

NEW JERSEY HIGHLANDS COUNCIL

RELEASE OF PRELIMINARY TECHNICAL INFORMATION FOR THE REGIONAL MASTER PLAN

June 2006



Black River, New Jersey Highlands, Morris County, NJ
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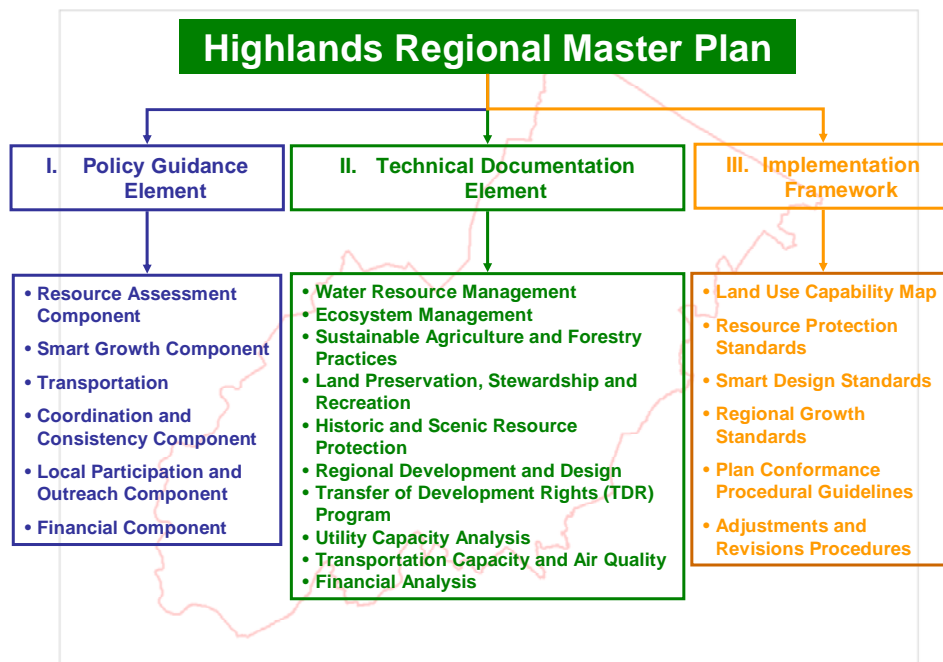
INTRODUCTION

Through the passage of the Highlands Water Protection and Planning Act (“the Highlands Act”) on August 10, 2004, the New Jersey Highlands Water Protection and Planning Council (“Highlands Council”) has been charged with the important task of developing a Regional Master Plan (“RMP”) in order to protect and enhance the significant values of the resources throughout the Highlands Region. The illustration below outlines the general content of the RMP.

As specified in the Highlands Act, the major goals of the RMP are to:

- Protect, restore, and enhance the quality and quantity of Highlands waters;
- Protect natural and cultural resources;
- Preserve contiguous lands in a natural state;
- Preserve farmland and historic sites;
- Promote compatible land use opportunities;
- Discourage incompatible land uses practices;
- Promote a sound and balanced transportation system; and
- Encourage appropriate economic development and growth

Faced with the growing challenge of protecting New Jersey’s finite drinking water supply while providing for the needs of a growing population, the continued loss and fragmentation of the remaining lands that serve as the source of that water supply is no longer tenable. Accordingly, the Highlands Council is charged to “determine the amount and type of human development and activity which the ecosystem of the Highlands Region can sustain.” In ascertaining this balance between the built and natural environments, the foremost goal is maintain the quality of life for generations to come in the Highlands Region and the greater northern New Jersey metropolitan area.

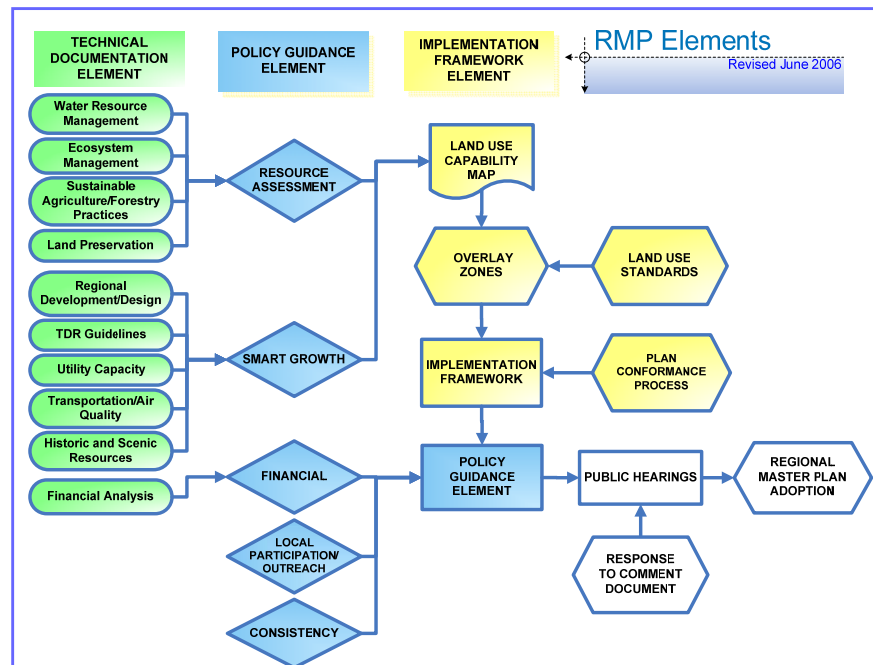


STRUCTURE OF THE RMP

The RMP will embody a regional vision for the Highlands. It will evaluate how best to protect the natural and cultural resources of the Region while striving to accommodate a sustainable economy – the essence of smart growth principles. The RMP will establish capacity limitations to future growth within the Highlands Region related to both natural systems, such as protection of our drinking water supplies, and the built environment, such as wastewater and transportation infrastructure. It will evaluate the costs of local land use planning, assess the environmental and economic benefits of natural resource and open space protection, and develop the tools and methods necessary to institute growth control measures, where necessary, to safeguard significant natural and cultural resources.

The Highlands Act prioritizes the development of the RMP by first requiring the preparation of a Resource Assessment to discern the existing ecological conditions of the entire Highlands Region. The Act specifically emphasizes the protection of water resources for both potable supply and ecosystem viability and also includes goals relating to the protection of agricultural viability, species diversity, natural communities, and scenic and historic resources. The Highlands Council must then determine the capacity of the Highlands Region to accommodate appropriate growth while sustaining the significant natural and cultural resources of the region.

As currently envisioned and illustrated below, the RMP will consist of three major elements, including: a [Policy Guidance Element](#) that provides a statement of the goals, policies and strategies necessary to implement the Highlands Act; a [Technical Documentation Element](#) that provides the results of the technical analysis supporting the policies and standards contained in the RMP; and an [Implementation Framework Element](#) which introduces the Land Use Capability Map and provides an overview of the process for plan conformance.



Policy Guidance Element

The Policy Guidance Element will address the goals, policies, strategies, and “Next Steps” for the RMP. This element will include a summary of each of the five basic components of the RMP enumerated in the Highlands Act (note: the Highlands Council proposes to handle the Transportation and Smart Growth Components together), will establish the capacity limitations and thresholds to future development within the Highlands, and will outline the principles of the RMP and provide guidance on how to apply them at the local, regional, and state levels of government.

The intent of the Policy Guidance Element is to summarize results of the technical analyses and recommend policies and implementation mechanisms and strategies to achieve the desired goals for the Highlands Region. The Policy Guidance Element will address the following major components of the Highlands Act:

- Resource Assessment Component: An analysis identifying and assessing the natural and cultural resources of the Highlands, focusing on water supply, natural resource protection and the threats to those resources and limits of sustainability;
- Smart Growth Component: A review of ways to balance the resource protection needs, infrastructure constraints, and opportunities for growth in the Highlands Region. This component will also include an assessment of ways to promote a sound and balanced transportation system consistent with both natural and cultural resource protection goals and smart growth principles;
- Coordination and Consistency Component: A plan to promote local, county, regional and State program coordination to meet the goals of the Highlands Act;
- Local Participation and Outreach Component: A summary of the interaction with our “Partnership” of municipal and county officials, the “Network” of interested public citizens, and the members of our Technical Advisory Committee (“TAC”) Work Groups; and
- Financial Component: An evaluation of the cost to implement the Regional Master Plan.

Technical Documentation Element

The technical documents in this element will provide the basis supporting the policies and standards contained in the RMP. They will explain the science and technical analyses supporting the RMP to help ensure that the RMP development process is comprehensive and transparent to all Highlands stakeholders.

Technical documentation will provide information regarding the following major program elements:

- Water Resource Management and analysis of water resource quantity and quality;
- Ecosystem Management and analysis of resource protection needs and strategies;
- Land Preservation and Stewardship strategies and recreational opportunities;
- Sustainable Agriculture and Forestry Practices;
- Regional Development and Design principles applicable to the Highlands;
- Transfer of Development Rights program structure and criteria;
- Utility Capacity for water supply and wastewater treatment;
- Transportation and Air Quality;
- Historic and Scenic Resource Protection;
- Financial Analysis and cash flow timetable.

Implementation Framework Element

This element will describe the tools necessary to implement the RMP at the municipal and county level. It will include a Land Use Capability Map and other provisions that support implementation of resource protection, smart design, and regional growth standards. The Implementation Framework Element will describe the opportunities and issues involved in implementing the policies and strategies of the RMP. This component of the RMP will explain the options and choices related to the incentives, restrictions, legal protections, and regulatory requirements available to conforming municipalities and counties. Products of the Implementation Framework Element will include, among other provisions:

A Land Use Capability Map identifying areas appropriate for preservation, growth, and planned communities.

Plan conformance tools to assist municipalities and counties, including:

- **Resource Protection Standards** and best management practices necessary to protect significant Highlands resources;
- **Smart Design Standards** to help implement resource protection and smart growth goals;
- **Regional Growth Standards** to encourage appropriate development opportunities;
- Procedural Guidelines to facilitate municipal and county conformance with the RMP; and
- **Adjustment and Revision Procedures** to allow municipalities or counties to submit new or additional information during plan conformance.

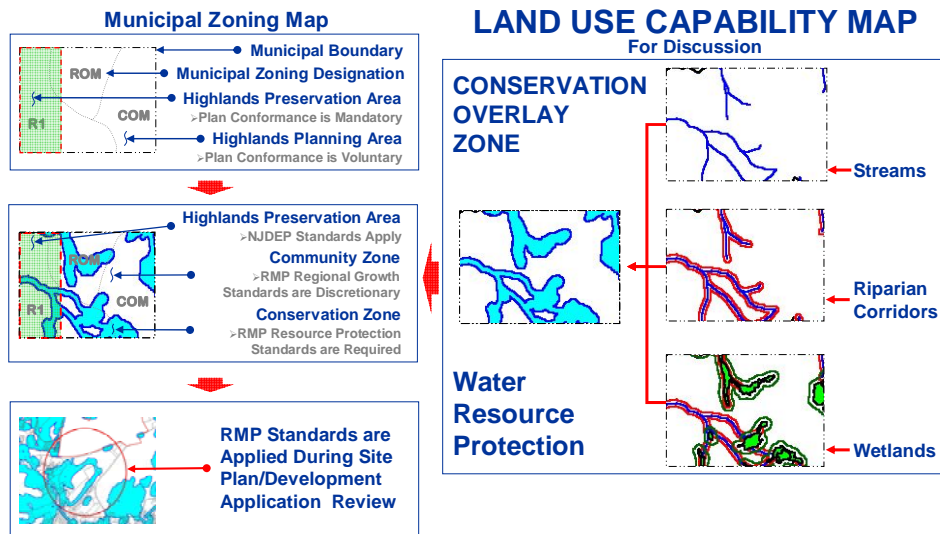
Land Use Capability Map

Implementation of the RMP will be guided by a Land Use Capability Map that, through the identification of geographic areas called Overlay Zones, will provide a comprehensive evaluation of both resource constraints and development opportunity. It will seek to resolve conflict between natural resource protection and economic growth by identifying constraints and capacity limitations of land and infrastructure, and identify those areas within the Highlands Region that can support appropriate and varying levels of development activity. Using science to guide decisions, the Land Use Capability Map will form the basis for application of the RMP's sustainable resource protection strategies, smart growth principles, and land use policies.

The Land Use Capability Map will identify those areas of the Highlands Region that should be preserved, areas that should be protected from development impacts, and areas that can sustain various levels of development or redevelopment. Each area identified within the Land Use Capability Map will have accompanying land use standards to achieve the resource protection goals of the Highlands Act, standards to promote regional growth, and procedures to facilitate municipal and county conformance with the RMP.

The following figure illustrates how the policies and standards contained in the RMP may be applied during development application review at the county or municipal planning level, or to support permit application review and decision making at the state and/or federal level.

Highlands Regional Master Plan



The Highlands Act provides guidance regarding areas that should be identified for preservation of natural and cultural resources, preservation of rural landscapes (including agriculture), and protection of natural and cultural resources within the context of appropriate development and redevelopment. For this reason, development of the Land Use Capability Map will involve a hierarchy of land use decisions from preservation to development, with development options designated only in locations and at densities that do not impair the potential for long-term preservation and protection of Highlands resources. As such, the process entails four steps, as follow:

- Identify the significant environmental resources. Determine where they are of sufficient quality and importance to limit development and encourage preservation using land acquisition and stringent land use regulation;
- Identify those areas with sufficient compatible agricultural and forestry activities to make long-term preservation of these functions feasible and desirable;
- Identify the remaining areas, and divide them into those that have, can, or cannot support infrastructure sufficient to allow for concentrated development. Those areas that cannot support such infrastructure should only be permitted to develop at densities that are viable using on-site water supply wells and septic systems; and
- Within any of the above areas, there may be brownfields or greyfields that are of sufficient size and have or realistically can be provided with adequate infrastructure that renders redevelopment feasible. Of these sites, some can be redeveloped in accordance with environmental or agricultural preservation policies; other brownfield or greyfield sites, if developed, would clearly be incompatible with the environmental or agricultural preservation intent of the surrounding areas, and would therefore not be appropriate for redevelopment.

Inherent in the definition of each “Zone” will be a determination of the overall carrying capacity for development. Carrying capacity has two basic components – natural resource capacity and infrastructure capacity – that must both be addressed in establishing an appropriate development density. Essentially, growth can only occur if the natural resource carrying capacity (e.g., water supply source, pollutant assimilative capacity, ecological viability) and infrastructure carrying capacity (e.g., public water supply, wastewater treatment, and transportation systems) are available.

Overlay Zones

The Land Use Capability Map will utilize **Overlay Zones** to implement the policies contained in the RMP. In general, overlay zones are superimposed over traditional zones in a municipality, rather than creating new zones. They can be implemented to address a special public interest (i.e. watershed management area, open space preservation, historic preservation, urban enterprise zone, etc.) that the underlying zoning in a geographic area might not otherwise take into consideration. Standards applicable to overlay zones may be more or less stringent than the underlying zoning depending on the intended planning objective. Underlying zoning establishes permitted land uses, while overlay zoning may detail more site specific requirements aimed at a certain goal. In terms of the Highlands RMP, examples of things that standards may address include best management practices related to preservation of agricultural lands or design guidelines specific to historic buildings or districts.

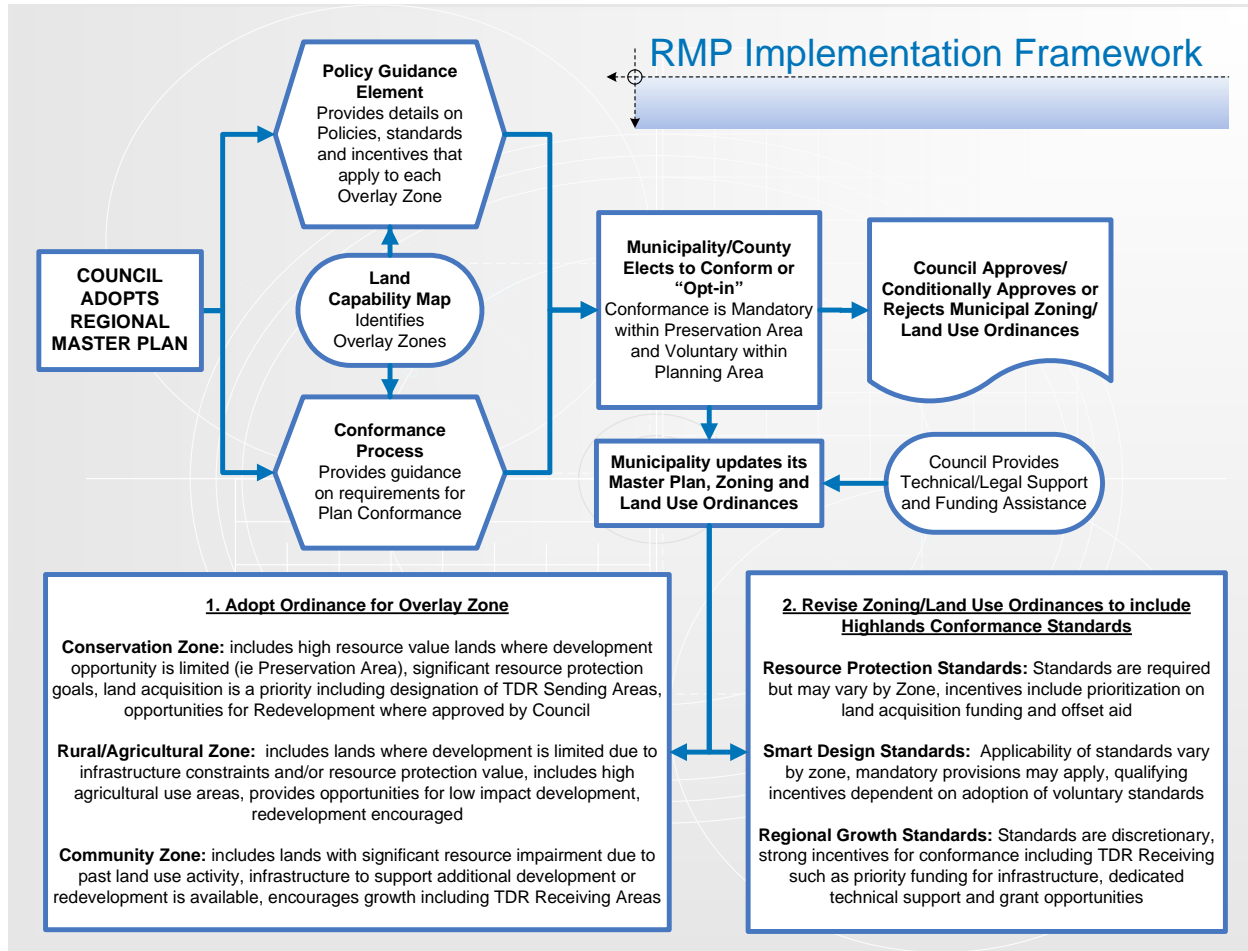
In the Highlands Region, the incorporation of overlay zones will provide municipal and county officials with an indication of where special consideration should be required in terms of protecting significant natural and cultural resources and where development may occur at varying densities based on the ability of areas to accommodate such growth. The RMP will include minimum standards for each overlay zone designation.

The Highlands Act establishes a fundamental hierarchy of land use capability areas, which will be reflected in the Land Use Capability Map. They may include examples such as those that follow. Note that the nomenclature and number of zones discussed here may change as the RMP continues to be developed.

- **Preservation Area** – That portion of the Highlands specified in the Highlands Act that is subject to strict land use controls administered by New Jersey Department of Environmental Protection (“NJDEP”). Establishes a goal of acquisition of development potential through fee simple purchase, acquisition of deed restrictions and/or sale of development rights through the Highlands Transfer of Development Rights (“TDR”) program. Under limited circumstances, this zone may allow some forms of development, but with stringent restrictions on consumptive and depletive water use, degradation of water quality, and impacts to environmentally sensitive lands.
- **Preservation Area Redevelopment Zone** – Areas potentially appropriate for redevelopment, including existing developed areas (greyfields with impervious surfaces of at least 70%) or previously contaminated areas (brownfields) limited to available infrastructure and consistent with regional environmental protection and local zoning policies. The designation of these areas will be subject to a joint coordinated approval and waiver process by the Highlands Council and NJDEP.
- **Conservation Zone** – Areas with significant environmental features that will be subject to stringent limitations on development activities to be preserved through fee simple or easement acquisition, whenever possible.
- **Rural/Agriculture Zone** – Areas with significant agricultural features and interspersed environmental features that should be preserved when possible, and that permitted development (limited in both area and intensity) should be compatible with both the agricultural uses and environmental resources.
- **Community Zone** – Areas potentially appropriate for concentrated development, having minimal environmental constraints, where infrastructure is available and can be provided to support development that is compatible with the protection and character of the Highlands environment, and best management practices can be employed.
- **TDR Receiving Zone** – Areas potentially appropriate to serve as voluntary development and redevelopment areas that allow for increased densities limited to specific sites that are not environmentally constrained and where infrastructure is available or feasible. (Note: Areas outside of Highlands Preservation and Planning Areas, but within Highlands counties, are eligible for this zone.)

Plan Conformance Procedural Guidelines

The following flow chart illustrates the general process that counties and municipalities within the Highlands Region will have to follow to conform to the RMP. Plan conformance is voluntary within the Highlands Planning Area and mandatory within the Highlands Preservation Area.



The Highlands Council will provide support in the form of grants and technical assistance to successfully achieve RMP conformance. The conformance process for a county or municipality includes an update of their master plan and land use ordinances to incorporate the overlay zones identified with the Land Use Capability Map and the land use standards contained in the RMP. In addition, the benefits and incentives available to conforming municipalities and counties may vary depending on the extent to which discretionary standards are incorporated during RMP conformance.

COMPONENTS OF THE HIGHLANDS REGIONAL MASTER PLAN

RESOURCE ASSESSMENT COMPONENT

In accordance with the Highlands Act, the Resource Assessment will determine the amount and type of human development and activity that the ecosystems of the Highlands Region can sustain, with particular emphasis on protection of the drinking water supply. It will include the following assessment elements from the Highlands Act:

Determine “the amount and type of human development and activity which the ecosystem of the Highlands Region can sustain with special reference to ...surface and ground water quality and supply; biotic communities and other appropriate considerations affecting the ecological integrity of the Highlands Region.” Highlands Act, N.J.S.A. 13:20-11.a (1) (a).

Assess the "scenic, aesthetic, cultural, historic, open space, farmland, and outdoor recreation resources of the region, together with a determination of overall policies required to maintain and enhance such resources.” Highlands Act, N.J.S.A. 13:20-11.a (1) (b).

Identify “special critical environmental areas and other critical natural resource lands where development should be limited.” Highlands Act, N.J.S.A. 13:20-11.a (6).

Identify “zones within the preservation area where development shall not occur in order to protect water resources and environmentally sensitive lands and which shall be permanently preserved through use of a variety of tools, including but not limited to land acquisition...” Highlands Act, N.J.S.A. 13:20-12.a.

A major purpose of the Resource Assessment Component is the identification of important environmental features and other critical natural resource constraints that will limit where and to what extent development may be appropriate. Technical analyses being conducted are related to water resource and ecosystem management, land preservation and stewardship, sustainable forestry and agriculture practices, and other critical resource issues to support the goals, strategies and policies enumerated in the RMP.

A fundamental part of the Resource Assessment is the analysis of surface and ground water quality and supply. The RMP will include an in-depth watershed based analysis of water availability. The ground and surface water analyses will examine the relationship of ground water recharge, underlying geology, sustainable yields and the ability to maintain the base flow of streams that is necessary to safeguard the State's drinking water supplies, and stream ecology during periods of drought.

The framework of the Resource Assessment component of the RMP will address the following major program elements:

- [Water Resource Management](#)
- [Ecosystem Management](#)
- [Land Preservation, Stewardship and Recreation](#)
- [Sustainable Agriculture and Forestry Practices](#)

Water Resource Management Program Element Framework

The Highlands Region provides drinking water for more than 5.6 million people in New Jersey, up from an estimated 3.8 million in 1992 and 4.5 million in 2002. The importance of the Highlands Region's water resources in sustaining most of northern New Jersey is a matter of statewide importance. Increases in human population and changes in land use due to increasing development pressure threaten our drinking water supplies by contributing to over withdrawal of ground and surface water systems, impacting water quality and recharge rates that deplete our aquifers and reduce safe yield of our reservoirs, and increasing the potential for significant cost to develop new supplies and provide for water treatment facilities.

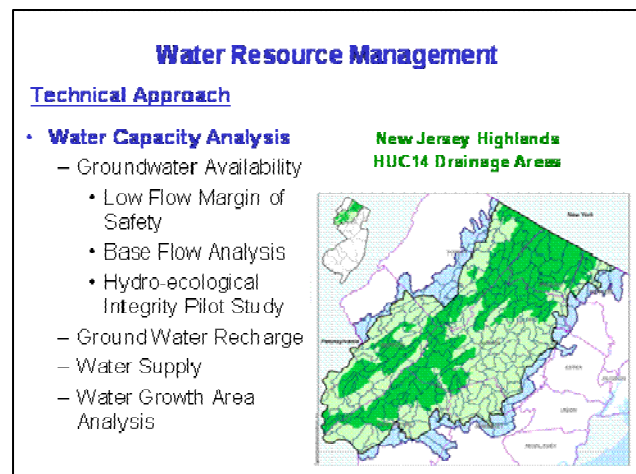
The Water Resources program element of the RMP will summarize the existing environmental condition of Highlands water resources. This will include characterizing the current water supply and watersheds, establishing limits on availability of our surface water and ground water resources, providing a comprehensive examination of the current status and threats to water quality, and providing guidance for managing land uses in a manner that is compatible with the water resource protection goals of the RMP in terms of both quantity and quality.

This program element will include an inventory of Water Use and Watershed Characteristics, an in-depth analysis of water supply including Surface Water Supply and Growth Demand and Ground Water Capacity and Availability to establish sustainable thresholds to support future population growth. It will also examine other considerations to maintaining drinking water supplies including Wellhead Protection and Ground Water Recharge. The water resource program element will explore current land use practices that affect water quality including a review of available information categorizing existing Ground and Surface Water Quality. An examination of potential sources of point and non-point pollution including an evaluation of Nitrate Dilution requirements for determining appropriate septic density requirements will also be provided.

Water Use and Watershed Characteristics - There are an estimated 1,200 high capacity public wells and a large number of domestic wells drawing in excess of 116 million gallons per day ("MGD") and 30 MGD, respectively, from our aquifers.

This section will include an inventory of water use including ground water withdrawals, aquifer source, stream and reservoir withdrawals, and water supply sources and delivery destinations including estimates of monthly maximum and consumptive uses at current rates of use and anticipated usage at full allocation.

Each subwatershed in the Highlands Region will be examined at the Hydrologic Unit Code ("HUC-14") scale. There are 183 HUC-14 watersheds in the Highlands Region, ranging in size from approximately three to 31 square miles. Information on existing ground and surface water use will be compiled including a description of the physical characteristics of each basin. Basin characteristics include drainage area, basin and slope, basin streams, geologic terrain, important aquifer areas, precipitation, and stream-discharge measurement stations. The data contains both long term and partial records.



Preliminary RMP information available for public release includes:

- [Introduction to Ground Water Resources of the Highlands](#)
- [Methods and Results for Determining Ground Water Capacity and Use](#)

Surface Water Supply and Growth Demand - There are ten major and more than a dozen smaller reservoirs in the Highlands Region, holding 379 million gallons of water per day. The use of Highlands surface water exceeds 550 MGD, of which more than 472 MGD is used outside the Highlands Region. This section will establish an understanding of the surface water supply in the Highlands Region.

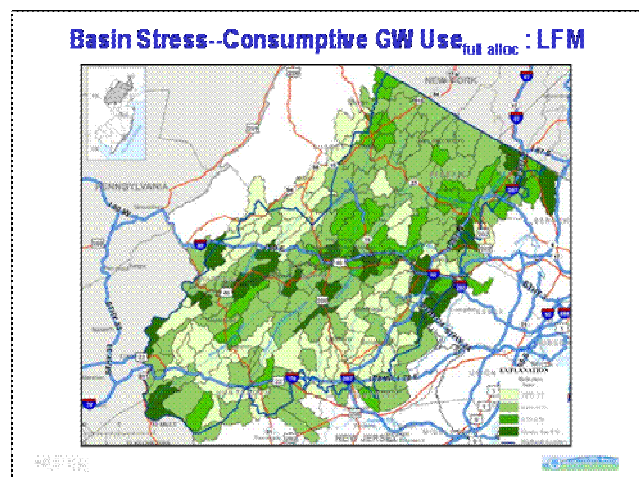
Key efforts by NJDEP and others related to water supply planning, identification, mapping, and classification will be highlighted. These include a water supply growth area analysis to identify potential issues and/or conflicts between available water supply and projected water demand, and an evaluation of the effect on potential growth areas in the Highlands and beyond. Data gaps will be defined in support of an improved data collection network and future planning to monitor and evaluate water resources.

Preliminary RMP information available for public release includes:

- [An Introduction to Surface Water Resources in the Highlands](#)

Ground Water Capacity and Availability – Ground water is the primary source of water for residents within the Highlands Region and is the critical component of stream flow particularly during drought conditions. A key component of the RMP is development of a systematic approach for evaluating existing and future ground water withdrawals against available water supplies and ecological requirements. An assessment of the ground water availability within Highlands watersheds is necessary to balance existing ground water use and future public supply needs with the need to maintain stream habitat and ecological health.

The Ground Water Capacity and Availability Analysis will incorporate three ecologically-based methods that use stream flow statistics – low flow margin of safety, base flow analysis and a pilot study using the hydro-ecological integrity assessment method (Eco Flow Goals) - to estimate ground water capacity. They will help to establish thresholds for the safe withdrawal of ground water and identify the capacity of Highlands watersheds to meet current and future demands. Water availability will be estimated for each subwatershed or HUC-14 in the Highlands Region, providing a relatively fine-grained estimate that can be used to inform land use decisions.



The Highlands Council will use the results of this assessment to help determine how much water is available for future uses in a basin. This decision will be guided in part by examining the degree of basin stress resulting from existing patterns of water use (i.e., basins with small low flow margins resulting from urbanization or large water withdrawals). The intent is to use the Eco Flow Goals Pilot results to help determine availability and as a potential ecologically-based tool for future iterations of the Regional Master Plan along with the other water capacity methods.

Preliminary RMP information available for public release includes:

- [Technical Approach to Determine Ground Water Capacity and Availability](#)
- [Methods and Results for Determining Ground Water Capacity and Use](#)

Ground Water Recharge – The results of a ground water recharge evaluation using long-term and drought recharge data to identify and rank the relative rates of recharge to ground water in the Highlands based on existing methods including those developed by the New Jersey Geological Survey will be provided.

An understanding of the aquifer recharge occurring in the Highlands is a key component of the resource assessment, as it relates directly to sustaining both surface water and ground water resources. Ground water recharge supports stream baseflow, and the ability to use both ground water wells and surface water withdrawals for water supply. The Highlands Council is also continuing to evaluate other potential methods to further refine and quantify water availability in accordance with provisions of the Highlands Act.

Preliminary RMP information available for public release includes:

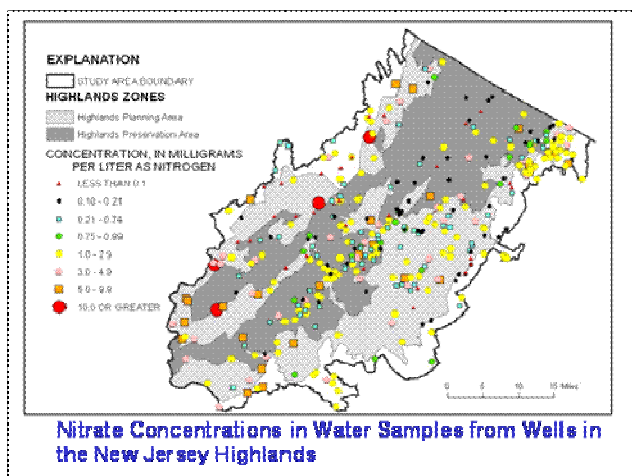
- [Technical Approach and Methods for Evaluating Ground Water Recharge](#)

Source Water and Wellhead Protection – This section will describe source water and wellhead protection areas, and evaluate the vulnerability of water supply sources in the Highlands. It will detail the range of issues related to source water protection needs. Data on existing water facilities, including public community and public non-community water supply wells, and public water supply reservoirs will be used. Existing Source Water Assessment Reports will be reviewed to determine the potential risk to each facility. Detailing source water and wellhead protection areas is critical in the resource assessment as these areas have been identified as the most critical lands contributing to water supply withdrawals.

Preliminary RMP information available for public release includes:

- [Introduction to Groundwater Resources of the Highlands](#)
- [An Introduction to Surface Water Supplies in the Highlands](#)

Inventory of Ground and Surface Water Quality – Available data on existing water quality parameters (e.g., organic chemicals and nutrients) in the Highlands, including a discussion of sources of point and non-point pollutants, is being compiled and summarized. Portions of Highlands aquifers that may be exposed to contamination will be identified to determine where ground water use may be constrained or use of the resource may require remedial treatment.



The inventory of existing ground water and surface water quality provides the basis for understanding current conditions, what resources are in need of protection, and supplies details to assist with determining appropriate resource management strategies.

Preliminary RMP information available for public release includes:

- [Evaluating Impacts of Land Use, Septic Density, and Other Factors on Nitrate Concentrations in Ground Water](#)

Nitrate Dilution - Studies of ambient ground water quality have established a clear link between nitrate concentrations in ground water and land use. Nitrate is often used as an indicator of the risk of impairment to ground water quality due to changes in land use.

Based on this understanding, nitrate target levels will be established and used to estimate nitrate dilution capacity within each HUC-14 subwatershed and support nitrate targets that will be used to determine allowable septic system density. Septic Density will then be used to inform sustainable land use capacity thresholds aimed at protecting and maintaining the quality of our ground water resources.

This section will include an analysis of background nitrate levels and the use of nitrate concentrations as a ground water quality indicator. It will contain an overview of the rationale for selecting nitrate as a valid indicator of overall ground water quality that is consistent with NJDEP's standards established within the Highlands Preservation Area.

Preliminary RMP information available for public release includes:

- [Evaluating Impacts of Land Use, Septic Density, and Other Factors on Nitrate Concentrations in Ground Water](#)

[Ecosystem Management Program Element Framework](#)

The Ecosystem Management program element will identify the natural and ecological resources in need of protection. It will also evaluate the affect of land development and other stresses on those resources, and establish the overall strategies and policies necessary to maintain and enhance their value.

This program element will help to define and identify critical natural resources in the Highlands Region such as [Highlands Open Waters and Stream Integrity](#) including wetlands, [Riparian Zones](#) including flood prone areas, [Steep Slopes](#) and other topographic features, [Forest Integrity](#), [Critical Wildlife Habitat](#) including endangered/threatened/rare species, and [Significant Natural Areas](#), in an integrated ecosystem protection and management framework. The results will help spotlight areas of the Highlands with exceptionally high ecological values that should be conserved, those with lesser values that may be restored, and those previously impaired by past human activity that may be appropriate to support growth.

Highlands Open Water and Stream Integrity – High quality water is a vital natural resource of the Highlands Region. Highlands Open Waters include all springs, streams including intermittent streams, wetlands including vernal pools, and bodies of surface water, whether natural or artificial. They provide protection against floods and help to ameliorate the affects of prolonged droughts. They are also important habitat for numerous plant and animal species including many endangered and threatened in the State. They provide a wealth of agricultural, recreational and



Sparta Mountains, NJ Highlands
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aesthetic uses for both residents and visitors alike, helping to contribute to a vibrant regional economy.

Highlands open waters are subject to significant regulatory control, limiting development activity due to their importance as a source of public drinking water. A number of regulatory programs also impose restrictions adjacent to Highlands Open Waters in order to maintain the integrity of the aquatic system, including the requirements of the Freshwater Wetlands Protection Act, Flood Hazard Area Control Act, as well as NJDEP's Stormwater Rules and Highlands Act rules.

Land development activities in and adjacent to Highlands Open Waters impair the quality and integrity of our water resources and the ecological integrity of aquatic systems. They generate significant pollution loadings from stormwater runoff, atmospheric fallout, and soil erosion resulting in water quality degradation, altered runoff patterns, and increased incidence of flooding. While erosion and soil loss by surface runoff are considered predominant sources, pollution from failing septic systems, runoff from agricultural lands, and leaching of fertilizers and pesticides/herbicides from adjacent residential and commercial development are also of major concern.

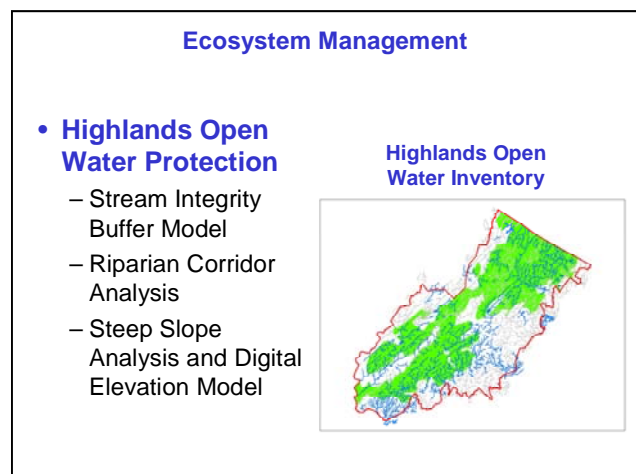
The RMP will inventory Highlands Open Waters and establish the extent of existing regulatory protection. The integrity of streams will be evaluated to assess their regional significance using land use, biological, and water quality indicators to verify that the level of protection afforded them is adequate and that appropriate land use standards are in place to ensure that their quality will be maintained or restored, and the health of aquatic systems will be safeguarded.

Preliminary RMP information available for public release includes:

- [Inventory of Highlands Open Water and Technical Approach to Evaluate Stream Integrity](#)

Riparian Zone – The riparian zone includes those areas adjacent to or hydrologically connected with Highlands Open Water, including flood prone areas, vernal pools, stream corridors, associated soils, and wetland communities. Riparian zones play a crucial role in helping to maintain the quality and ecological integrity of Highlands Open Waters by providing important habitat for a wide variety of plant and animal species, reducing erosion and sedimentation, removing excess nutrients and other contaminants, moderating fluctuations in water temperature, helping to maintain ground water recharge and base flow to streams, and providing flood storage which helps to ameliorate the deleterious affects of flooding on adjacent downstream properties.

The effectiveness of the riparian zone to safeguard aquatic ecosystems and downstream water quality is affected by its size, natural condition and the intensity and type of adjacent land uses. Continued loss and degradation of the riparian zone can result in loss of important terrestrial and aquatic habitat and recreational opportunities, deterioration in water quality, and an increase incidence of flooding.



The RMP will assess the condition of the riparian zone to determine relative value and regional significance and develop best management practices necessary to protect the values of the riparian zone and reduce human development impacts on the health of aquatic systems.

Preliminary RMP information available for public release includes:

- [Technical Approach and Preliminary Results to Identify and Characterize Riparian Zones](#)

Steep Slopes – Steep slopes are often associated with other environmental features such as scenic vistas, bedrock and rock outcrops, shallow soils, watercourses, and groundwater seeps. The protection of steep slopes, including their associated vegetation and soils, is important to maintaining the visual character of the Highlands and minimizing the potential for impairment to associated water resources.

The disturbance of steep slopes can cause grade instability and slope failure leading to increased soil and vegetative losses. Clearing, grading, and filling activities on steep slope areas can result in increased rates of erosion and sedimentation, alteration to natural drainage patterns, intensification of flooding, and impairment to terrestrial and aquatic systems. The degree of risk associated with development activities on steep slopes is affected by the severity of the slope, the size and extent of the area of slope, the soils type, and its proximity to a wetland or watercourse.

The RMP will identify physical environmental constraints such as steep slopes, other topographic features and related soil characteristics that may limit development potential, incorporating land use standards and protection guidelines necessary to assure that the water, ecological and scenic resources of the Highlands will not be adversely affected.

Preliminary RMP information available for public release includes:

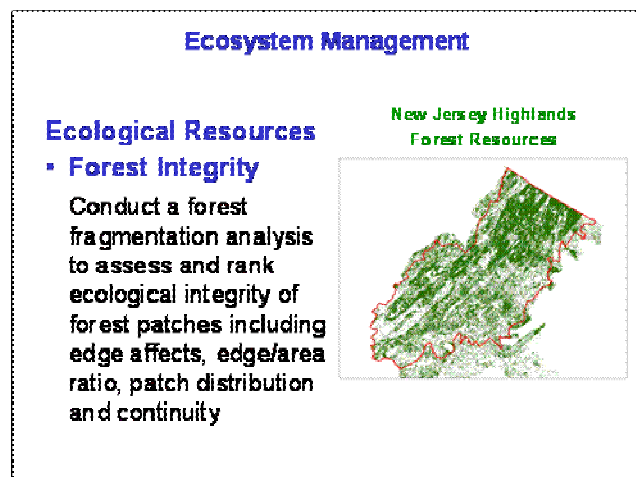
- [Technical Approach for Evaluating Steep Slope Protection Requirements](#)

Forest Integrity - Forests are the dominant land cover of the New Jersey Highlands, representing approximately 54% of the land area (approximately 464,000 acres). They serve as natural water filtration systems, thereby helping to protect the regions vital water supplies. Forests are important to maintaining the overall ecological health of the region. They provide opportunities for recreation and a renewable source of timber products. The implications of continued loss and fragmentation of forest resources include decreases in native biodiversity, degradation of streams, increased rates of soil losses, reduced water quality, and increased flooding.

The RMP will evaluate the regional significance of the Highlands forests to identify areas that are essential to maintaining the quality of our drinking water supplies, necessary to conserve the region's ecological resources, and important to provide recreation opportunities and maintain a sustainable forestry industry.

Preliminary RMP information available for public release includes:

- [Methods and Preliminary Results to Evaluate the Integrity of Highlands Forests](#)



Critical Wildlife Habitat – Biodiversity is the variety of species, both plant and animal, that is important to maintaining the ecological viability of natural systems. Biodiversity serves as a barometer of ecological health and the ability of natural systems to provide for human need – food, water, wood products, recreational opportunities, and aesthetic enjoyment.

Rare, threatened, and endangered species of the Highlands Region are part of our natural heritage and serve as important indicators of habitat quality and resource value. As habitat degrades due to direct loss

or fragmentation, increase in incidence of invasive species, population instability of native species, or through inappropriate and incompatible land use practices, species are lost, natural systems are degraded, and our ability to sustain human need is compromised.

To effectively evaluate the extent and quality of habitat within the Highlands Region, the RMP will employ a landscape level approach to identify critical habitat areas. This will include the communities and habitats that support rare, threatened, and endangered species a determination of their relative value and regional significance. It will also provide for the development of best management practices necessary to maintain and restore species diversity and protect the values of the Highlands ecosystem.

Preliminary RMP information available for public release includes:

- [**An Introduction to Methods Employed for Identifying Critical Wildlife Habitat**](#)

Significant Natural Areas – Significant natural areas of the Highlands include unique or exceptional examples of natural communities that possess significant biodiversity value whose regional significance are in need of protection.

A Significant Natural Area represents a site or area, typically with unusual or exemplary floristic qualities, that constitutes an outstanding example of that particular resource type (such as bog, forest or geological feature). They typically will possess exceptional ability to illustrate the natural or cultural heritage of the Highlands Region. They offer excellent opportunities for education or scientific research because they retain a high degree of ecological integrity as a relatively unspoiled example of a natural community type.

A Significant Natural Area may include publicly held lands whose long term stewardship needs to be carefully tailored to ensure that their values are maintained and preserved, or other lands whose value may be compromised through inappropriate or incompatible land use practices and whose acquisition and management should be prioritized.

Preliminary RMP information available for public release includes:

- [**An Introduction to Methods Employed for Identifying Significant Natural Areas**](#)

[**Land Preservation, Stewardship and Recreation Program Element Framework**](#)

The Land Preservation, Stewardship and Recreation program element will explore strategies to implement the land preservation goals of the RMP, including the adequacy of current techniques, tools, and resources to preserve land in the Highlands and recommend changes to existing approaches. This will include an evaluation of methods to address land equity issues through land valuation, funding, and program coordination, as well as recommendations regarding existing program policy and implementation improvements.

This program element will include an inventory of [**Existing Preserved Lands**](#) in the Highlands Region including the level of financial investment being made at the state, county and local level. [**Land Preservation and Stewardship Goals and Strategies**](#) of the RMP will include an evaluation and effectiveness of available funding to meet the [**Preservation Priorities and Needs**](#) of the region based on the results of the Resource Assessment and Smart Growth Components. [**Recreation and Tourism Opportunities**](#) will also be discussed.

Existing Preserved Lands - An overview of the results of existing funding programs for land preservation including an inventory of preserved lands through both public and private investment will be provided in this section.

Preliminary RMP information available for public release includes:

- [Inventory of Existing Open Space and Farmland Preservation Efforts in the Highlands](#)

Land Preservation and Stewardship Goals and Strategies – Based on the results of the Resource Assessment, Smart Growth and Financial Components of the RMP, the adequacy of available funding for future acquisition and stewardship will be evaluated, and critical funding issues and recommended funding mechanisms to address projected need will be identified. Additionally, alternative approaches and innovative funding mechanisms for preserving land other than fee simple acquisition will be examined in this section. To date, the data indicates that most alternative techniques represent incentives for public and private landowners to work together to preserve land with ownership remaining private. The RMP will provide an overview of existing funding programs for land stewardship, stewardship requirements, and an analysis of issues inherent in maintaining open space. It will also include an evaluation of the adequacy of existing incentives for landowners to adopt responsive stewardship practices. Factors that must be considered in developing a land stewardship program, including the adequacy of current strategies, gaps in stewardship efforts, and the importance of monitoring conservation easements and deed restrictions, will be described.

Preservation Priorities and Needs – This section will establish regional priorities for land preservation and stewardship based on the Resource Assessment, identifying critical natural resources in need of protection. Using the water protection, ecological, farmland, and other values identified, land preservation and stewardship goals and priorities will be determined on a regional scale. This will be done based on the value and vulnerability of the resources to be protected, managed, and restored.

Preliminary RMP information available for public release includes:

- [Inventory of Existing Open Space and Farmland Preservation Efforts in the Highlands](#)
- [Criteria for the Identification of Potential TDR Sending and Receiving Zones](#)

Recreation and Tourism Opportunities - Recreation and tourism resources and opportunities in the Highlands Region will be identified. This section will include a discussion of programs and support networks necessary to promote recreation and tourism opportunities consistent with the goals of the Act. It will also highlight ways to help maintain healthy ecosystems in the face of increased recreational use.

Sustainable Agriculture and Forestry Practices Program Element Framework

Sustainable agriculture and forestry consists of land management practices that ensure the health and growth of our forests and farmlands for future generations. It seeks to balance the need to protect important natural resources with the economic viability of these industries in ways that protect both the resources and people's (often the resource steward's) livelihoods.

This program element of the RMP will include an [Evaluation of Agricultural and Forestry Resources](#) in the Highlands, identifying resources in need of protection. It will also provide an overview of [Sustainability Strategies](#) including programs and land use practices, incentives and regulatory components that support the continuation and enhancement of agriculture and forestry operations.

Evaluation of Agricultural and Forestry Resources - The existing extent and condition of Highlands agricultural lands and resources, including current preserved and other farmland, prime agricultural soils, and related features will be explored. This section will provide a status update on farming and agricultural trends in the Highlands. It will outline the goals for protection of agricultural uses of land and will summarize the methods employed for protecting important agricultural assets to ensure a sustainable agriculture industry into the future.

Information and guidance on conservation planning and management practices will be provided based on innovative and practical methods that seek to achieve a balance between the resource protection and land management goals of the RMP. This section will explore ways to also provide for a sustainable forest products industry into the future by examining forestry practices that conserve biodiversity and improve the long-term health of the Highlands forest systems.

Preliminary RMP information available for public release includes:

- [Technical Approach for Evaluating Important Agricultural Resources](#)
- [Inventory of Existing Open Space and Farmland Preservation Efforts in the Highlands](#)
- [Methods and Preliminary Results to Evaluate the Integrity of Highlands Forests](#)

Sustainability Strategies - The future of farming and forestry as an industry in the Highlands Region will be addressed. Issues discussed will include the economic value of the agriculture and forestry industry in the Highlands Region, viability of farming as a sustainable means of making a living, stewardship of prime agricultural and forestry resources, such as soils and ecological value, the potential for conflicts with surrounding land uses, emerging regulatory and environmental management concerns, and preservation of landowner equity for farmers. This section will provide a review of initiatives, case studies, and collaborative and regulatory programs in support of developing a framework for sustainable agriculture and forestry. It will highlight existing sustainability strategies that are working.

Guidelines on how local land use and zoning policies can support sustainable agriculture and forestry practices will be developed.

SMART GROWTH COMPONENT

Planning for livable, diverse, affordable, healthy - sustainable - communities will always be a work in progress. In New Jersey, we have had enough experience to build a strong case for approaches that work. There are a number of successful “benchmark” approaches to achieving steady improvement in environmental quality, even as we continue to maximize development opportunity in appropriate areas.

The RMP will detail Smart Growth principles, provide useful examples, and outline strategies to achieve the primary resource protection goals as enumerated in the following excerpts from the Act:

Determine “the amount and type of human development and activity which the ecosystem of the Highlands Region can sustain...” Highlands Act, N.J.S.A. 13:20-11.a (1)(a).

The regional master plan shall include “an assessment of scenic, aesthetic, cultural, historic, ...together with a determination of overall policies required to maintain and enhance such resources.” Highlands Act, N.J.S.A. 13:20-11.a (1)(b)

Provide “a plan for transportation system preservation to include projects to promote a sound, balanced transportation system that is consistent with smart growth strategies and principles and which preserves mobility and maintains the transportation infrastructure of the Highlands Region.” Highlands Act, N.J.S.A. 13:20-11.a (5).

An assessment “based upon the resource assessment of opportunities for appropriate development, redevelopment, and economic growth, including public investment priorities, infrastructure investments, economic development, revitalization, housing, transportation...” Highlands Act, N.J.S.A. 13:20-11.a (6).

An assessment “based upon the resource assessment of opportunities for appropriate development, redevelopment, and economic growth, and a TDR program which includes public investment priorities, infrastructure investments, economic development, revitalization, housing, transportation, energy resources, waste management, recycling, Brownfields, and design standards.” Highlands Act, N.J.S.A. 13:20-11.a (6).

A major purpose of the Smart Growth Component is to identify existing developed lands capable of sustaining redevelopment, and undeveloped areas which are free of significant environmental constraints that can support growth. The availability and limitations of existing transportation, and water and wastewater infrastructure, and limitations of natural systems to provide those services, will be used to help guide where development may occur and establish appropriate levels of growth that are achievable and sustainable. These may include voluntary receiving zones for a Transfer of Development Rights (TDR) program. The design and implementation of a TDR program will be done in such a manner as to help maintain a fair and equitable distribution of land value. Minimum land use and design standards, including density standards for center-based development, will be developed to encourage, where appropriate, the adoption of such standards at the municipal and county level.

The Smart Growth component of the RMP will include the following program elements:

- [Regional Development and Design](#)
- [Transfer of Development Rights](#)
- [Water and Wastewater Utility Capacity](#)
- [Transportation and Air Quality](#)
- [Historic and Scenic Resource Protection](#)

Regional Development and Design Program Element Framework

The Regional Growth and Design program element will examine how we plan our communities, the building designs and mix of uses we encourage or discourage through zoning, and the level of detail associated with planning, architectural and landscape review. This program element will evaluate how regional development and design standards can minimize the cumulative impact to Highlands waters and other critical natural and cultural resources. The program element will evaluate existing and proposed opportunities for communities to work at a regional level in support of resource protection, economic development, and quality of life. Smart growth is about building rich lives within livable, compact, sustainable communities. Achieving smart growth on a regional scale is central to meeting the goals of the Highlands Act.

This program element of the RMP will include a [Build-Out Analysis](#) to examine how changes in land uses affects our communities. It will provide a rational approach for determining [Redevelopment and Growth Area Potential](#) that is both achievable and sustainable. Additionally, it will examine [Housing Opportunities](#) in the region and address future housing needs. [Smart Design](#) and construction principles and methods that support sustainable communities, efficient use and adaptive reuse of land, and a sense of place appropriate to the Highlands character will also be evaluated and summarized.

Build-Out Analysis – This section will evaluate land use characteristics and changes as well as municipal zoning in the Highlands Region. It will evaluate the implications of land use and zoning using a build-out model as a tool to analyze development scenarios.

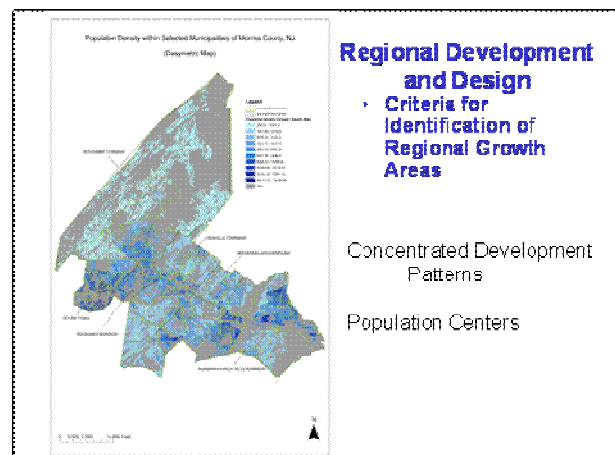
The build-out model outputs will be utilized to perform the fiscal and infrastructure impact assessments and to gauge the overall implications of different land use scenarios within the Highlands municipalities. These assessments will include: [Municipal Zoning Baseline](#) which represents the impacts at full build-out according to existing municipal zoning and developable lands associated with the environmental regulations in place prior to the Highlands Act; and a [Policy Density Baseline](#) which will estimate full build-out adjusted to reflect land use and density patterns consistent with State Planning Area designations.

The [Highlands Land Capacity Baseline](#) will utilize existing municipal zoning data estimates of full build-out considering the legislated, physical capacity limitations and other environmental constraints on land use included in the Highlands Land Use Capability Map to provide an understanding of the change in land use patterns resulting from the resource protection standards in the RMP. Finally, a [Highlands Growth Capacity Baseline](#) will include an evaluation of regional growth area potential reflecting recommended densities and mixed land uses that would be consistent with the smart growth strategies and capacity limitations in the RMP.

Ultimately, the build-out analyses will provide a comparison of estimates of population, employment, school children, open space requirements, and affordable housing. In addition, they will evaluate existing wastewater treatment capacity limitations, and the implications of additional vehicle trips on the existing transportation network.

Preliminary RMP information available for public release includes:

- [Preliminary Results of Build-Out Analyses](#)
- [Land Use Characteristics and Change in the Highlands](#)



Redevelopment and Growth Area Potential – This section will identify and assess the potential for growth areas that would support development, redevelopment, and a Highlands Transfer of Development Rights Program. In addition, it will explore strategies that specifically promote redevelopment, such as targeting brownfield sites and areas with impervious surface areas of at least 70%. This section will also identify the criteria for regional growth areas in support of the Land Use Capability Map and examine the need for public investment and infrastructure in support of potential growth areas in the Highlands Region. It will provide references to smart design standards, transit-oriented development, recommended densities and growth area incentive programs in the context of smart growth principles and natural and cultural resource protection and restoration goals of the RMP.

Preliminary RMP information available for public release includes:

- [Technical Approach for Evaluating Redevelopment Potential](#)
- [Technical Approach for Identification of Potential Regional Growth Areas](#)
- [Inventory of Brownfields and Known Contaminated Areas of the Highlands](#)
- [Approach for Establishing Water and Wastewater Service Areas and Capacity Limitations](#)
- [Preliminary Results of Wastewater Service Area Identification and Capacity Limitations](#)
- [Criteria for the Identification of Potential TDR Sending and Receiving Zones](#)
- [Preliminary Methods and Results of the Highlands Transportation Capacity Analysis](#)

Housing Opportunities – The RMP will consider housing needs and trends in the Highlands, both from the perspective of the quantity of housing and the variety and choice of housing needs. It will evaluate how the Highlands Region may meet these needs in accordance with the goals of the Highlands Act. Particular emphasis will be placed on the recognition of COAH affordable housing obligations and strategies to meet those obligations consistent with the critical resource protection and smart growth goals of the RMP.

Smart Design Standards – This section will examine opportunities and implications of various design standards, land use strategies, land use ordinances, building codes, site and subdivision planning, landscape architectural review and other planning measures to promote smart growth principles in the Highlands Region. The use of design standards that facilitate comprehensive and sustainable planned developments will be explored with an emphasis on water conservation, energy conservation, green building, innovative/alternative technologies, mixed use and clustered site design, and safe and reliable transportation opportunities. Incentive programs will be suggested that promote smart design and green building principles that maximize land efficiency for both market rate and affordable housing and non-residential uses.

Transfer of Development Rights Program Element Framework

Together with existing State farmland and open space preservation programs, the Highlands Transfer of Development Rights (TDR) program will provide another tool to help protect the land-based equity interests of private land owners who have been affected by implementation of the Highlands Act. The Highlands Council is specifically empowered to “use the regional master plan, including the Resource Assessment and the Smart Growth component, to establish a transfer of development rights program for the Highlands Region that furthers the goals of the regional master plan.”

The TDR program element of the RMP will establish the [TDR Program Framework](#) that provides the structure of the program and the mechanisms for its implementation. It begins with an introduction to the concept of TDR, including input from a variety of stakeholder interests, and discusses the results of a

review of a variety of national programs. This program element will also establish [TDR Sending and Receiving Zone Criteria](#), including credit acquisition priorities that are consistent with the resource protection goals and smart growth principles of the RMP. It will institute [Credit Allocation and Valuation Methods](#) that allow for a phased program implementation to address land owner concerns. Finally, the program element will address the needs and alternatives available for determining [Highlands TDR Bank Requirements](#) and include provisions for [TDR Implementation Guidelines](#) that will help ensure program success.

TDR Program Framework – This program element of the RMP will introduce TDR and establish preliminary guidelines for a successful TDR program, including examination of alternative credit allocation and valuation systems, parcel-specific prioritization for inclusion in the program, establishing a TDR bank, and phasing and marketing of the overall program structure including procedures for program participation by property owners and development interests.

Preliminary RMP information available for public release includes:

- [An Introduction to Highlands TDR program Development](#)

TDR Sending and Receiving Zone Criteria – The primary purpose of this program element is to establish the parameters for program participation. Specifically, it will set forth the criteria to determine which areas in the Highlands Region may serve as sending zones, and which areas may serve as receiving zones throughout the Highlands Region, and within the seven Highlands counties. It will also evaluate the demands for TDR sending participation and establish methods to prioritize properties for credit acquisition by establishing ecological and other resource-based criteria consistent with the resource protection goals of the RMP.

Preliminary RMP information available for public release includes:

- [Technical Approach for Identification of Potential Regional Growth Areas](#)
- [Criteria for the Identification of Potential TDR Sending and Receiving Zones](#)
- [A Preliminary Analysis of Land Acquisition and TDR Sending Requirements in the Highlands Preservation Area](#)

Credit Allocation and Valuation Methods – The primary purpose of this section is to determine how Highlands TDR Credits, or other appropriate instruments, should be valued both for sending zone parcels and voluntary receiving zone parcels. It will identify the most appropriate allocation and valuation methods that are fair and equitable, simple to understand and apply in both Sending and Receiving Zones, predictable, and flexible enough to accommodate changes as the TDR program evolves.

Highlands TDR Bank Requirements – The RMP will explore the establishment of a Highlands TDR Bank and evaluate the advantages and disadvantages of using a TDR bank to effectuate the Highlands Region TDR Program. It will also explore the usefulness of a bank to help facilitate phasing of the Highlands TDR Program to adjust to changing market conditions throughout county and municipal conformance with the RMP.

TDR Implementation Guidelines - The Highlands Council will provide support in the form of grants and technical assistance to encourage RMP conformance and implementation of the TDR program throughout the Highlands Region, and within the seven Highlands counties. The conformance process for a county or municipality will include an update of local zoning and land use ordinances to establish TDR Receiving Zones that is consistent with the Land Use Capability Map and the land use standards

contained in the RMP. In addition, the implementation framework will describe the benefits and incentives available to municipalities that participate in the Highlands TDR program including financial, technical, and legal assistance in obtaining State Plan Endorsement. The TDR implementation guidelines will also include an aggressive TDR marketing program to assure success, including assistance to land owners interested in selling their credits and support to participating municipalities in advancing their local development and redevelopment initiatives.

Utility Capacity Program Element Framework

The Utility Capacity program element will focus on identifying and mapping existing and proposed service areas and establishing the existing capacity limitations of water and wastewater infrastructure necessary to provide for drinking water supply and wastewater treatment to Highlands municipalities.

This program element will include an overview of the types of public and non-public systems including a discussion of utilities that service areas outside of Highlands municipalities which rely upon Highlands resources or provide some level of service to Highlands municipalities. The capacity limitations of these systems will help determine the opportunities for, or limitations to, future growth in the region. An examination of capacity needs based upon projections in land development, population, and employment will be performed to determine whether there is a reasonable likelihood of meeting capacity demands that is consistent with the RMP.

Efforts will be made to reconcile conflicts in capacity limitation and demand. Future service areas and investment priorities will be recommended to be consistent with capacity limitations and compatible with resource protection and growth provisions in the RMP.

The Utility Capacity program element focuses on identification and mapping of the available capacity for provision of [Potable Water Supply](#) and [Wastewater Capacity](#) serving Highlands municipalities.

Potable Water Supply – This section will include an inventory and description of the water supply utilities that serve Highlands municipalities and other portions of Highlands counties. In addition, it will examine water supply utilities that serve non-Highlands municipalities or counties using water derived from the Highlands.

It will provide information on the utilities, including service area and total permitted withdrawal, along with maps of franchise areas for major community water supplies. Estimates of currently available capacity, project capacity demands within the existing franchise area, and net available capacity will be included. A discussion of how the use of Highlands resources by non-Highlands utilities can limit the availability of water supply capacity will also be provided.

Available data on water supply systems will be examined including a review of firm capacity (where available), and water losses and water allocations to better understand current water supply facility capacity based on existing facilities and permits. A discussion of methods by which capacity may be increased by enhancing water availability (e.g., increased recharge), water conservation (demand reduction or supply conservation), beneficial reuse of wastewater, substitution of water uses, or other methods will also be provided.

Preliminary RMP information available for public release includes:

- [Approach for Identifying Water and Wastewater Capacity Limitations](#)

Wastewater Capacity – This section will describe the wastewater treatment utilities serving the Highlands and other portions of Highlands counties. It will provide estimates of available capacity, projected capacity demands within the existing and planned service area, and net available capacity.

A preliminary analysis of each facility's potential future capacity (surplus or deficit) will be provided along with the pollutant loadings associated with such demands to evaluate whether there is opportunity for capacity expansion. A discussion of how the use of Highlands resources for wastewater assimilation by non-Highlands utilities can limit the availability of water supply or wastewater capacity for Highlands municipalities will be provided. This section will include an overview of regulations affecting wastewater utilities impacting the provision of wastewater services and a discussion of their implications for establishing system capacity, tracking capacity utilization, and forecasting future demands.

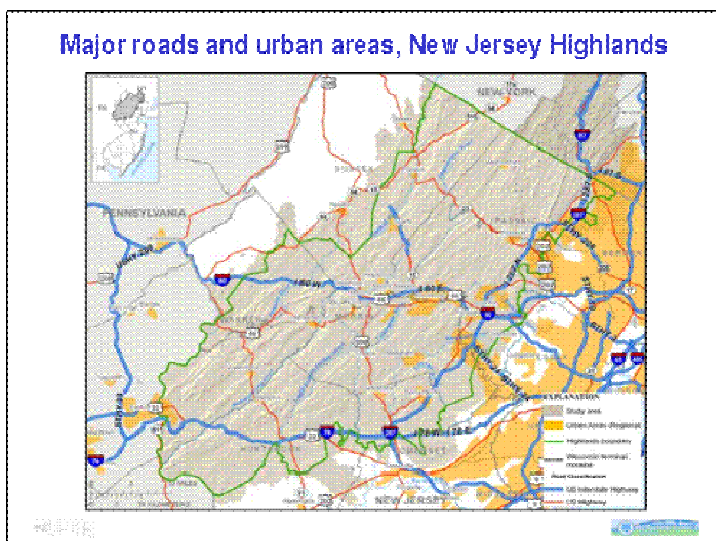
The volume and location of wastewater point source discharges affecting Highlands waters will be documented. This section will evaluate the potential for expansion or the need for retraction of wastewater capacity. The wastewater capacity discussion will include an explanation of potential methods by which capacity may be increased through facility upgrades, improved industrial pretreatment, modification of the discharge location, beneficial reuse of wastewater, alternative non-discharge technologies, and other methods.

Preliminary RMP information available for public release includes:

- [Approach for Identifying Water and Wastewater Capacity Limitations](#)
- [Preliminary Results of Wastewater Service Area Identification and Capacity Limitations](#)

Transportation and Air Quality Program Element Framework

The Transportation and Air Quality program element will present an overview of transportation as a component in protecting the critical resources of the Highlands including an analysis of [Transportation System Capacity](#) and a discussion of [Transportation System Preservation and Enhancement Measures](#). It will explain and document the importance of transportation planning within the context of natural and cultural resource protection goals and smart growth principles. This program element will also include a discussion of [Air Quality](#) issues facing the Highlands Region from both stationary and mobile sources including a discussion of the potential implications of climate change on water and ecological resources of the Highlands.



Transportation System Capacity – This section will evaluate the existing travel patterns and traffic conditions in and around the Highlands. The base year 2002 information was developed using the existing regional model known as the North Jersey Regional Transportation Model (NJRTM). The Highlands sub-area model was developed as a Phase I base model to support the decision making process related to land use and transportation issues and to assess the transportation impacts of the various growth scenarios for the RMP. As part of the baseline study, an air quality analysis was also performed. The transportation network will continue to be evaluated in support of the RMP.

Preliminary RMP information available for public release includes:

- [Preliminary Methods and Results of the Highlands Transportation Capacity Analysis](#)

Transportation System Preservation and Enhancement Measures – This section will include a discussion of system preservation and enhancement measures including minor physical improvements that aid capacity and improve safety, system maintenance, Intelligent Transportation Systems, incident management, and access management that assists in travel demand management and protects capacity in a manner that is consistent with the resource protection and smart growth principles of the RMP. It will identify specific policies and programs of State and Federal transportation agencies that focus on providing mobility in compact development patterns as a means of limiting sprawl and utilizing the existing network efficiently. Lastly, it will develop a framework for community development of pedestrian and bicycle plans that include access to work, school, recreation, business and social locations.

Air Quality - The Air Quality section will describe the range of issues related to air quality in the Highlands. It will highlight key research compiled from available sources on air quality trends, local and national management strategies and regulatory program experience. It will also evaluate existing major point and mobile air pollutant sources for the Highlands Region. The assessment will include the pattern and extent of air quality impacts on the environment and human health. Issues such as emissions from coal-fired plants within and outside the Region, the affect of acid rain on forest regeneration, water quality and lake ecology, and climate change implications on drinking water supplies will also be discussed. The report will discuss how air quality protection will require public and private investment strategies and coordination with other components of the RMP, including but not limited to transportation, utility capacity, and smart design.

[Historic and Scenic Resource Protection Program Element Framework](#)

The Historic and Scenic Resources program element will provide background on the settlement of the Highlands Region. It will summarize the existing status and threats to the Highlands Region's historic, cultural, and scenic assets including an [Historic Sites Inventory](#) which will provide information on the location of sites that are eligible or listed on the State and National Registers, methods to promote [Preservation and Stewardship of Historic and Scenic Resources](#) with an emphasis on methods to identify sites of concern, and guidance for municipalities and business interests working in partnership to implement compatible site design standards.

Historic Site Inventory – This section will provide a background on the inventory of historic resources in the Highlands Region. It will highlight key efforts by the State, counties, municipalities, and others related to the identification and protection of historic sites and districts. The Report will identify and discuss the information gaps that exist in the inventory of these resources and evaluate additional methods to further identify the significant historic resources that characterize the Highlands Region.

Preliminary RMP information available for public release includes:

- [Preliminary Inventory of Historic Resources of the Highlands](#)

Preservation and Stewardship of Historic and Scenic Resources – This section will provide a framework for protection of historic and scenic resources through site identification and incorporation of compatible design standards in local land use ordinances. It will provide recommendations to promote the protection and long-term stewardship for private landowners, and methods to educate communities about the value of historic and scenic resource protection. Potential partnerships with State agencies to

coordinate acquisition funding to help preserve these resources will be explored where appropriate, including innovative funding and incentives for stewardship of sites, districts, historic and scenic vistas and other features. This section will illustrate examples of adaptive reuse, context sensitive design, and methods to promote partnership in the Highlands Region.

FINANCIAL COMPONENT

This component will illustrate the costs and benefits of implementing the RMP including a discussion of the economic, social, and environmental benefits of resource protection and smart growth principles, to address the following provisions of the Highlands Act:

Detail “the (potential) cost of implementing the regional master plan, including, but not limited to, property tax stabilization measures, watershed moratorium offset aid, planning grants and other State aid for local government units, capital requirements for any development transfer bank, payments in lieu-of-taxes, acquisition, within five years and within 10 years after the date of enactment of this act, of fee simple or other interests in lands for preservation or recreation and conservation purposes, compensation guarantees, general administrative costs, and any anticipated extraordinary or continuing costs.” Highlands Act, N.J.S.A. 13:20-11a.(2)(a); and

“the sources of revenue for covering such costs, including, but not limited to, grants, donations, and loans from local, State, and federal departments, agencies, and other governmental entities, and from the private sector” Highlands Act, N.J.S.A. 13:20-11a.(2)(b).

The financial component will include an evaluation of the cost of implementation of the RMP, including, but not limited to property tax stabilization measures, watershed moratorium offset aid, planning grants to municipalities and counties, State aid for local government, capital requirements for land acquisition to address the equity concerns of affected land owners, payments in lieu of taxes, general administrative costs, other anticipated extraordinary or continuing costs; and revenue sources.

Specifically, the framework for the Financial Component RMP will include the following information:

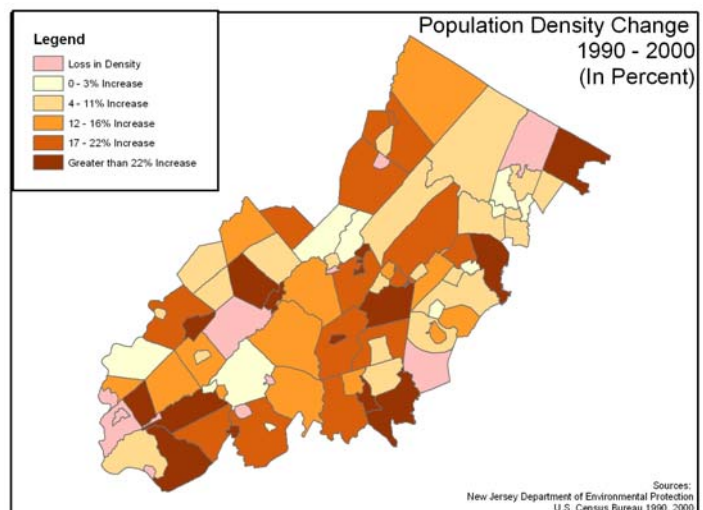
- [Cash Flow Timetable](#)
- [Financial Impact Assessment](#)

Financial Analysis Program Element Framework

Although the Highlands Act is primarily a resource protection and planning initiative, it includes several important financial requirements. A financial component, including a cash flow timetable that will provide an understanding of the economic implications of the Act and the RMP, are mandated. The scope of this section of the RMP will address the following:

Cash Flow Timetable - The anticipated cost to implement and administer the RMP will be evaluated in this section. This program element will reflect the regional and municipal costs and revenues associated with the implementation of the RMP. Values will be assigned to select economic indicators considering existing State formulas or creating new formulas with data from historical trends and changes in baseline economic indicators. Using these values, the Council will consider how each variable will change over time and what the resulting economic cost/benefit is to the Highlands Region. This section will also discuss two major issues surrounding the RMP – the economic benefits of open space preservation and the affect of land use changes on property taxes.

Fiscal Impact Analysis - A fiscal impact analysis, incorporating the data created by the build out analysis to gauge the overall effects of different land use scenarios within the Highlands municipalities, will be included. It will analyze different possible trends and correlations in property tax burdens within the 88 Highlands municipalities. It will also describe the components of property taxes and the factors that influence changes in property tax burdens. This analysis will also include an analysis of infrastructure impacts such as those related to education, transportation, recreation, and commerce.



These two sections of the financial program element will inform planning assessments and calculate the possible economic outcomes of various land use policy decisions by the Highlands Council.

Preliminary RMP information available for public release includes:

- [Preliminary Baseline Economic Indicators](#)
- [Technical Approach for Conducting a Financial Impact Assessment](#)

LOCAL PARTICIPATION AND OUTREACH COMPONENT

Public participation was fundamental to the development of the [Scope of the RMP](#) so that it would be as comprehensive and scientifically robust as possible. Ensuring public input to the RMP development process has been advanced on three fronts through what the Highlands Council's "[Partnership](#)" (a county/municipal advisory group consisting of elected and appointed officials throughout the Highlands Region), the "**Network**" (members from the general public and other interested stakeholder groups), and our [Technical Advisory Committees](#) or TACs.

The local participation component includes:

- Details of the Partnership meetings and Network involvement, designed to capture the input of local and county government representatives and the general public during RMP development
- Details of the Technical Advisory Committee input process, designed to reach out to the broader technical community and tap a range of expertise regarding RMP areas of inquiry.

The RMP will address these public participation and outreach efforts undertaken during the planning process leading to adoption of the RMP, as well as how these efforts will continue during RMP conformance and implementation.

Preliminary RMP information available for public release includes:

- [Highlands Municipal and County Spring Partnership Report \(2005\)](#)
- [Highlands Municipal and County Fall Partnership Report \(2005\)](#)
- [Technical Advisory Committee \(TAC\) Meeting Summary Reports \(Summer 2005\)](#)
- [The RMP Scoping Document \(January 2006\)](#)
- [Response to Comments Received on The RMP Scoping Document \(May 2006\)](#)
- [TAC Charrette Work Books](#)
- [TAC Charrette Report \(May 2006\)](#)

COORDINATION AND CONSISTENCY COMPONENT

The RMP will promote consistent standards through proactive statewide coordination of related programs, such as the State Development and Redevelopment Plan, affordable housing plans and obligations, land preservation initiatives, resource protection and land use regulation programs.

Consistency is particularly important with those programs related to water supply availability, water quality, biodiversity conservation and infrastructure capacity needed to handle growth. The coordination and consistency component includes:

- Institutionalizing a strategy for coordinating policy and planning efforts in the Highlands with local, State and Federal programs so as to promote the goals, purposes, policies, and provisions of the RMP
- Detailing how land, water and infrastructure investments managed by governmental or other entities in the public interest within the Highlands Region may be integrated.

In order to properly implement the goals of the RMP, there will be a need for ongoing coordination between the Highlands Council and the following State agencies:

- Department of Environmental Protection
- Department of Agriculture
- Department of Commerce
- Department of Transportation
- State Planning Commission
- Council on Affordable Housing
- Department of Treasury
- Board of Public Utilities

The RMP will serve as the foundation to facilitate continued coordination among Federal, State, and local agencies, boards and commissions.

