610</b>	<b>\$2,519,850</b>
Boonton Town	Morris	\$476,648	\$0
Boonton Township	Morris	\$402,016	\$206,000
Butler Borough	Morris	\$382,496	\$0
Chester Borough	Morris	\$150,815	\$74,158
Chester Township	Morris	\$811,753	\$196,275
Denville Township	Morris	\$1,246,695	\$644,085
Dover Town	Morris	\$580,305	\$0
Hanover Township	Morris	\$1,479,718	\$405,367
Harding Township	Morris	\$990,937	\$781,156
Jefferson Township	Morris	\$1,133,507	\$277,062
Kinnelon Borough	Morris	\$934,931	\$238,114



MUNICIPALITY	COUNTY	County Open Space Pres. Trust Fund by Municipality	Municipal Open Space Trust Funding
Mendham Borough	Morris	\$582,550	\$109,594
Mendham Township	Morris	\$850,683	\$430,000
Mine Hill Township	Morris	\$188,303	\$11,262
Montville Township	Morris	\$2,079,140	\$1,366,000
Morris Township	Morris	\$2,242,251	\$383,637
Morris Plains Borough	Morris	\$630,213	\$0
Morristown Town	Morris	\$1,063,481	\$0
Mountain Lakes Borough	Morris	\$543,264	\$0
Mount Arlington Borough	Morris	\$295,607	\$0
Mount Olive Township	Morris	\$1,354,241	\$615,609
Netcong Borough	Morris	\$127,482	\$0
Parsippany-Troy Hills Township	Morris	\$3,632,496	\$1,554,693
Pequannock Township	Morris	\$1,006,992	\$118,500
Randolph Township	Morris	\$1,877,057	\$856,585
Riverdale Borough	Morris	\$254,813	\$66,344
Rockaway Borough	Morris	\$348,810	\$0
Rockaway Township	Morris	\$1,650,332	\$292,235
Roxbury Township	Morris	\$1,490,797	\$409,763
Victory Gardens Borough	Morris	\$49,504	\$0
Washington Township	Morris	\$1,261,812	\$333,249
Wharton Borough	Morris	\$296,502	\$69,000
<b>Total in County</b>		<b>\$30,416,148</b>	<b>\$9,438,689</b>
Bloomington Borough	Passaic	\$76,958	\$105,375
Pompton Lakes Borough	Passaic	\$114,149	\$63,868
Ringwood Borough	Passaic	\$152,666	\$85,849
Wanaque Borough	Passaic	\$94,209	\$49,745
West Milford Township	Passaic	\$287,653	\$149,896
<b>Total in County</b>		<b>\$725,634</b>	<b>\$454,733</b>
Bedminster Township	Somerset	\$688,489	\$444,000
Bernards Township	Somerset	\$1,771,181	\$2,562,644
Bernardsville Borough	Somerset	\$634,199	\$468,514

<b>MUNICIPALITY</b>	<b>COUNTY</b>	<b>County Open Space Pres. Trust Fund by Municipality</b>	<b>Municipal Open Space Trust Funding</b>
Far Hills Borough	Somerset	\$125,322	\$0
Peapack-Gladstone Borough	Somerset	\$225,783	\$226,942
<b>Total in County</b>		<b>\$3,444,974</b>	<b>\$3,702,100</b>
Byram Township	Sussex	\$186,356	\$103,690
Frankford Township	Sussex	\$127,580	\$127,362
Green Township	Sussex	\$85,590	\$156,690
Hamburg Borough	Sussex	\$51,988	\$4,104
Hardyston Township	Sussex	\$180,046	\$0
Hopatcong Borough	Sussex	\$264,295	\$104,985
Ogdensburg Borough	Sussex	\$35,648	\$0
Sparta Township	Sussex	\$563,834	\$253,529
Stanhope Borough	Sussex	\$64,731	\$0
Vernon Township	Sussex	\$463,867	\$290,994
<b>Total in County</b>		<b>\$2,023,934</b>	<b>\$1,041,353</b>
Allamuchy Township	Warren	\$309,846	\$98,502
Alpha Borough	Warren	\$110,318	\$78,125
Belvidere Town	Warren	\$123,796	\$0
Franklin Township	Warren	\$225,690	\$239,716
Frelinghuysen Township	Warren	\$151,506	\$53,015
Greenwich Township	Warren	\$394,071	\$230,014
Hackettstown Town	Warren	\$463,622	\$0
Harmony Township	Warren	\$341,446	\$261,290
Hope Township	Warren	\$132,348	\$0
Independence Township	Warren	\$344,389	\$0
Liberty Township	Warren	\$166,051	\$51,983
Lopatcong Township	Warren	\$456,991	\$161,783
Mansfield Township	Warren	\$426,365	\$192,460
Oxford Township	Warren	\$110,533	\$0
Phillipsburg Town	Warren	\$451,531	\$0
Pohatcong Township	Warren	\$227,635	\$169,735
Washington Borough	Warren	\$273,711	\$0
Washington Township	Warren	\$410,081	\$131,740

MUNICIPALITY	COUNTY	County Open Space Pres. Trust Fund by Municipality	Municipal Open Space Trust Funding
White Township	Warren	\$356,199	\$124,837
<b>Total in County</b>		<b>\$5,476,129</b>	<b>\$1,793,200</b>
<b>Highlands Region Total</b>		<b>\$45,684,750</b>	<b>\$19,611,268</b>

The above data is displayed at [www.nj.gov/dep/greenacres/taxsummary.htm](http://www.nj.gov/dep/greenacres/taxsummary.htm) and county and local opens space tax information can be viewed by municipality at <http://www.state.nj.us/dca/lgs/taxes/taxmenu.shtml>

***Water Supply Purveyor Programs***

The New Jersey Water Supply Authority has established a Source Water Protection Fund as a component of its rate base, and uses the majority of this funding to capitalize its costs of land acquisition through the Environmental Infrastructure Financing Program. Most land purchases are in cooperation with municipalities and counties and also involve the Green Acres program. The North Jersey District Water Supply Commission has also used its rate base as a source of funding for land acquisition, but engages in cash purchases rather than EIFP or other financing. Most land purchases also are cooperative with other funding sources. In addition, other county or municipal utility authorities have been involved in cooperative land purchases using municipal or county open space trust funds and sometimes the utility rate base. [www.njwsa.org](http://www.njwsa.org); [www.njdwsc.com](http://www.njdwsc.com)

**6.0 EXISTING CONSERVATION AND STEWARDSHIP PROGRAMS IN THE HIGHLANDS REGION**

**6.1 FEDERAL PROGRAMS**

***Recreational Trails Program Grants***

The federal Recreational Trails Program provides financial assistance to governmental and non-profit agency landowners for developing and maintaining trails and trail facilities. Over \$6 million has been awarded to public and non-profit agencies for non-motorized, multi-use and motorized purposes. Projects are funded on an 80% federal share and 20% matching share basis. In 2005, approximately \$800,000 was available for projects in New Jersey. At the federal level the program is administered by the Federal Highway Administration. The state program is managed by the NJDEP Office of Natural Lands Management New Jersey Trails Program.

Of the funding available each year, 30% is allocated for non-motorized trail projects, 30% for motorized projects, and 40% for diversified trail projects. Permissible uses and projects include: Maintenance and restoration of existing trails; development and rehabilitation of trailside and trailhead facilities and trail linkages for trails (e.g., parking, signage, shelters, sanitary facilities); purchase and lease of trail construction and maintenance equipment; construction of new trails in existing parks or in new right of way; for motorized use only, acquisition of easement and fee simple title to property for trails. [www.state.nj.us/dep/parksandforests/natural/njtrails.html](http://www.state.nj.us/dep/parksandforests/natural/njtrails.html)

### ***Partners for Fish and Wildlife***

Partners for Fish and Wildlife is a US Fish and Wildlife Service program which, focuses on restoring wetlands, grasslands, and riparian (streamside) areas. Over 150 projects have been completed in NJ since 1991, restoring thousands of acres of wetlands and seeding hundreds of acres to native grasses. Additional information can be found at the Partners for Fish and Wildlife website. [www.fws.gov/northeast/partners/](http://www.fws.gov/northeast/partners/).

### ***Private Stewardship Grant Program (PSGP)***

The PSGP is a U.S. Fish & Wildlife program that provides grants on a competitive basis, up to 90%, to help individuals and groups engaged in local, private, and voluntary conservation efforts that benefit federally listed, proposed, or candidate species, or other at-risk species. The PSGP is open to a wide variety of projects that will benefit one or more target species, such as managing non-native invasive plant species, restoring streams that support at-risk species or planting native vegetation to restore a rare plant community.

For 2005, the Service awarded more than \$5.7 million in federal funding under this Program nationally. A ten percent (10%) match of cash or through in-kind contributions is required. The program is available to private landowners and their partners and is administered by a regional office in Massachusetts. [endangered.fws.gov/grants/private\\_stewardship.html](http://endangered.fws.gov/grants/private_stewardship.html)

### ***Pension Protection Act of 2006***

Signed August 17, 2006, this federal legislation significantly expands the tax incentive for taxpayers to make donations of land and conservation easements to conservation organizations. Specifically, the new legislation:

- Raises the charitable deduction landowners can take for donating land or conservation easements from 30% to 50% of their income in any year;
- Increases the deduction limit to 100% of income if the donor is a farmer or rancher; and
- Allows a donor of land or a conservation easement to carry forward the charitable deduction for up to 15 years.

However, the legislation only applies to land and conservation easements donated in 2006 and 2007. Pension Protection Act of 2006 (H.R. 4, Public Law 109-280)

### ***USDA Forest Stewardship Program***

Authorized by the Cooperative Forestry Assistance Act of 1978, the Forest Stewardship Program (FSP) provides technical assistance, through State forestry agency partners, to non-industrial private forest (NIPF) owners to encourage and enable active long-term forest management. A primary focus of the Program is the development of comprehensive, multi-resource management plans that provide landowners with the information they need to manage their forests for a variety of products and services. New Jersey's Forest Stewardship program is coordinated under the direction of the State Forester, the NJ Forest Stewardship Committee maintains a state master plan and meets regularly to oversee and manage all aspects of the program. The committee includes representatives from the following natural resource agencies, organizations and professionals: The NJ Forest Service; Rutgers Cooperative Extension; USDA Forest Service; USDA Farm Service Agency; USDA Natural Resources Conservation Service; NJ State Soil Conservation Committee; Soil Conservation Districts; NJ Division of Fish, Game and Wildlife; US Fish and Wildlife Service; NJ Audubon Society; NJ

Forestry Association; NJ Consulting Foresters; and NJ Tree Farm.

## 6.2 NEW JERSEY STATE PROGRAMS

### *Garden State Preservation Trust In Lieu of Tax Payment Program*

The Garden State Preservation Trust Act provided for increased in lieu of tax payments to municipalities with State and tax exempt nonprofit conservation and recreation lands. The payments are made so that "...municipalities may not suffer a loss of taxes" from state or nonprofit organization acquisition and ownership of lands for conservation and recreation purchases. In part, the program helps remove a disincentive for land acquisition within a municipality. The Green Acres Program is responsible for calculating the payment that each municipality receives under the program. The GSPT program establishes a sliding scale for per acre in lieu of tax payments based on the percentage of a municipality's total land area in State and tax exempt nonprofit conservation and recreation land.

- Municipalities with less than 20% receive \$2 per acre for State and permanently preserved nonprofit conservation and recreation land;
- Municipalities with 20% up to 40% open space receive \$5 per acre;
- Municipalities with 40% up to 60% open space receive \$10 per acre;
- Municipalities with 60% or more open space receive \$20 per acre.

In addition, the Green Acres "declining balance" program and the 1969 Water Bond in lieu of tax payment programs were continued. Starting with the 1971 Green Acres Bond Act, the State has been paying in lieu of taxes, on a 13 year declining basis, to municipalities for State park, forest, natural area, wildlife management and other open space purchased with Green Acres funds. Municipalities with land purchased with funds from the 1969 Water Bond issue also receive in lieu of tax payments based on the taxes paid for the year immediately preceding state acquisition. Finally, the 1992 and 1995 Green Acres bond issue provided for State payment of in lieu of taxes for nonprofit conservation and recreation lands purchased with Green Acres funds from those bond issues.

The GSPT program further provided for a comparative review of the payments that a municipality would receive for each property under the Green Acres declining balance and Water Bond programs and what it would receive under the new per acre program. In situations where it would be beneficial to a municipality to receive payments under the new program, the municipality receives the higher payments.

The Garden State Preservation Trust program has effectively replaced the NJDEP Division of Parks and Forestry's \$1 per acre in lieu of tax payment program. Municipalities only received payments for state lands administered by the Division of Parks and Forestry. The Division of Fish and Wildlife's 200,000+ acres were not included.

Through the Garden State Preservation Trust program, together with the other continued in lieu programs, 235 municipalities throughout the state received nearly \$6.4 million in the fall of 1999, or almost triple the amount the municipalities had received collectively in 1998. [www.state.nj.us/gspt/](http://www.state.nj.us/gspt/)

## ***NJDEP Division of Parks & Forestry, State Forest Service***

### ***State Lands Management Program***

The responsibility of the State Lands Management Program is to maintain a healthy, biologically diverse ecosystem that will sustain wildlife including threatened and endangered plant and animal species while providing for quality air, water and soil; recreational and educational opportunities; wood products for Division use and local industries; and the protection of historical, aesthetic and cultural values of the forest. The Division of Parks and Forestry is accountable for the stewardship of 326,000 acres and incorporates the best forest stewardship principles derived from a forest management plan developed with public input. [http://www.state.nj.us/dep/parksandforests/forest/njfs\\_state\\_lands\\_mgt.html](http://www.state.nj.us/dep/parksandforests/forest/njfs_state_lands_mgt.html)

### ***Private Lands Management Program***

The Private Lands Management Program fosters wise stewardship and management on 1.54 million acres of forest lands owned by 88,700 private landowners and the retention of these lands in contiguous and productive forests. This program administers the stewardship, rural forestry assistance, woodland assessment, wetlands and consultant forester projects of the Forest Service. The stewardship and rural forestry assistance projects are designed to provide professional forestry assistance to private landowners utilizing a minimum of public resources by forming partnerships with private consulting foresters. The NJ Forest Service limits its assistance to a single visit for the purposes of motivating landowners to practice forest stewardship, explaining cost share assistance and encouraging private landowners to seek private professional forestry assistance.

The management and stewardship of privately owned forests is encouraged through various NJ Forest Service administrative programs, the Forest Stewardship Program (FSP), the Forest Land Enhancement Program (FLEP) and Forest Resource Management (FRM), which are designed to provide technical and cost share assistance in the preparation and implementation of forest management and stewardship plans.

Other programs for landowners available are the Forest Stewardship Program, the Farmland Assessment Program, the New Jersey Tree Farm Program and the Community Forestry Program. [http://www.state.nj.us/dep/parksandforests/forest/njfs\\_private\\_lands\\_mgt.html](http://www.state.nj.us/dep/parksandforests/forest/njfs_private_lands_mgt.html)

*The Forest Service State Lands Management Program and the various Private Lands Management Programs are discussed in more details in the NJ Highlands Council Technical Memo, Sustainable Forestry Memo, August 2006.*

## ***New Jersey Forest Fire Service***

Grant Opportunities:

***Federal Excess Personal Property (FEPP):*** The FEPP Program refers to the United States Forest Service owned property that is loaned to State Foresters through a cooperative agreement for the purpose of wildland and rural firefighting.

***Volunteer Fire Assistance (VFA):*** The VFA is a United States Forest Service Grant Program administered by all 50 State Forest Fire Protection Agencies to provide funding to organize, train, and equip fire departments in rural areas and rural communities.

***Community Wildfire Hazard Mitigation Assistance Program:*** This NJ Forest Fire Service grant program delivers National Fire Plan funding directly to organizations on a local level. <http://www.state.nj.us/dep//parksandforests/fire/firesafety.html#grant>

### ***Office of Natural Lands Management***

The Office of Natural Lands Management (ONLM) in the NJ Department of Environmental Protection administers a group of interrelated land management and planning programs which is committed to the conservation of biodiversity through stewardship, and the enhancement of passive recreational opportunities for the benefit of present and future generations.

***Natural Heritage Program:*** identifies and catalogues the state's most significant biodiversity through a comprehensive statewide inventory of rare plant and animal species and representative ecological community occurrences;

***Natural Areas System:*** protects and manages state-owned lands that support New Jersey's threatened and endangered plants and animals and representative ecosystems. When an area becomes part of the Natural Areas System, the DEP is required to develop and adopt a comprehensive management plan to ensure the continued protection of the ecosystems and species found within the area;

***Endangered Plant Species Program:*** identifies and catalogues New Jersey's endangered plant species and performs research and management of globally rare plant species;

***NJ State Trails Program:*** plans for trails that provide for outdoor recreation and an appreciation of the outdoor, natural and remote areas of New Jersey and administers grants that provide for trail development and restoration, as well as education about the natural and cultural resources found along trails. <http://www.njparksandforests.org/natural/index.html>

### ***NJ Division of Fish & Wildlife (DFW)***

Early successional habitats, particularly grasslands, were once quite common throughout New Jersey. In the early 20th Century, the agricultural landscape began to change. Increased human populations and loss of farmland to natural succession and development contributed to declines in the quantity and quality of New Jersey's grasslands. Today only about 5% of New Jersey's landscape remains in early successional stages. Grassland bird populations that once thrived in our farmland landscapes are now declining.

The NJDEP Division of Fish and Wildlife has partnered with the United States Department of Agriculture's Natural Resources Conservation Service (NRCS), the United States Department of the Interior's Fish and Wildlife Service (USFWS) and non-governmental organizations, including NJ Audubon, to implement a proactive plan of action to conserve and restore wildlife habitat and places a DFW wildlife biologist at NRCS field offices who will help interested landowners obtain assistance for conservation programs on their land. Both technical and financial assistance (cost-sharing) is available to landowners enrolled in the conservation programs. [www.state.nj.us/dep/fgw/](http://www.state.nj.us/dep/fgw/)

### ***US Department of Agriculture's 2005 Farm Bill Programs***

These programs include several different programs that target different natural resources in need of protection and were designed to create and protect wildlife habitat at little or minimal cost to the landowner. In addition to restoring and establishing fish and wildlife habitat, the Farm Bill's conservation provisions help reduce soil erosion, safeguard streams and rivers, protect valuable ground water resources and improve air quality - things we all benefit from. Reducing the financial

risk associated with drought or flooding is an additional benefit to farmers enrolling portions of properties in the appropriate conservation program. These programs are detailed in the NJ Highlands Council Technical Report, *Sustainable Agriculture*, Summary of Existing Funding & Technical Support Programs, January 2007. These programs include among others:

#### ***Wildlife Habitat Incentive Program (WHIP)***

Through the Wildlife Habitat Incentives Program (WHIP), USDA Natural Resources Conservation Service (NRCS) provides both technical assistance and cost-share assistance to establish and improve fish and wildlife habitat on non-federal land. WHIP is a voluntary program. Landowners work with NRCS to prepare and implement a wildlife habitat development plan. NRCS can provide up to 75% of the costs of the planned practices to implement habitat improvements. There is no financial limit on WHIP contracts. NRCS has provided up to \$30,000 for an individual contract in New Jersey, although most average around \$5000. [www.nj.nrcs.usda.gov/programs/whip/](http://www.nj.nrcs.usda.gov/programs/whip/)

#### ***Wetland Reserve Program (WRP)***

The Wetlands Reserve Program (WRP) is a voluntary program that provides technical and financial assistance to eligible landowners to address wetland, wildlife habitat, soil, water, and related natural resource concerns on private lands in an environmentally beneficial and cost-effective manner. The program provides an opportunity for landowners to receive financial incentives to enhance wetlands in exchange for retiring marginal land from agriculture.

WRP participants benefit by:

- Receiving financial and technical assistance in return for restoring and protecting wetland functions and values;
- Seeing a reduction in problems associated with farming potentially difficult areas;
- Having incentives to develop wildlife recreational opportunities on their land.

[www.nj.nrcs.usda.gov/programs/wrp/](http://www.nj.nrcs.usda.gov/programs/wrp/).

#### ***Conservation Reserve Enhancement Program (CREP)***

Under CREP, landowners voluntarily remove cropland along streams, lakes and wetlands from agricultural production and convert the land to native grasses, trees and other vegetation to provide buffers. These conservation buffers slow and absorb runoff, sediment, nutrients, and chemicals from cropland while also creating beneficial wildlife habitat for many species in need. CREP also pays landowners the cost to establish eligible conservation practices, annual rental payments to maintain the practices, and, in most cases, incentive payments to sign up for the program. New Jersey has been approved for participation in this program, with NJDEP and NJ Department of Agriculture providing matching funds. The federal program is administered by the USDA Farm Services Administration, with technical assistance provided to landowners by the NRCS. [www.nj.nrcs.usda.gov/programs](http://www.nj.nrcs.usda.gov/programs).

***Landowner Incentive Program (LIP)*** is funded through the US Fish and Wildlife Service and administered by the NJ Division of Fish and Wildlife program. LIP is a relative newcomer to the wildlife habitat conservation scene, with the intent of protecting declining animal populations and their habitat. New Jersey LIP focuses on early successional habitat and land adjacent to permanently protected areas.



The Division of Fish and Wildlife implemented LIP in 2004 and since then has accepted projects protecting over 1,500 acres of grassland habitat, and will restore over 500 acres of that to native warm season grass meadows. Landowners typically engage in a delayed mowing program on their land allowing ground nesting grassland birds to fledge their young. These grassland projects protect over 15 declining wildlife species. In Hunterdon County alone 10 landowners will manage grasslands under LIP. These five-year agreements call for delayed mowing on nearly 800 acres and 200 acres will be seeded to native warm season grasses. [www.state.nj.us/dep/fgw/ensp/lip\\_prog.htm](http://www.state.nj.us/dep/fgw/ensp/lip_prog.htm).

### ***Green Acres Administration, Bureau of Legal Services and Stewardship***

Lands that are acquired or developed with Green Acres funds must be used solely for recreation and conservation purposes. In addition, all lands that a county or municipality holds for recreation and conservation purposes at the time that it accepts Green Acres funds are similarly restricted. No part of the property can be used or conveyed for a non-recreation, non-conservation use unless the use or conveyance would achieve a public purpose, no feasible alternative exists, the lands are replaced with lands of at least equal monetary value and recreation/conservation utility, and the conveyance is approved by the Commissioner of the DEP and the State House Commission.

The Bureau of Legal Services and Stewardship monitors municipal and county sites that were acquired and developed with Green Acres funds and sites that were acquired by nonprofit organizations with Green Acres matching grants. Bureau staff inspects these sites to ensure that they are well maintained and are open and accessible for public recreation and conservation purposes. They also respond to questions and complaints from the public about the operation and maintenance of Green Acres assisted parkland.

The bureau processes all requests to divert Green Acres restricted state, county, municipal and nonprofit parks from recreation and conservation uses. In addition, the Bureau processes donations of land to the state for inclusion in the state's system of parks, forests, wildlife management and natural areas. [www.state.nj.us/dep/greenacres/comp.htm](http://www.state.nj.us/dep/greenacres/comp.htm)

### ***Green Acres Administration, Bureau of Planning & Information Management***

The Bureau of Planning & Information Management provides open space and recreation planning guidance and technical assistance for municipal, county, nonprofit, and state open space acquisition and recreation development efforts. The Bureau also provides staff support to the Governor's Council on New Jersey Outdoors.

The Bureau administers the federal LWCF monies for the preservation of open space and development of recreation facilities. The Bureau prepares the State's Open Space and Recreation Plan that guides the expenditure of federal and state funds for land preservation and recreation projects.

The Bureau's Geographic Information Section, in cooperation with other state agencies and nonprofit groups, is compiling geographical information on New Jersey's open space resources for DEP's ArcInfo Geographic Information System, a computerized mapping and data management system, that can assemble, store, and manipulate geographically-referenced information, and can display the results in mapped form. Additionally, the Section provides technical review of land survey plans for municipal, county, nonprofit and state land acquisition projects to be funded by Green

Acres. [www.state.nj.us/dep/greenacres/plan.htm](http://www.state.nj.us/dep/greenacres/plan.htm)

## **7.0 LAND STEWARDSHIP IN THE HIGHLANDS**

### **7.1 INTRODUCTION**

The Highlands Region is a mix of private and public ownership; each with a range of objectives, interests, and concerns. These differing concerns create considerable challenges and opportunities to conserve and protect critical environmental resources.

For instance, an increasing percentage of the Highlands will probably be owned and managed by more people, which will further parcelize existing properties and fragment existing forest cover. When tract sizes are reduced at some point resource management becomes economically prohibitive. For farmland, ownership patterns are similar. Additionally, with an increase of residential development adjacent to agricultural lands, farming activities become increasingly difficult as new neighbors complain about the smells and sounds of an operating farm.

Yet another problem is that landowners have little or no incentive to provide public benefits, such as clean water and wildlife and fish habitat. Even some tax laws and local ordinances serve as a disincentive for continued stewardship or even continued ownership of large contiguous blocks of land. For example, while many municipalities have increased the minimum lot size for residential housing, these local ordinances actually encourage land subdivision and fragmentation of large tracts of land.

Many of the same concerns, challenges, and constraints associated with multiple owners of private land occur with public land. Many public entities are involved, with diverse management objectives, different levels of funding for management and maintenance, and a mix of missions and authorities that may have competing objectives.

For example, there are currently no forest management plans completed on state-owned forested lands within the Highlands Region (conversation with NJ Forest Service June 2006). Active stewardship does not occur on these lands with the exception of small parcels managed by the Division of Fish and Wildlife for early successional habitats which use clearcuts occurring at 5 years intervals over a patchwork of the landscape. The only known example in the Highlands is Berkshire Valley Wildlife Management Area in Jefferson where 25 acres were clearcut in 10 blocks (a 2.5 acre average). These cuts removed 192 thousand board feet. (A board foot is equivalent to a 12" X 12" board 1" thick). It should be noted that forest management planning does not require timber harvesting but rather an inventory of existing forests and active management areas to improve forest health, wildlife habitat, water quality protection, and removal of invasive species based on the land holding entities goals for the property. Funding for developing forest management plans in the Highlands Region is currently available through the NJ Forest Service. Forest management planning criteria can be found in Appendix C.

With the enactment of the Highlands Act a regional coordinated approach towards land preservation and stewardship is on the horizon. However, even with a consistent regional view of environmental issues, there are insufficient financial and technical resources available to State agencies and private landowners to manage lands and pursue all conservation strategies. As a result, one way to meet these challenges is through a partnership approach that involves federal, State, and local

governments, nongovernmental organizations, and individual citizens.

## **7.2 STEWARDSHIP GOALS**

The 1992 NY – NJ Highlands Regional Study report set out the following goals that are considered vital for the long-term stewardship of the Highlands:

- Manage future growth that is compatible with the region’s ecological constraints;
- Maintain an adequate surface and ground water supply that meets the needs of local and downstream users;
- Conserve contiguous forests using management practices that are consistent with private property rights and regional resources;
- Provide appropriate recreational opportunities; and
- Promote economic prosperity that is compatible with above goals;
- And all levels of government, landowners, businesses, citizens, and conservation organizations must be involved to ensure the goals are achieved.

## **7.3 STEWARDSHIP AND CONSERVATION STRATEGIES**

The NY – NJ Highlands Regional Study: 2002 Update also offered the following strategies with the understanding that conservation of the rich and valuable landscape will be accomplished only through a broad partnership that brings together complementary strengths, information, and resources.

- Acquire easements and land for conservation purposes or create incentives for private landowners and local government to conserve natural resources. See Section 4.0 for existing land preservation tools.
- Educate landowners and residents about Highlands Region resources and their values in order to build a basis for protection and management.
- Provide consistent and updated information on Highlands resources for decision makers.
- Promote stewardship in private lands. The majority of land in the Highlands is privately owned, and will probably continue to be so in the future. Incentives and technical assistance can help landowners ensure that forest and farmland continue to provide essential ecosystem benefits.
- Provide current and new information on management issues and practices on public and private lands. The availability of science based resource management techniques and the dissemination of that knowledge to land managers and landowners is critical.
- Improve, encourage and coordinate conservation efforts.
- Use indicators to measure and monitor Highlands Region resource change. Indicators can enable people to track changes in the environment and inform decision makers on the impacts and results of actions implemented.

## **7.4 LAND STEWARDSHIP PRIORITIES**

The parcelization of the landscape highlights the importance of those unfragmented, high value areas, including forests, that remain in the Highlands Region. Another means of identifying conservation priorities is to highlight those areas with the highest probability of change in the future and correlate those areas with the results of the RMP and its land use capability map. In addition,

conservation opportunities need to include concerted complementary action throughout the Region such as creating and maintaining forested riparian buffers throughout the varied landscape of the Highlands Region - farmland, forests, and developed areas. The stewardship capability of all landowners will determine the amount and condition of natural resources found in the Highlands. Landowners' awareness, commitment, and ability to protect and manage resources are critical to sustaining the derived ecosystem benefits.

## **8.0 FINDING AND APPROACHES**

Land preservation and stewardship, which includes restoration, will rely on many of the following factors:

### **8.1 STABLE AND ADEQUATE LAND ACQUISITION FUNDING ASSISTANCE**

*Federal* - Competition for federal funds will be expected to increase from areas in New Jersey outside of the Highlands Region. Continued resistance by many in the U.S. Congress for federal land acquisition has hampered funding for the Land Water and Conservation Fund, and is hindering appropriation of funds for the Highlands Conservation Act.

*State* - The Garden State Preservation Trust Fund (Trust), by far, provides the bulk of funding used to preserve land in the State of New Jersey. The Trust is currently funded from a quarter of a cent on the New Jersey sales tax. The proceeds are bonded to provide about \$150 million per year. The Trust was created to provide a stable source of funding for land acquisition and recreation development. However, the upcoming expiration of the Trust funding in 2009 will halt much open space and farmland preservation activity. Green Acres' officials have told the Highlands Council that their funding will be depleted for new projects by 2007, however, the Trust funds may not even last that long. A replacement resource is required.

Specifically with regard the Trust and the special needs of the Highlands Region:

- An appropriate portion of the capital funds from the Trust needs to be specifically dedicated for the Highlands Region. The Highlands Act's mandate for a "strong and significant commitment by the State" must be a central issue in the recapitalization of the Trust. As a source of drinking water for much of New Jersey, funds for the protection and conservation of the Highlands Region should be a priority for Trust funding decisions.
- During this initial period, a Highlands Transfer of Development Rights Bank will need the ability to acquire Highlands Development Credits (HDCs) from willing property owners, to both stimulate a supply and demand for HDCs, and assure the market that HDCs have value. Accordingly, it is anticipated that initial capital funds will be necessary to ensure an effective Highlands TDR program. Therefore the Trust should create and capitalize a reserve fund pursuant to N.J.S.A. 13:8C-11 in order to provide for the capital needs of the Highlands TDR Bank.
- Moreover the dual appraisal method in the Garden State Preservation Trust Act (Trust Act) under the SADC and NJDEP Green Acres preservation programs should be extended beyond June 30, 2009. Under N.J.S.A. 13:8C-38.j, appraisals are calculated using two values, one as of January 1, 2004 and the other as of the date of the acquisition, based on zoning and regulations in effect on those appraisal dates. The higher of these two appraisal values is utilized as the basis for negotiation. However, by the terms of the Trust Act, this

appraisal methodology expires on June 30, 2009. This method of determining an appraisal is an important tool for land preservation in the Highlands Region and should be extended past June 30, 2009 in order to allow Highlands landowners to participate in the preservation process.

- The Trust's partnering agencies each have specific targets for preservation as outlined in the Trust Act. The Green Acres Program secures lands for recreation and conservation purposes, the State Agriculture Development Committee's (SADC) Farmland Preservation Program acquires the development rights on privately owned farmland, and Historic Trust's Historic Preservation provides matching grants to save important historic buildings. Consequently, the existing programs do not capture many of the important resources in the Highlands Region and steps need to be taken to fill these gaps. For example, the SADC preserves farmland through the purchase of development easements. One criterion for prioritizing farmland is the percentage of land in crop production. As a result, a farm that is heavily forested may not be considered a priority for preservation by the SADC. Additionally, lots that are entirely forested with woodland management plans and are farmland assessed are not considered farms for purposes of SADC preservation. The Green Acres Program is primarily based upon the purchasing of property in fee rather than be easement. As a result, there is a need to create an adequate method to preserve forested lands through easements to allow them to remain in private ownership and properly maintained through woodland management. Given the fact that the Highlands Region is over 50% forested and maintaining forest land is important to protecting water quality, a program specifically for purchasing forest easements should be made available. In order to carry out the mandates of the Highlands Act, it is crucial to examine the capital needs and scope of the Trust as it relates to the Highlands Region.

Additionally, other stable sources of funding must be explored such as the imposition of a water consumption fee. The relationship between preserved land and clean drinking water must be conclusive, shared with the public, and conveyed in business terms, such as a comparison of the cost of investing in land with savings in water quality treatment activity. In Resolution 2006-22, the Highlands Council supported efforts to create a statutory funding mechanism for water quality and watershed land acquisitions which included a water consumption fee.

Source water protection should also be an overarching goal of water purveyors in the Highlands Region and water rate schedules should be increased to foster a purveyor's ability to acquire critical watershed properties, as has been done by the New Jersey Water Supply Authority for its Spruce Run Initiative and the Raritan Basin Watershed Management Project. In Resolution 2005-18, the Highlands Council expressed its support for a dedicated, directed and stable source of land acquisition and stewardship funding and directed its Land Conservation Committee and staff to examine the feasibility of a Highlands source water protection fee.

Alternate sources of funding must also be developed for preservation in the Highlands Region. For instance the U.S. Attorney's Office for the District of New Jersey recently awarded \$1.65 million to an environmental foundation for on-the-ground conservation projects in New Jersey. The money resulted from court-imposed payments levied against companies convicted of purposeful pollution violations and in order to accommodate the use of these funds for acquisition and stewardship a Highlands Water Protection and Planning Trust Fund needs to be established.

And while not a stable source of funding, Section 37 of the Act states that all penalties collected

under that section will be used, as determined by the Council, by the NJDEP for the acquisition of lands in the Preservation Area or by any development transfer bank used or established by the Council to purchase development potential in the Preservation Area.

*Local* - As local property taxes continue to increase with the growing cost of supplying community services, pressures to divert funds accumulated in local open space trust funds will continue and could have an impact on the amount of funding available for acquisition in the future. The squeeze on property tax increases makes local open space tax collection vulnerable, and may also provide incentive for moving money from acquisition to parks maintenance.

A comprehensive list of existing funding for land preservation and stewardship is provided in Sections 4 and 5.

## **8.2 COORDINATION AND COOPERATION AMONG STATE AGENCIES AND OTHER FUNDING SOURCES**

The scope and intent funding entities must account for the goals and needs of the Highlands Region. Incentives will also be needed to motivate funding agencies to cooperate with the Highlands Council. There may be resistance by other funding sources to broaden the scope and intent of their funds. The challenge is to show how their support in the Highlands will help them achieve their objectives. Additionally, funding sources will need to coordinate on regional preservation projects. The Council should provide assistance to land acquisition efforts of other public and private organizations in order to maximize the number and quantity of acres which are permanently preserved. Since most significant water resources tend to be regional in nature (rivers, aquifers, recharge areas, contiguous forests), the need to encourage partnerships to protect these regional resources will also be critical.

## **8.3 COMPREHENSIVE MAPPING AND UNIFORM DATA COLLECTION OF PRESERVED LANDS**

The amount and ownership of permanently protected land is underreported. Municipalities submit a list of municipally owned park and recreation areas, including easements, on a Recreation and Open Space Inventory (ROSI) as part of a grant application to Green Acres. The ROSI represents a contract between the State Green Acres Program and any municipal recipient of Green Acres grant funds. An updated ROSI is required every time a municipality receives a Green Acres grant. However, if a municipality has not requested any Green Acres grants since the early 1990s or if the community has never accepted any State Green Acres funding, the municipality's preserved land will not be reflected on the map.

Land preserved by nonprofit land trusts is also underreported. Since the early 1990s, the information has not been routinely collected, thus creating a potential under-representation of more recent nonprofit activity, such as private donations of land or easements. Privately owned recreation and open space lands are also underrepresented. Examples include youth camps, hunting clubs and other recreation land owned by private groups. As a result, a uniform database used by the Green Acres Program, the SADC and the Trust, would supply needed information to track preserved lands. These three groups frequently partner with nonprofit and other funding sources and could capture the vast majority of land transactions for open space conservation. A database that records land preserved in the Highlands Region will help assess the progress made toward reaching the goals of the Act and stewardship efforts.

## 9.0 NEXT STEPS

In addition to inventorying existing recreation and open space properties, the Highlands Council seeks to identify additional lands in the Region that should be protected in order to preserve their ecological and water supply value. To determine the priority areas for preservation, the Highlands Council will use the results of the Resource Assessment to identify those lands within the Highlands Region which have the highest ecological resource values. These values are based upon a combination of ecological indicators, as discussed earlier in this technical report, which measure the quantity and quality of the following regional resource values: forests, watershed condition, critical habitat, prime groundwater recharge areas, open waters and riparian areas, and steep slopes. Conservation Priority Areas will then be delineated and display a scale of the relative value of these resources in order to provide a prioritization mechanism for future land preservation activities in the Highlands Region that is consistent with the resource protection goals of the Regional Master Plan.

Through the use of this prioritization tool, the following objectives can be addressed as part of the overall land preservation strategy for the Highlands Region: 1) identification of parcels of land that are appropriate for protection or management due to their significant resource value; 2) identification of the portion of a parcel which contains significant resource value and should be preserved; 3) identification of the remainder of the parcel that may be appropriate for some level of development and therefore can remain in private ownership; and 4) identification of resources in need of protection on a particular parcel such that they can be readily identified and protected under either public or private ownership. The Conservation Priority Areas will also identify protected lands to show the pattern of historic land preservation activities that have historically occurred in the Region.

## 10.0 REFERENCES

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NJDEP Historic Preservation Office criteria, [www.nj.gov/dep/hpo/1identify/identify.htm](http://www.nj.gov/dep/hpo/1identify/identify.htm).

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## **Appendix A**

### **DEFINITION OF RECREATIONAL LAND**

The Anderson Land Use Land Cover Classification system was used to determine active recreation land use and land cover. This Recreation category includes those areas which have been specifically developed for recreational activities, if these areas are open to the general public. Any facilities that are part of a resort complex and open only to patrons of the hotel or motel are not mapped under Recreation. Facilities mapped as recreational land may charge user fees to the public, such as public golf courses; or, they may be free to the public, such as ball fields on public school grounds. Level III divisions of this category involve identifying the predominant recreational uses of the areas.

#### **Golf Courses**

All par 3 courses and above are included, both public and private, unless associated with a resort hotel/motel. Courses are identified by greens, fairways, sand traps, water hazards, club houses, and parking areas. Additional facilities often associated with golf courses, such as tennis courts, pools, parking, etc. are not identified separately but included. Ponds, wetlands and other water bodies are, however, identified separately under the appropriate category.

#### **Picnic and Camping Parks**

This category includes areas that are set aside for picnicking and camping specifically and associated activities (hiking, etc.). Commercial and private tent and trailer campgrounds are included, unless they are part of a resort complex. Any open areas associated with either picnicking or camping areas that exceed one acre are mapped out under Open Areas in Parks. Supplemental information may be needed to identify picnic or camping areas in forested regions.

#### **Marina and Boat Launches**

Public and private facilities consisting of docks, storage, storage buildings, boat ramps, jetties, piers, and parking areas are included in this category.

#### **Athletic Fields (Schools)**

Included in this category are a variety of recreational facilities which are not part of established parks, such as baseball fields, tennis courts, basketball courts, and playgrounds. These are associated with schools.

#### **Parks**

City, town, county and state parks that are maintained by a government agency are included in this category. What is actually mapped in this category is park headquarters, parking lots and accessory buildings. Open areas, swimming pools and beaches, golf courses, picnic and camping facilities, etc. are mapped separately under their appropriate category.

#### **Swimming Pools**

Included are public and commercial facilities such as swim clubs and city-operated pools. Pools associated with country clubs, motels, resorts and private residences are not mapped. Support buildings and parking areas are mapped in this category, as are any tennis courts, etc. which may be associated with the pool.

**Swimming Beaches**

These areas are specifically man-made beaches adjacent to lakes or ponds, which have been developed for recreational activities. Parking areas are included, but the water is identified under the appropriate water category.

**Formal Lawns, Arboretums and Landscaped Areas**

Included are landscaped areas that are associated with facilities open to the public such as gardens. Similar areas associated with private estates are not included within this category. Public facilities are identifiable by general layout, associated roadways, parking areas, and support buildings, all of which are mapped as part of this category.

**Open Areas in Parks**

This category includes any open area within a city, town, county, or state park that meets minimum mapping polygon size and which is not developed for any specific recreation activity.

**Stadium, Theaters, Cultural Centers, and Zoos (2002)**

Included in this category is any entertainment facility that is developed for public use. Stadiums, outdoor concert halls, racetracks (horse and car), drive-in theaters, amusement parks, and zoos are the primary facilities involved. Such facilities are primarily commercial, although some public recreation areas may be found. Not included are similar facilities on private property, such as horse tracks within private farms that are open to the public. Parking areas, driveways, and support buildings are mapped in this category.

**Other Recreational**

Included are rifle, skeet, and archery ranges, ski and winter sport areas, fairgrounds, etc., that do not fall into any of the above categories. These areas often have conspicuous signatures, such as ski runs, but form a small part of the land area of New Jersey.

**Managed Wetland in Built-up Maintained Recreation Area (WETLANDS)**

Included in this category are former natural wetland areas that now are part of an altered managed recreational area, but which still exhibit signs of soil saturation. These areas do not support typical wetland vegetation, but are vegetated primarily by grasses and other planted vegetation that may be routinely mowed. Examples of this category would be saturated portions of golf courses, and fields used for baseball and other sports in designated recreation areas. None of the wetlands included in this category are routinely inundated, although portions may be on occasion. These altered wetlands exist on areas shown on the US Soil Conservation Service soil surveys to have hydric soils.

## Appendix B

### DESCRIPTION OF FILES DATA LAYERS WITH METADATA

**Title of Content:** local-np.shp

**Content Publisher:** NJDEP, Green Acres Program

**Publication Date:** 2003

Edition Date: 2005

**Content Summary:** This data set contains protected open space and recreation areas owned in fee simple interest and as easements by counties, municipalities and nonprofits agencies. Types of property in this data layer include parcels such as parks, forests, historic sites, natural areas and wildlife management areas. The data was derived from a variety of source maps including tax maps, surveys and even hand-drafted boundary lines on USGS topographic maps. These source materials vary in scale and level of accuracy. Due to the varied mapped sources and methods of data capture, this data set is limited in its ability to portray all open space lands accurately, particularly the parcels purchased prior to 1991. Note : nonprofit open space lands that were not funded through Green Acres are not considered permanently preserved. Therefore, these lands may change with updated versions of "local-np".

**Content Purpose:** To provide Natural and Historic Resource Divisions in NJDEP with a manageable, graphic inventory of local and nonprofit protected open space throughout New Jersey. It serves as a valuable tool in land acquisition decisions and is NOT to be used for describing actual or true property ownership title.

**Title of Content:** NJDEP State-Held Conservation Easements

**Content Publisher:** NJDEP, Green Acres Program

**Publication Date:** 1995

Edition Date: 2005

**Content Summary:** This data set called CONESMT contains protected conservation easements held by the State of New Jersey Department of Environmental Protection (NJDEP). Conservation easements can occur with in greenways, state parks, wildlife management areas. The data was derived from a variety of source maps including tax maps & surveys. These source materials vary in scale and level of accuracy. Due to the varied mapped sources and methods of data capture, this data set is limited in its ability to portray all conservation easements lands accurately.

**Content Purpose:** To provide Natural and Historic Resource Divisions in NJDEP with a manageable, graphic inventory of state held conservation easements throughout New Jersey. It serves as a valuable tool in land acquisition decisions and is NOT to be used for describing actual or true property ownership title.

**Title of Content:** NJDEP State Owned, Protected Open Space and Recreation Areas in NJ

**Content Publisher:** NJDEP, Green Acres Program

**Publication Date:** 1999

Content Summary: Statewide coverage of state owned, protected open space & recreation areas in New Jersey.

Content Purpose: To provide Natural and Historic Resource Divisions in DEP with a manageable, graphic inventory of state owned and protected open space in New Jersey.

Beginning Date: 1991

Ending Date: 2004

**Title of Content:** njfarms\_pf

**Content Publisher:** NJ Dept of Agriculture, SADC Program

**Publication Date:**

Content Summary: Received from Fred Douthitt of the NJ Department of Agriculture - State Agriculture Development Committee (SADC) on 20051028 by Roger Keren. Data current as of 20051024. The shape file contains farms that are "preserved" and farms that have "final approval" from the SADC. Preserved NR are preserved and NR is an internal code for non reimbursable.

**Title of Content:** Delaware Water Gap National Recreation Area Small-Scale Base GIS Data

**Content Publisher:** National Park Service Water Resources Division

**Publication Date:** 2001

Content Summary: This data set contains small-scale base GIS data layers compiled by the National Park Service Servicewide Inventory and Monitoring Program and Water Resources Division for use in a Baseline Water Quality Data Inventory and Analysis Report that was prepared for the park. The report presents the results of surface water quality data retrievals for the park from six of the United States Environmental Protection Agency's (EPA) national databases: (1) Storage and Retrieval (STORET) water quality database management system; (2) River Reach File (RF3) Hydrography; (3) Industrial Facilities Discharges; (4) Drinking Water Supplies; (5) Water Gages; and (6) Water Impoundments. The small-scale GIS data layers were used to prepare the maps included in the report that depict the locations of water quality monitoring stations, industrial discharges, drinking intakes, water gages, and water impoundments. The data layers included in the maps (and this dataset) vary depending on availability, but generally include roads, hydrography, political boundaries, USGS 7.5' minute quadrangle outlines, hydrologic units, trails, and others as appropriate. The scales of each layer vary depending on

Content Purpose: The small-scale GIS data layers were used to prepare maps included in a Baseline Water Quality Data Inventory and Analysis Report for the park. The maps depict the locations of water quality monitoring stations, industrial discharges, drinking intakes, water gages, and water impoundments.

**Title of Content:** Morristown National Historical Park Small-Scale Base GIS Data

**Content Publisher:** National Park Service Water Resources Division

**Publication Date:** 2001

Content Summary: This data set contains small-scale base GIS data layers compiled by the National Park Service Servicewide Inventory and Monitoring Program and Water Resources Division for use in a Baseline Water Quality Data Inventory and Analysis Report that was prepared for the park. The report presents the results of surface water quality data retrievals for the park from six of the United

States Environmental Protection Agency's (EPA) national databases: (1) Storage and Retrieval (STORET) water quality database management system; (2) River Reach File (RF3) Hydrography; (3) Industrial Facilities Discharges; (4) Drinking Water Supplies; (5) Water Gages; and (6) Water Impoundments. The small-scale GIS data layers were used to prepare the maps included in the report that depict the locations of water quality monitoring stations, industrial discharges, drinking intakes, water gages, and water impoundments. The data layers included in the maps (and this dataset) vary depending on availability, but generally include roads, hydrography, political boundaries, USGS 7.5' minute quadrangle outlines, hydrologic units, trails, and others as appropriate. The scales of each layer vary depending on data source but are generally 1:100,000.

Content Purpose: The small-scale GIS data layers were used to prepare maps included in a Baseline Water Quality Data Inventory and Analysis Report for the park. The maps depict the locations of water quality monitoring stations, industrial discharges, drinking intakes, water gages, and water impoundments.

Title of Content: USFWS, Revised Refuge Boundaries (Interactive mapping version) Geospatial Data  
Presentation Form: vector digital data

Content Publisher: USFWS, Region 9, Information Technology Management, Branch of Data and Systems Services

Publication Date: 2001

Content Summary: This data set depicts refuge boundary information for National Wildlife Refuges, National Fish Hatcheries and USFWS administrative sites. Coverage is nationwide, but does not yet include all refuges. The primary source for boundary information is the USFWS Realty and Refuge Planning programs (land status maps, planning documents, and legal surveys) in the regions.

Content Purpose: The intended application of the data is to serve as a spatial reference of facility boundaries for other data layers in GIS and mapping applications. It is specifically not intended to be used as a land survey or representation of land for conveyance or tax purposes. This data set in particular has been generalized even more than the individual refuges data sets and is intended solely as an overview or locator map.

**Title of Content:** Federal Lands

**Content Publisher:** NJDEP, Green Acre Program

**Publication Date:** 2001

Content Summary: Most federal, non-designated, open space parcels boundaries (i.e., properties containing substantial amounts of undeveloped land but not intended for public use; often military installations) were taken from the same state source maps.

Content Purpose: Federal, designated, open space properties such as US Fish & Wildlife Service Refuges were mapped from paper copies of in-house maps supplied by the US Fish and Wildlife Service (USFWS). These maps were compiled from USGS paper topos ranging in scale from 1:24,000 to 1:20,000. Source dates ranged from April 1991 to February 1992. Many National Park Service (NPS) property boundaries were taken from paper copies of maps compiled by NPS. Scales ranged from 1:4800 to 1:63,360. Source dates ranged from 1972 to 1986. All other designated, open space parcel boundaries were taken from the above, DEP in-house paper topos.

**Title of Content:** Tnc\_oshl

**Content Publisher:** The Nature Conservancy

**Publication Date:** 2004

Content Summary: TNC Preserves with shapes for block and lot.

Content Purpose: Display properties that TNC owns or provides stewardship for as part of a TNC Preserve.

**Title of Content:** natirar

**Content Publisher:** Civil Solutions, a division of ARH

**Publication Date:** 2004

Content Summary: This data set contains protected open space and recreation areas owned in fee simple interest and as easements by counties, municipalities and nonprofits agencies. Types of property in this data layer include parcels such as parks, forests, historic sites, natural areas and wildlife management areas. The data was derived from a variety of source maps including tax maps, surveys and even hand-drafted boundary lines on USGS topographic maps. These source materials vary in scale and level of accuracy. Due to the varied mapped sources and methods of data capture, this data set is limited in its ability to portray all open space lands accurately, particularly the parcels purchased prior to 1991. Note: nonprofit open space lands that were not funded through Green Acres are not considered permanently preserved. Therefore, these lands may change with updated versions of "local-np".

Content Purpose: To provide Natural and Historic Resource Divisions in NJDEP with a manageable, graphic inventory of local and nonprofit protected open space throughout New Jersey. It serves as a valuable tool in land acquisition decisions and is NOT to be used for describing actual or true property ownership title.

**DATA LAYERS WITH NO METADATA AT PRESENT**

Hunterdon County Open Space - Open\_Space.shp, PreservedFarms.shp

Morris County Open Space - CLIP.shp, Farmland.shp, PublicLandInventory.shp

Somerset County Open Space - SomCoOS-baseDM.shp, SomCoOS-updatesDM.shp

Sussex County Open Space - Green-Acres-OpenSpace.shp, Landscapes\_ParklandsDM.shp, OpenSpace.shp

Warren County Open Space - Countyproperty.shp, Municipalityprop.shp, Non-p.shp, SEMI.shp, Stateownedproperty2001.shp, Warrencountypreservedfarmland2002.shp

## Appendix C

A Forest Stewardship Plan includes the following planning criteria:

The forest management plan must meet certain guidelines and criteria as laid out in N.J.A.C. 18:15-2.7.

1. The cover page with the following:
  - a. The owners name and mailing address;
  - b. The municipality and county where the woodland is located;
  - c. All blocks and lots of the property;
  - d. Total acreage of the property and the acreage covered in the plan;
  - e. Name and address of the approved forester who prepared the plan if not prepared by the owner;
  - f. Date the plan was prepared and period the plan covers;
  - g. A Stewardship pledge signed by the landowner.
2. A clear and concise statement of the owner's objectives in managing the woodland.
3. A description of how the property boundaries are or will be marked and delineated.
4. A brief description of past activities that had had an effect on the woodland including but not limited to, wildfire, insect and disease outbreaks, timber sales, plantings, thinnings and weedings.
5. A statement describing each defined forest stand in some combination of the following factors:
  - a. The number of acres;
  - b. The species composition including overstory and understory;
  - c. The general condition and quality;
  - d. The structure including age classes, DBH classes and crown classes;
  - e. The overall site quality;
  - f. The condition and species composition of advanced regeneration when applicable;
  - g. The stocking levels, growth rates and volumes.
  - h. Invasive plant species must be discussed and managed where possible;
6. Soil characteristics and erodibility;
7. Recommendations and a short discussion of the effects of such actions on forest health and protection, soil, water, wildlife and fish habitat, recreation, aesthetics and timber resources;
8. Discussions concerning invasive species must address quantitative data (i.e. amount per acre, percentage of area covered or acres affected) the effect of forest management activities on the spread of these species;

9. Best Management Practices must be followed for all forestry activities.
10. A description of the silvicultural prescriptions, management recommendations, activities and practices specified and planned for each stand, and an explanation of how these sequences of treatment are integrated in to the overall coordinated plan and time frame to meet the stated management objectives. Such management recommendations and practices shall be prepared for a period of not less than ten years.
11. A statement of the overall productivity capabilities of the woodland.
12. Maps of the property will be prepared to include, but not necessarily be limited to the following:
  - a. The owner's name and address and the date the map was prepared;
  - b. An arrow designating the North direction;
  - c. The map should be of sufficient size with a scale no smaller than 1"=1320' not larger than 1"=400' and fit on a page not to exceed 8.5"X14";
  - d. A legend defining the symbols appearing on the maps;
  - e. The location of the property boundaries and corners using GPS latitudes and longitude coordinates if possible. Do not use surveying coordinates;
  - f. An identification of the forest stands which are keyed to the written prescriptions;
  - g. A delineation of physical features such as roads, streams, structures, etc;
  - h. An identification of soil group classes on a separate map. A verbal description of the forest soils must accompany the map;
  - i. A brief description and an accurate location map using county or municipal maps for the purpose of locating the property in relation to the local areas. If the property does not have a street number, any identifiable feature should be noted for locating the property for site inspection purposes;
  - j. All lines and map features will be clear and legible and not repeated photocopies.
13. A detailed annual schedule of meaningful and measurable forest management activities outlining all tasks that will be carried out in the 10 year period covered by the plan;
14. All plans submitted to the NJ Forest Service should be stapled only. No binders or heavy covers.

*Supplied by NJDEP Div of Parks and Forestry, Forest Service Northern Region office.*

A Forest Stewardship Plan also requires a search of the Natural Heritage database and a section which discusses non-native invasive plants. The potential presence or absence of species of concern, rare, threatened, or endangered species or possible habitat does not prevent the implementation of



forest management practices. The Forest Stewardship Plan has to address the potential effect on the ecosystem and the species listed. Completion of a Forest Stewardship Plan meets the criteria for Farmland Assessment.

In 2002, about 5,600 acres were managed through Forest Stewardship Plans representing less than 1 percent of New Jersey's Highlands forests (*NYNJ Highlands Study Update 2002*)