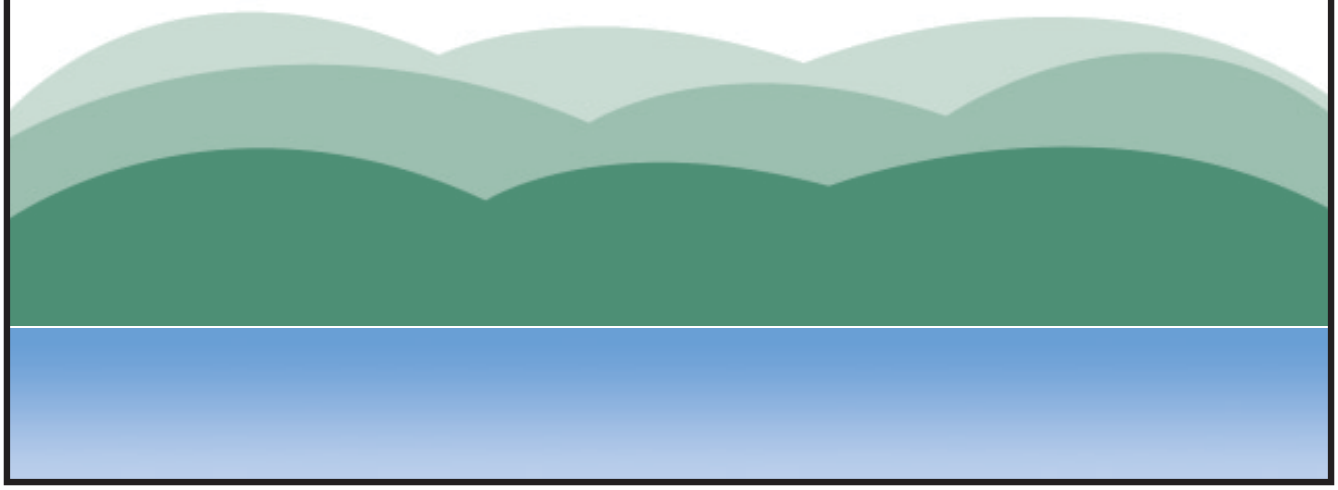
Highlands Task Force
ACTION PLAN

RECOMMENDATION TO PRESERVE NEW JERSEY'S HIGHLANDS

A Report to Governor James E. McGreevey
and the New Jersey Legislature
March 2004



INTRODUCTION

On September 19, 2003, Governor James E. McGreevey signed Executive Order No. 70 creating the Highlands Task Force and charging it with making recommendations to preserve the natural resources of, and enhance the quality of life in, the Highlands region. In particular, the Task Force was charged with examining the following topics:

- Protection of water quality, drinking water supplies, wetlands, critical plant and wildlife habitat, vegetated stream corridors, and contiguous forests;
- Identification of methods to protect and preserve open space and natural resources of the Highlands region;
- Identification of methods to enhance farmland preservation and support the agriculture industry in the Highlands region;
- Identification of methods to promote historic, cultural, scenic and recreational resource opportunities that preserve the natural features of the Highlands region; and
- Provision of smart-growth opportunities, including economic development and redevelopment in the Highlands region through regional planning, including coordination of transportation infrastructure investments and administrative agency activities, consistent with the State Development and Redevelopment Plan.

The members of the Task Force are as follows:

- Bradley M. Campbell, Commissioner, New Jersey Department of Environmental Protection, Co-Chair
- Susan Bass-Levin, Commissioner, New Jersey Department of Community Affairs, Co-Chair
- Malcolm A. Borg, Member, Palisades Interstate Park Commission; Citizen Member
- Michele S. Byers, Executive Director, New Jersey Conservation Foundation;
- Denise Coyle, Freeholder Director, Somerset County
- Lois A. Cuccinello, Freeholder, Passaic County

- David Epstein, Executive Director, Morris Land Conservancy
- Thomas A. Gilbert, Executive Director, Highlands Coalition
- Thomas J. Gilmore, President, New Jersey Audubon Society
- Tammie Horsfield, Sussex County Chamber of Commerce
- Charlie M. Kuperus, Secretary of Agriculture
- Jack Lettiere, Commissioner, New Jersey Department of Transportation
- John Polhemus, Farmer, Citizen Member
- Joe Riggs, Region President, K. Hovnanian;
- Jack J. Schrier, Freeholder Director, Morris County
- Eileen Swan, Mayor, Lebanon Township
- Valerie Vainieri Huttle, Freeholder, Bergen County
- Frank C. Van Horn, Mayor, Knowlton Township
- Rev. Dr. William D. Watley, Secretary of New Jersey Commerce and Economic Development Commission

The Task Force met and reviewed a variety of technical reports and presentations prepared by Rutgers University, the U.S. Forest Service, the Regional Plan Association, New Jersey Water Supply Authority, North Jersey District Water Supply Commission, and the staffs of the Task Force and State agencies. These reports and technical information provided the Task Force with detailed information on the resources in the Highlands region, and the tools that could be utilized to achieve appropriate land acquisition, regional planning and regulatory authority to protect these vital resources in the Highlands.

The Task Force actively sought public input to assist it in performing its work. It created a Web site (www.savethehighlands.org) and there posted information about the Highlands, the Task Force and its work. The Task Force held public hearings in Morristown and Mahwah. It solicited and received comments from the Web site and posted a questionnaire on the Highlands. The Task Force also invited planning representatives from the Highlands' counties and municipalities to address the Task Force.

This action plan presents the Task Force's recommendations to the Governor and Legislature.

RECOMMENDATIONS

> *"The Highlands' watersheds are the best in the State in respect to ease of collection, in scantiness of population, with consequent absence of contamination; in elevation, giving opportunity for gravity delivery, and in softness as shown by chemical analysis. These watersheds should be preserved from pollution at all hazards, for upon them the most populous portions of the State must depend for water-supplies. There has been too much laxness in the past regarding this important matter."*
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> -- Report of the Potable Water Commission, 1907 (to investigate the practicability and probable cost of the acquisition by the State of water supply lands).

The New Jersey Highlands is a 1,250 square-mile area that stretches across the northwestern part of the State. The Highlands is noted for its rugged hills, lush forests, pristine streams and lakes, and large, undeveloped scenic lands. The region extends from Phillipsburg in the Southwest to Mahwah in the Northeast. It lies within portions of seven counties (Hunterdon, Somerset, Sussex, Warren, Morris, Passaic and Bergen) and 90 municipalities. (Appendix A).

The Highlands is a region of abundant natural, historical and cultural resources. (Appendix B). The water resources of the Highlands have long been recognized as the Highlands' most valuable resource (U.S. Forest Service Report 2002). Over half of New Jerseyans get their drinking water from the Highlands. The municipalities in the Highlands derive 100% of their water from the Highlands. Outside the Highlands, more than 900,000 people in urban areas such as Newark and Jersey City get their water from the Highlands as do more than 800,000 people in Somerset, Mercer, Middlesex and Union Counties. Overall, drinking water sources in the Highlands yield almost 400 million gallons per day.

In addition to drinking water, there are a number of other important resources in the Highlands. (Appendix B) In fact, the Highlands has the greatest diversity of natural resources of any region of the State, with the U.S. Forest Service classifying 70% of its lands as environmentally sensitive. The Highlands region has 370,000 acres of forested land. Much of these forests remain in large, unfragmented pieces, some exceeding 5,000 acres in size. The area has tremendous biodiversity. Its extensive forests, wetlands and streams harbor more than 30 of the State's threatened and endangered species. The Highlands -- with almost 175,000 acres of preserved open space -- provide fresh air, open space and recreation for all New Jerseyans and for 20 million visitors throughout the metropolitan New York area. There are more than 92,000 acres of agricultural lands in the Highlands, including 9,550 acres that have been permanently preserved in the Farmland Preservation program. (Appendix C) The Highlands also contains some of the State's most valuable historical and cultural sites, including sites from the Revolutionary War, New Jersey's early

industrial age and the Native American era. All of these resources provide an unsurpassed quality of life in the region. Due to the unique significance of the Highlands region, the area has been designated a Special Resource Area in the State Development and Redevelopment Plan and an area of national significance by the U.S. Forest Service.

Unfortunately, the Highlands is at great risk. (Appendix B). Its natural resources are threatened by current trends in population growth, construction and sprawl. Population growth is increasing in the Highlands at a rate nearly 50% faster than the Statewide rate. Recent land use changes document an increase in large-lot residential subdivisions, increased deforestation and forest fragmentation, and decreased number of large working farms. The Highlands is increasingly at risk of being devoured by sprawl. Within the five-year period between 1995 and 2000, the Highlands lost -- perhaps forever -- 17,000 acres of forest and 8,000 acres of farmland. Growth pressures continue in the region with the trend for land consumption expected to average 3,000 acres every year. The Highlands' natural resources are largely controlled by thousands of private landowners and 90 municipalities' individual land use and planning systems. A regional approach for Highlands regional planning does not currently exist.

Unless these trends are altered and an effective regional approach to the Highlands adopted, the harm to the Highlands will be severe and permanent. We risk damaging our most significant source of vital drinking water. We face the loss of our remaining forests, our habitat for wildlife, our open space, our recreational opportunities, our farmland, our historic and cultural heritage and our very quality of life.

Failure to act will also cause severe economic hardship to the State. Over-development will degrade the quality of Highlands' drinking water that is now among the purest in the State. Were this to happen, the government would have to fund construction of costly new water treatment plants, upgrades to existing plants, and improved chemical processes to adequately treat the drinking water. The North Jersey District Water Supply Commission, which treats 150 million gallons of Highlands' water per day, estimates that by 2054 its water treatment costs will reach approximately $30B if policies continue unchanged. In addition, we need to preserve the natural character of the region upon which the Highlands' tourism industry depends. We need the economic benefit that land values enjoy when there is preserved open space and farmland nearby. Finally, directing development from environmentally sensitive lands to areas with adequate infrastructure such as roads, sewers and schools promotes "smart-growth" and keeps municipal costs down. (Appendix D)

Immediate action is necessary. The significance of Highlands' drinking water, large forested areas, biodiversity, and recreation opportunities has been extensively documented. (See e.g. US Forest Service Studies in 1992 and 2002.) Further studies are not needed. Now is the time for action. We must preserve and protect the Highlands.

To that end, Governor McGreevey charged the Task Force, through Executive Order 70, to make recommendations intended to preserve the natural resources of and enhance the quality of life in the Highlands region.

The Task Force believes bold action is needed and thus has fashioned its recommendations as an immediate action plan. The focus of the action plan is on identifying and providing protection for a Preservation Area within the overall Highlands Area. Based on the extensive work of the U.S. Forest Service and Rutgers University, as updated, the most important environmental lands are being identified. This Preservation Area should total between 350,000 and 390,000 acres (a little less than half of the approximately 800,000 acres that comprise the entire Highlands region). The Preservation Area should be protected through a variety of mechanisms, including, but not limited to: enhanced environmental regulations; a transfer of development rights program and regional planning; and the acquisition of land and development rights.

Proactive land use planning for the entire Highlands region should be achieved through a regional master plan established through the creation of a Highlands water protection and regional planning council. The council's authority would be mandatory in the Preservation Area and advisory outside of it. Outside the Preservation Area, there should be incentives to encourage municipalities to conform to the regional master plan and to encourage "smart-growth."

Because this action plan needs to be both meaningful and supportable by the public and stakeholders, the Task Force and its staff went to considerable lengths to involve the public and stakeholders in the Task Force process. Out of those interactions, the Task Force has designed specific, practical recommendations to preserve and protect the Highlands that can find support from a diverse base. The Task Force strongly urges the Governor and Legislature to take all steps necessary to immediately implement the following recommendations:

1. Identify a Preservation Area in the Highlands

- The Highlands region is almost 800,000 acres in size.
- The most sensitive environmental lands must be protected in a Preservation Area.
- This process should begin with the natural resource data sets assembled by the U.S. Forest Service and Rutgers University and updated by Rutgers University and the New Jersey Water Supply Authority as part of their work with the Task Force.
- Primary consideration should be given to lands that provide drinking water for reservoirs and large forested tracts adjacent to those lands.

- These lands should be connected to preserved open space through other environmentally sensitive lands, given the importance of establishing a Preservation Area that is contiguous and has well-defined boundaries, and given the need to link water supply and large forested lands with permanently preserved open space. State Plan designated centers should be excluded from the Preservation Area.

- Because it is not possible to connect all environmentally sensitive lands, there will be environmentally sensitive lands that cannot be linked in a Preservation Area. These areas should be accorded separate protection provided in separate recommendations herein.

- The scientific data reviewed by the Task Force indicates that the Preservation Area should be between 350,000 and 390,000 acres.

- The data further indicates that approximately one-third of the Preservation Area is unprotected from future development, a little less than half of it is already preserved and the remaining fraction is already developed.

- The Task Force recognizes that there will be further refinements as the identification of the Preservation Area is finalized.

- Once the Preservation Area is identified, its boundaries should then be translated from the natural resource data sets to on-the-ground points (such as street-to-street descriptions; municipal boundaries; survey lines etc.) that are required in order for the Preservation Area boundaries to be enacted by statute.

- The Department of Environmental Protection should be directed to identify the lands and establish the boundaries in accordance with the methods and scientific standards set forth in these recommendations.

- The Legislature should then designate the Preservation Area boundaries by statute.

- The Preservation Area should be protected through a variety of mechanisms, including, but not limited to: enhanced environmental regulations; a transfer of development rights program and regional planning; and the acquisition of land or easements (see details of each below).

2. <u>Enhance environmental protections in the Preservation Area</u>

- The Legislature should authorize and direct the DEP to establish regulatory standards in the Highlands Preservation Area. Notwithstanding the provisions of the Administrative Procedures Act, the proposed

standards should take effect upon the filing of notice with the Office of Administrative Law. The regulations should thereafter be amended, adopted or readopted as necessary in accordance with the requirements of the Administrative Procedure Act. The regulatory standards should establish limitations on the following: steep slopes; impervious cover; septic installations; waste-water treatment extensions; avoidance, minimization and mitigation requirements relative to forests; buffers on fresh water wetlands; water allocation threshold; and no net-fill relative to stream encroachment in the Highlands.

- In the preparation of these regulations, the DEP should consult with the Department of Agriculture (NJDA), Department of Community Affairs, and the State Planning Commission.

- The authority conferred upon the DEP would include the authority to develop a unified Highlands approval that would incorporate multiple DEP land-use approvals.

- After the Highlands drinking water protection and regional planning council is established, DEP should consult with the Highlands water protection and planning council (see Recommendation #3) (hereinafter "Council") concerning its rules and regulatory programs.

- The Legislature should provide that no State approvals related to development shall be issued after the effective date of the legislation until the above-described regulations have been promulgated.

- Any legislation authorizing additional regulatory authority should provide for "hardship waivers" that address single unit family dwellings and provide for redevelopment areas where development already exists as approved by the Council and should also provide a "grand fathering" provision.

3. **Create a Highlands drinking water protection and regional planning council**: The State should create a council to protect the Highlands sources of drinking water and to serve as a regional planning entity for the Highlands region. The Council should have the following attributes:

- Local participation: The Council should be comprised of elected local and county officials and citizens. There should be fifteen members in all, with the elected local and county officials comprising a majority. All seven Highlands' counties should be represented on the Council either by a county or local elected official. The Council should establish a mayoral or municipal advisory body to advise the Council.

- Independence: The Council should have independent authority and its own professional staff. It should be an "in but not of" entity allocated within a Department in State Government.

- Watershed Aid and other Municipal Aid: There should be provision for watershed aid and other municipal aid recognizing tax losses resulting from state acquisition of lands in the Preservation Area (e.g. planning grants to conform master plans and zoning in the Preservation Area) for municipalities in conformity with the regional master plan. (See "Benefits" and "Incentives" below under this Recommendation.)

- Regional Vision & Planning:

    - Within 18 months of its first meeting, the Council should create a regional master plan for the entire Highlands region in order to provide proactive, comprehensive planning that "looks across" town boundaries.

    - The regional master plan should seek to preserve the natural resources of the Highlands and enhance sustainable economic growth and quality of life in the region by:

        - Protecting water quality, drinking water supplies, wetlands, critical habitat for plants and animals, vegetated stream corridors; contiguous forests; steep slopes;

        - Protecting and preserving open space and natural resources;

        - Preserving farmland and keeping agriculture viable and prosperous in the region;

        - Promoting historic, cultural, scenic and recreational resource opportunities that preserve the natural features of the region;

        - Identifying preservation zones within the Preservation Area where development would not occur in order to protect water resources and other highly sensitive environmental lands that should be permanently preserved through a variety of tools, including acquisition and transfer of development rights;

        - Identifying special critical environmental areas in high-resource-value lands outside the Preservation Area and developing voluntary standards and guidelines for their protection;

        - Accept petitions from municipalities to designate special "critical environmental areas" in high-resource-value lands outside the

Preservation Area and developing voluntary standards and guidelines for their protection;

- Analyzing population and employment trends;
- Analyzing the capacity for future growth in the region based upon water and other natural resource constraints.
- Establishing appropriate development densities (including the establishment of greater densities where growth should occur and lesser densities where it should not);
- Considering existing infrastructure, such as sewer lines already in the ground, when considering where to encourage growth and re-development; and
- Creating a regional transportation plan (developed in consultation with NJDOT and other appropriate agencies) that is consistent with these goals and takes into consideration transportation needs, land use patterns inside and outside the Highlands, and safety issues.

- The Council should be required to create a planning process that examines existing local efforts, involves local entities, and provides for public hearings that maximize public participation.
- The Council's planning analysis should start with the consideration of State regulatory requirements, the State Plan, county and local plans, federal, state and private studies of the region, and an analysis of the carrying capacity for future growth in the region based upon water and other natural resource constraints.

- Transfer of development rights: The Council should be authorized to operate Highlands-wide transfer of development rights ("TDR") programs to establish sending areas and may enter into agreements with municipalities to establish receiving areas outside the Preservation Area. Incentives and municipal aid should be increased for municipalities outside the Preservation Area that receive more residential development under the regional master plan. Other initiatives to encourage municipalities to accept higher densities should include access to a Highlands' capital infrastructure fund, compensation for school districts that accept more growth and access to impact fees. The Council should be authorized to function as a TDR bank or use the existing State TDR bank for administrative purposes. In either case, the Council should have exclusive control over operation of the TDR program. The TDR program should be created utilizing a portion of funds from the existing state TDR

bank. The Council should seek to ensure that the TDR credits are viable in the receiving areas (in that regard, the Council should consult with the State TDR Bank directors for their experience with this issue).

- Funding: There should be an adequate funding source for the Council's regional planning and oversight of local approvals.

- State Plan: The Council should create the regional master plan in consultation with the State Planning Commission. The State Planning Commission can update the State Plan as appropriate as a result of that consultation. Ultimately, the Highlands regional master plan and State Plan should be consistent. Consistency with the State Plan should not add an additional layer of bureaucracy: the regional master plan can satisfy the municipalities' obligations of cross-acceptance; the development of the regional master plan should benefit from the planning that has already been done by the counties as part of their on-going planning process. For towns seeking endorsement both in and out of the Preservation Area, the Council should consider all applications on a holistic basis and prioritize them.

- Regulations: Unlike the Pinelands Commission, the Council should not have the authority to promulgate its own environmental regulations.

- In the Preservation Area: The Council's authority (planning, zoning and review) should be mandatory.

    - Conformance: The towns' master plan and development and land-use ordinances should have to conform to the regional master plan or the regional master plan should be imposed on them. The Council should establish a conformance process. Where a municipality is certified to be in conformance, the municipality should review all land-use applications. The Council should establish procedures for getting notice (of land-use applications, including approvals and variances, and changes to the certified master plan, and development and land use ordinances) and intervening. The Council should have the discretion to review any application if the development involves 1 acre or more of impervious cover or 2 acres or more of disturbance. Individuals should be able to notify the Council of projects, raise compliance issues and petition the Council to intervene. The Council should establish a procedure for evaluating agricultural development applications in order to recognize agricultural viability. The Council should have the authority to deny upon majority vote. The Council should also have the discretion to revoke the conformity determination. Prior to conformance and if the conformity determination is revoked, the Council should have the authority to review all local approvals, variances, changes to the certified master plan development and land-

use ordinances. Nothing should prevent a municipality from enacting zoning standards that are stricter than the regional master plan.

- Redevelopment: The Council should work with municipalities to identify previously developed appropriate areas for redevelopment. Prior to adoption of the regional master plan, the Council may approve appropriate municipal redevelopment areas that it determines to be in conformance with the DEP's rules and consistent with the statutory goals for the Preservation Area.

- Enforcement: The municipality should have the authority and obligation to enforce planning and zoning standards/decisions. The Council should have independent enforcement authority.

- Government Construction Projects: The Council should be authorized to review and approve or disapprove state, county and local projects that involve 1 acre of more of impervious cover or 2 acres or more of disturbance. Where the Council disapproves of a State construction project, the Commissioner of the appropriate State agency should only be authorized to override the disapproval based on health, safety or welfare concerns.

- Benefits: Municipalities certified to be in compliance with the regional master plan should be entitled to the following benefits: (1) presumption of validity for zoning and land-use challenges where municipality is in conformance (provide via legislation that courts shall give great deference to municipalities that are certified to be in conformance with the Highlands regional master plan); (2) legal shield provided by the Attorney General; (3) planning assistance (including to update a town's COAH plan in response to regional planning by the Council); (4) State aid, including, but not limited to, aid for "smart-growth" projects (see State Plan's new guidelines listing the benefits a town gets for plan endorsement). Additional benefits should be devised.

- Preservation Zones: The Council should be authorized and directed to establish preservation zones -- areas where no new development projects would be permissible -- based primarily on source water protection but also upon consideration of forest, biodiversity and other environmental values. This authority is instrumental for the Council to be able to develop an effective TDR program.

- Affordable Housing: Once the Council has created the regional master plan, towns should have the opportunity to return to the Council on Affordable Housing, while retaining their protective status, to amend their COAH plan.

- Outside the Preservation Area: The Council's authority should be advisory.

    - Advisory Powers: Outside the Preservation Area, the Council should not have the power to require municipalities to conform to the regional master plan. Towns should review all land-use applications and enforce planning and zoning decisions.

    - Incentives: There should be incentives to encourage municipalities to conform their local master plans to the Highlands regional master plan (i.e. "opt in"). Specifically, if a municipality comes into voluntary conformance, it should be eligible to receive the "benefits" set forth above to which Preservation Area municipalities are entitled.

    - Opting In: The process for opting in should be as follows: The municipality would petition the Council; upon the Council's determination that the municipality's local master plan and development and land use ordinances are in conformance with the Highlands regional master plan, it would grant the petition. The duration of the opt-in shall be coextensive with the local master plan cycle (currently six years). Because a town may reap substantial benefits from the State while it is opted in, there should be a cost if the town decides not to opt in again at the start of a new local master plan cycle. These provisions should be made clear to municipalities up front in the "opt-in" process.

    - Council's Role Outside the Preservation Area: In addition to the specific review authority described above, the Council should have the following role: (*) Land-use and zoning: The Council should be empowered to comment on land use applications, development and land use ordinances, permitting and enforcement issues; (*) Government Construction Projects: The Council should be authorized to do a "courtesy" (i.e. non-binding) review of State, county and local construction projects that would not interfere with the delivery of the project; (*) Model Ordinances: The Council should create model ordinances as resource materials for municipalities outside the Preservation Area on a range of environmental issues and development practices (including, but not limited to, steep slopes, clustering and impervious surfaces); the Council should also work with those municipalities to adopt the ordinances; (*) Densities: The Council should also work with municipalities to enter into agreements for appropriate, capacity-based densities (this may include appropriate higher densities to support transit villages or in State Plan endorsed centers); (*) Special Critical Environmental Areas: Municipalities should be authorized to petition the Council to designate lands as special,

critical environmental areas. The Council should work with municipalities to implement any such designations.

4. <u>Enhance the land preservation program in the Highlands</u>

- While all of the lands in the Preservation Area are environmentally important, the State should target for preservation those lands that provide the greatest protection for drinking water and large forested areas. These lands call for the boldest action. There should be no further development in these lands. They should be permanently preserved. The State should seek to secure substantial funding for this purpose. In addition, the federal government, counties, towns and private land trusts should partner with the State to extend the effectiveness of those funds. The Council should provide advice to Green Acres and SADC with regard to potential purchases.

- Outside of the Preservation Area, significant efforts should be taken to preserve environmentally sensitive lands and agricultural lands. In the case of environmentally sensitive lands, this should include prioritizing land acquisition in these areas and in the case of agriculture it should include expanded farmland preservation efforts and cooperative programs to work with farmers.

- The Governor should direct State agencies to immediately commence measures to enhance the preservation program.

- There should be a provision for landowner equity: The purchase of land or development rights in the Highlands using Garden State Preservation Trust funds should require the appraisal to determine values at two points in time -- before and after DEP Highlands-specific regulations. This landowner equity provision should only apply to those who owned land in the Highlands as of the effective date of the legislation (however, there should be an exception for transfers to immediate family members and transfers from farmer-to-farmer).

- There should be provision for maintenance of lands acquired for preservation in the Highlands. DEP should evaluate acquisitions and existing holdings to determine how they should best be held in order to protect water, forest habitat and other environmental values. In this regard, DEP should determine if land should be afforded "scenic and wild" designation.

- DEP and the NJDA should convene a "Highlands Land Summit" as soon as possible. The Summit should include the DEP Commissioner, Secretary of Agriculture and their respective Green Acres and SADC heads, county and local officials, and nonprofit entities. The Summit

should seek to (1) get the federal government, counties, towns and private land trusts to partner with the State to extend the effectiveness of State acquisition funds; (2) identify and discuss land preservation and coordinate an improved Highlands-wide land preservation effort; (3) identify and discuss possible improvements in the Green Acres and SADC process that will benefit all participants, including, but not limited to, identifying ways to reward municipalities with open space acquisition programs and provide incentives for municipalities without programs to adopt new ones; and (4) discuss and identify solutions to land maintenance and operational issues.

- Issues the Highlands Land Summit should explore are: (1) Improved coordination between DEP and NJDA to develop a standardized, cooperative program for partnering Green Acres with Farmland Preservation planning and land acquisition for the Highlands; (2) Designate staff liaisons to meet regularly to foster communication and cooperation and share mapping resources in the Highlands; (3) Simplify the application and review process so that interested applicants need only fill out one application (and undergo only one set of appraisals) rather than having to file applications with both Green Acres and SADC; (4) Coordinate outreach and education to the agricultural community, County Agriculture Development Boards and local governments; and (5) Both DEP and NJDA should work cooperatively to support a revision of the tax code to relieve from state capital gains tax the value of the easements or fee simple purchased under both the Green Acres and Farmland Preservation programs.

5. **Mobilize state agencies into concerted action to protect the Highlands**: State agencies should examine how State aid, assistance and incentives can be used to encourage the protection of natural resources and promote smart-growth.

- New Jersey Department of Environmental Protection: In addition to the enhanced regulations and review in the Preservation Area, the DEP should use its existing authority to take appropriate measures to protect the Highlands.

    - Provide incentives for Green Acres acquisitions in the Highlands.

    - Green Acres should prioritize funds for acquiring open space in the Highlands.

    - Evaluate all waterways to determine if they are appropriate for C1 status.

- Encourage the use of low interest Environmental Infrastructure Trust loans for smart-growth infrastructure and preservation.

- Devise a program to address failing septics in the Highlands.

- Prepare a specific plan to protect and clean up the Highlands' lakes that are a critical part of the recreational value of the region.

- Expand programs like the Forest Stewardship Program to both public and private landowners that will be critical in preserving forest health.

- Evaluate and protect the historical and historical resources in the Highlands.

- Review and evaluate the black fly program along the Delaware River to ensure recreation and quality life in the area.

- New Jersey Department of Agriculture:

  - The State Agricultural Development Committee should hold separate, additional rounds with enhanced funding specifically for Highlands' farms, using a ranking system that reflects the goals of preserving drinking water quantity and quality, protecting forests and wildlife habitat, and the protection of other environmental resources.

  - With regard to land acquisition in the Highlands, NJDA and DEP should coordinate their efforts.

  - NJDA and SADC should provide incentives for agricultural conservation practices that improve water quality and provide other environmental benefits (for both preserved and non-preserved farms in the Highlands).

  - Local municipalities and counties should partner with the NJDA to increase the cost-share on conservation incentive grant programs, such as the State Agricultural Development Committee's ("SADC") soil and water cost-share program. Every Highlands' county and 53 of the 90 Highlands' municipalities have instituted their own separate open-space tax. While additional research is required to identify the limitations in the application of each fund, the potential to apply a portion of this revenue source for conservation planning should be explored.

  - Expanding programs like the Forest Stewardship Program to both public and private landowners will be critical in preserving forest health.

- NJDA, along with the County Agricultural Development Boards and the SADC, should comment on any proposed DEP Highlands' regulations.

- Soil Conservation Districts should increase outreach and assistance for Highlands' farmers and communities to support the goals described in these recommendations.

- The NJDA should develop fact sheets for both farmers and local governments, offering helpful site management and building-code compliance information to accommodate agro tourism.

- The NJDA should work with local and county governments to establish at least two farmers' markets in the Highlands.

- New Jersey Department of Community Affairs:

  - Provide technical assistance to the Council to ensure that the regional master plan is consistent with the State Plan Policies and goals.

  - Prioritize funding for smart future planning grants for smart-growth development and redevelopment within the Highlands to promote center-based development and smart-growth designs.

  - Update list of available state benefits available for endorsed plans and for plans consistent with the Highlands regional master plan.

  - Prioritize various community development grant programs to benefit development areas designated by the Council in the Preservation Area.

- State Planning Commission:

  - The State Planning Commission should consult with the Council during the current cross-acceptance process so that decisions being made concerning the Highlands in the revised State Plan are considered by the Council in developing the regional master plan.

  - The State Planning Commission should consult with the Council on any petitions for plan endorsement or map amendments involving the Highlands that are submitted prior to the adoption of the regional master plan so that action by the State Planning Commission on such petitions is consistent with the decisions being made by the Council on the regional master plan. Provide in any approval of a plan endorsement petition that that endorsement is only valid until the petitioner is required to conform to the regional master plan.

- The Council should utilize the State Plan Development and Redevelopment Plan map for the purpose of recognizing centers designated by the State Planning Commission both inside and outside of the Preservation Area.

- Municipal plan implementation agendas established by the State Planning Commission as part of the center designation process should be recognized by the Council.

- Municipal center petitions and applications for plan endorsement filed by January 7, 2001 with the New Jersey State Planning Commission should be permitted to proceed through the State Planning process under the rules and regulations in place at the time of their submission.

- Municipalities located entirely within the Preservation Area that conform to the Council's planning standards should be entitled to all of the programmatic and regulatory benefits due to municipalities with plans endorsed by the State Planning Commission.

- Municipalities located partially within the Preservation Area that are determined by the Council to be in conformance with the regional master plan should receive prioritized consideration for Smart Future Growth grants by the Department of Community Affairs for the purpose of preparing a plan endorsement application to the State Planning Commission.

- New Jersey Department of Transportation:

  - Support the Council and Regional Master Plan: Re-evaluate transportation needs, growth potential and transportation projects in keeping with the transportation element of the Highlands regional master plan.

  - Integrate smart-growth principles into DOT's projects and planning in the Highlands: The project development process should continue to focus on transportation system preservation and recognize smart-growth principals and support the development of centers of place; projects should be screened for consistency with the transportation element of the Highlands regional master plan: capacity improvements should be consistent with the plan.

  - Scenic Byways: For officially designated scenic byways, control new billboard construction, encourage bicycle use, enhance scenic qualities, etc.

- Historic Bridge Preservation: Given their character-defining quality, provide a commitment to encourage and support local efforts to keep historic bridges in service without significant changes to the historical integrity of the structure.

- Explore environmentally friendly road maintenance alternatives.

- New Jersey Commerce and Economic Growth Commission: In coordination with the New Jersey Economic Development Authority, the New Jersey Commerce and Economic Growth Commission should:

  - Examine the potential of enhanced eco-tourism in the Highlands.

  - Develop an economic assistance program tailored to the Highlands region that focuses on eco-tourism and compatible recreation opportunities. This program should focus on identifying and cataloguing Brownfield sites, smart-growth areas and vacant commercial buildings that could contribute to business attraction, business retention, and job growth outside the Preservation Area.

- New Jersey Department of Education

  - The Department of Education should review all proposed school construction in the Preservation Area.

6. Collaborate with the other Highlands' States

- Recognizing that the New Jersey Highlands is a part of a greater Highlands area that spans several states, our Governor and Highlands Council should seek to work with the Governors, resource management agencies and local governments of the other Highlands' states (including the newly formed bi-state Ramapo River Watershed Intermunicipal Council) for our mutual benefit and that of the entire multi-state Highlands region.

7. **Take immediate action on these recommendations**

APPENDIX A

HIGHLANDS MUNICIPALITIES

BERGEN COUNTY

Mahwah

Oakland

HUNTERDON COUNTY

Alexandria

Bethlehem

Bloomsbury

Califon

Clinton Town

Clinton Twp

Glen Gardner

Hampton

High Bridge

Holland

Lebanon Borough

Lebanon Twp

Milford

Tewksbury

Union

MORRIS COUNTY

Boonton Town

Boonton Twp

Butler

Chester Borough

Mine Hill

Montville

Morris Twp

Morris Plains

Morristown

Mount Arlington

Mount Olive

Mountain Lakes

Netcong

Parsippany-Troy Hills

Pequannock

Randolph

Riverdale

Rockaway Borough

Rockaway Twp

Roxbury

Victory Gardens

Washington Twp

Wharton

PASSAIC COUNTY

Bloomingdale

Pompton Lakes

Ringwood

Wanaque

Byram

Franklin

Green*

Hamburg

Hardyston

Hopatcong

Lafayette*

Ogdensburg

Sparta

Stanhope

Vernon

WARREN COUNTY

Allamuchy

Alpha

Belvidere

Franklin

Frelinghuysen*

Greenwich

Hackettstown

Harmony

Hope*

Independence

Liberty

Lopatcong

Chester Twp	West Milford	Mansfield
Denville	**SOMERSET COUNTY**	Oxford
Dover	Bernards*	Phillipsburg
Hanover	Bernardsville	Pohatcong
Harding	Far Hills	Washington Borough
Jefferson	Peapack-Gladstone	Washington Twp
Kinnelon	**SUSSEX COUNTY**	White
Mendham Borough	Andover Borough*	
Mendham Twp	Andover Twp*	

**Municipalities not included in U.S.D.A. Forest Service 1991 Highlands Study*

APPENDIX B

HIGHLANDS NATURAL RESOURCES

New Jersey's Highlands region is a vital resource that provides significant environmental, economic and recreational benefits to the state. It is also an area at risk – with so many competing uses and issues that the very qualities that make the Highlands a unique area are under threat.

Comprising over 1,250 square miles running from the New York border to the Delaware River, the rapidly developing region includes part or all of 90 municipalities in seven counties, with a total municipal population of more than 800,000 people. More than 20,000 businesses are located in the Highlands' municipalities, employing over 350,000 people, or almost nine percent of the total payroll employment in New Jersey. The region is also home to valuable farmland and a thriving agricultural sector.

At the same time, the Highlands has vital natural resources and fragile ecosystems that are increasingly in jeopardy due to the tremendous pressures from population growth and economic expansion. More than half of all New Jersey's residents get their drinking water from Highlands' sources. The region is also home to more than 30 species of threatened or endangered animals.

According to some recent estimates, the combined New Jersey-New York Highlands could grow from its current population of approximately 1.3 million people to somewhere between 1.7 million and 2 million people if it reached maximum build-out. This population increase of 26 to 48 percent would place significant burdens on local resources, compromising the fundamental characteristics that make the region so important ecologically, as well as making it an attractive place to live and to work.

Thus, in developing any regional planning or preservation efforts that try to save the Highlands, it is important to examine the historic, recreational and natural resources that define the Highlands.

Water

The Highlands are first and foremost a significant source of drinking water for the State, both for residents in the area and for hundreds of thousands of residents outside the region. The majority of the state's reservoirs are located in the Highlands. In addition, the water resources of the Highlands provide natural benefits to aquatic communities and the ecosystems dependent on a steady source of good quality water.

Unless steps are taken immediately, however, these water resources will be imperiled from increasing development. Unregulated, development not only

brings new demands for water, but it also increases sources of pollution and runoff that can degrade water quality. Changing land use patterns destroy uplands and forests that help purify water as well as provide habitat for aquatic wildlife. Furthermore, increased development paves over land, preventing rainfall from recharging underground aquifers that supply well water to thousands of residents.

For residents outside the Highlands, the effects of unbridled growth will also be evident. Several reservoir systems within the Highlands serve communities outside the Highlands. For example, the City of Newark has a series of six reservoirs in the Pequannock system that supply the city with much of its water. The North Jersey District Water Supply Commission uses a system of reservoirs, including the 30 billion gallon Wanaque Reservoir (the state's second largest) and the 7 billion gallon Monksville Reservoir, to supply a quarter of the State's population. Some of those communities include Bayonne, Bloomfield, Cedar Grove, Clifton, Elizabeth, Elmwood Park, Fairlawn, Fairfield, Garfield, Glen Ridge, Haledon, Harrison, Hawthorne, Kearny, Lincoln Park, Little Falls, Lodi, Montclair, Newark, North Arlington, North Caldwell, Nutley, Passaic, Paterson, Ringwood, Totowa, Upper Saddle River, Verona, Wallington, Wayne, West Orange and West Paterson. Jersey City's two reservoirs (Splitrock and Boonton) are also Highlands' reservoirs serving northeastern New Jersey. Central New Jersey is also dependent on the Highlands, with the New Jersey Water Supply Authority's Round Valley and Spruce Run Reservoirs (the largest and third largest reservoirs in New Jersey) being in Highlands' municipalities.

With all these developments and increased demands for water from outside the Highlands, local stream and water systems in the Highlands are under increasing strain. The current system of water transfers from New Jersey's reservoirs in the Highlands results in an average stream flow loss of more than 200 million gallons of water a day (MGD) during low rainfall periods. On top of this transfer of water out of the region, Highlands' water systems present development within the Highlands helps to diminish local stream flow by an estimated 35 MGD.

Some projections estimate that full build-out and development in the Highlands region should result in an additional loss of 14 MGD. As these stream flow losses increase, the effects on the availability of water in the region's reservoirs, water quality, and ecological resources will only become more pronounced. Increased drought emergencies are probable. Thus, the time for action in protecting these critical water resources is now.

Geology, Topography and Precipitation

The Highlands region in New Jersey is made up of Precambrian gneisses, igneous rocks and the Green Pond Outlier, a belt of Paleozoic age sedimentary rocks. Some of the rock formations are among the oldest in the state.

The region's Precambrian aquifers do not generally produce large yields of water, except in cases where wells are hydraulically connected to streams or where wells intercept major fault zones. Due to the natural limits of the ground water supply, the New Jersey Department of Environmental Protection (DEP) has had to place constraints on new wells in some areas that have been experiencing significant development over the last decade. The Highlands does have some good aquifers (e.g., glacial sediments in buried river valleys, and limestone formations in valley areas) but many of these are heavily used for local water supply purposes.

The Highlands' topography consists of hilly uplands dissected by major streams. Due to the higher slopes and the thin soils of the region, stream flow changes markedly depending on rainfall patterns. Average annual precipitation is 50 inches; however, as little as 30 inches of rainfall may occur during extreme drought.

Surface and Ground Water

There are several major watersheds either fully within or comprising large land areas within the region, including the Musconetcong, Pequest, Passaic/Ramapo, Upper Raritan and Wallkill river basins. In addition, some of the Hackensack River watershed is in southern New York State before it flows into Bergen County. Major surface waters in the Highlands total over 30,000 acres; wetlands total over 80,000 acres. While the geological characteristics of the region place constraints on ground water withdrawals, these same characteristics are conducive to large amounts of water running off into the Highlands' reservoirs.

The Highlands is home to the majority of New Jersey's reservoirs. These include the North Jersey District Water Supply Commission's Wanaque/Monksville Reservoirs; the NJ Water Supply Authority's Round Valley/Spruce Run Reservoirs; Jersey City's Boonton/Split Rock Reservoirs; and the City of Newark's six Pequannock reservoirs. Together these systems possess approximately 231 billion gallons of storage capacity that provides a combined safe yield of 439 million gallons of water a day (MGD).[1] In addition, the Oradell Reservoir in the Hackensack River watershed, while out of the Highlands, benefits from Highlands' supplies during droughts through a connection with North Jersey District Water Supply Commission.

These reservoirs have been created in the region over a century, primarily to preclude the water supplies for urbanized areas of the state being affected by human activities. Indeed, the City of Newark acquired much of its reservoir system's watershed to protect the drinking water supply. The region's reservoirs are of great importance in ensuring an adequate drinking water supply, especially

[1] Safe yield is the amount of water that can be provided during a severe drought.

during drought. These reservoirs provide drinking water to 2.1 million people in the northeastern and central portions of New Jersey.

Using information from the 1996 NJ Statewide Water Supply Plan, we estimate that the Highlands region also possesses approximately 150 MGD of ground water, most of which is dedicated to supplies for Highlands' municipalities. Combined with the reservoir supply, the Highlands overall has a water supply of approximately 589 MGD.

Water Demand and Uses

There are nearly 1,100 withdrawals that have water allocations of various sizes throughout the region, of which approximately 700 are potable supply wells.

A total of approximately 16 billion gallons annually or about 416 MGD of water are withdrawn from the Highlands region (see Table 1 below). As Table 1 shows, overall water withdrawals in the region have not significantly increased during the previous decade. However, withdrawals do substantially increase during dry years, as experienced during the droughts of 1990-1991, 1995 and 1998-1999.

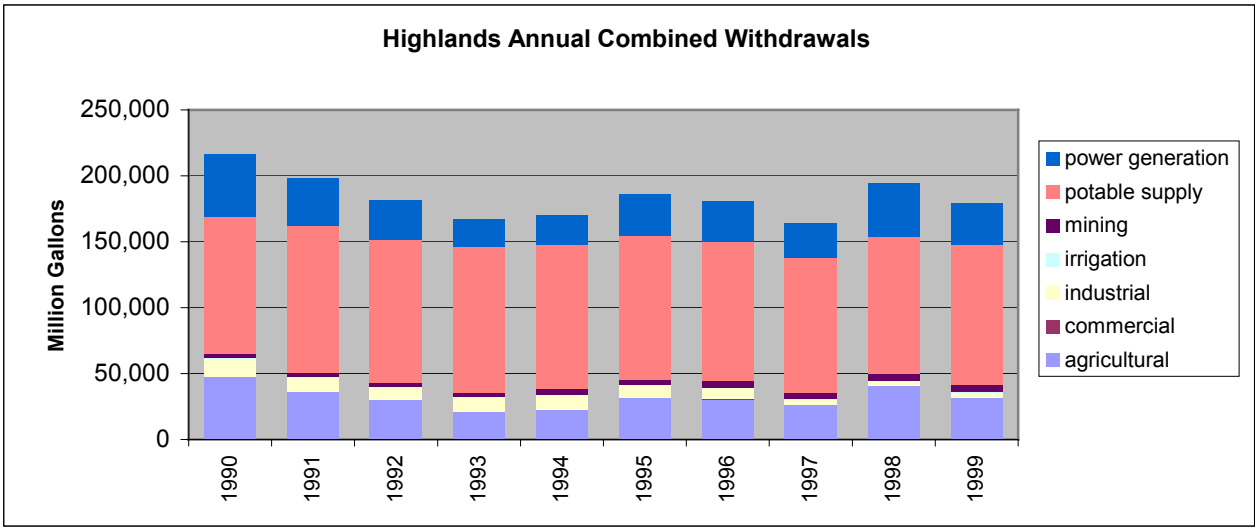

Table 1. Annual water withdrawals in the Highlands region of New Jersey.

Of the 416 MGD diverted in the Highlands, approximately 100 MGD is withdrawn from ground water and 316 MGD from surface water (see Table 2 below). The largest withdrawals are for potable supply (about 290 MGD), followed by power generation (87 MGD), mining (15 MGD), industrial (12 MGD), agriculture (10 MGD), irrigation (1.0 MGD), and commercial (0.2 MGD). While the region's overall withdrawals have not increased markedly, some water use groups have. This is particularly true of the agricultural, mining and irrigation use groups.

Power generation withdrawals decreased during the middle of the decade, but increased in the later 1990s. Commercial withdrawals have been decreasing.

USE GROUP	Source	1999 Annual (in millions of gallons)	1999 MGD
agricultural	ground water	3,259	8.9
agricultural	surface water	386	1.1
commercial	ground water	33	0.1
commercial	surface water	10	0.05
industrial	ground water	3,153	8.6
industrial	surface water	971	2.6
irrigation	ground water	142	0.4
irrigation	surface water	201	0.6
mining	ground water	255	0.7
mining	surface water	5,284	14.5
potable supply	ground water	29,397	80.5
potable supply	surface water	76,982	210.9
power generation	ground water	19	0.05
power generation	surface water	31,576	86.5
Total	**ground water**	**36,257**	**99.3**
Total	**surface water**	**115,419**	**316.2**
Grand Total		**121,667**	**415.5**

Table 2. Annual and daily water withdrawals by use group in the Highlands.

In most cases, the amount of water that is withdrawn is greater in the summer months than the winter months due primarily to irrigation that occurs in warm or hot weather. This is evident by Table 1, where it shows greater withdrawal amounts during drought years. During drought years, winter withdrawals average about 366 MGD in the region while summer withdrawals average about 533 MGD, an increase of 46 percent. These substantial withdrawals during the summer months may have detrimental effects on the natural resources of the region.

The reservoir systems of the Highlands primarily serve populations that inhabit towns and cities outside of the region. The majority of the ground water used in the Highlands is not transferred out of the region.

Highlands Water Quality

Maintaining the high quality of Highlands' water is tremendously important, both for protecting New Jersey's drinking water supply and for preserving the fragile ecosystems that depend on the water.

Recent U.S. Geological Survey studies have concluded that some parameters of surface water quality concern in the area are improving while others are worsening. While the trend for ammonia, phosphorus and nitrogen is toward improvement, nitrate concentrations have increased. This may be due to recent ammonia treatment plant upgrades. Degraded water quality trends were also noted for dissolved solids, sodium and chloride. These increases are possibly from road deicing or wastewater treatment plants. Reduction of stream flow due to water transfers may contribute to increased concentrations of some pollutants.

The DEP conducts sampling of aquatic communities in the region as part of its Ambient Biomonitoring Network (AMNET). The 1999 round of sampling found that 67 percent of the region's sites were not impaired, while 33 percent exhibited some impairment (although only one percent rated as severe). This is nearly the opposite of the remainder of the state where 67 percent show some degree of impairment. The impaired rivers in the region include the Whippany, Rockaway, Wallkill, Musconetcong, the upper reaches of the Pequannock, and the Pohatcong Creek.

It is likely that the degradation is the result of a variety of factors that modify habitat or other environmental factors such as land use, point and nonpoint sources of pollution, and changes in stream flow – both higher and lower. Other studies have shown statistically that the percentage of urban land within a watershed in conjunction with the amount of upstream wastewater discharges correlates to the rate of impaired rivers in a watershed.

The Highlands' water quality helps improve the quality of degraded downstream surface waters as well. For example, a major fraction of the main stem of the

Passaic River is comprised of treated wastewater during drought. If not for less affected Highlands Region water, the main stem of the Passaic River would be comprised of an even larger overall percentage of treated wastewater during drought.

As for ground water, the natural water quality of the Highlands region's aquifers is generally good. Some wells exceed drinking water standards for naturally occurring substances such as manganese and iron. The one drinking water standard that is consistently a problem in Highlands' ground water is radon, which is a naturally occurring element in much of the rock formations. Ninety percent of the 565 samples taken during one study in the Highlands exceeded the proposed standard for radon-222.

The DEP is currently working on a Source Water Assessment Program (SWAP). The purpose of the SWAP is to rank the vulnerabilities of public water supplies to potential pollution sources. A relatively large fraction of the region's wells are moderately or highly vulnerable to potential contamination sources. In addition, these results are showing that urban forms of land use have encroached on the source waters of these wells over the past two decades. Studies show that urban forms of development increase the likelihood of well contamination.

In conclusion, over time new development in the Highlands will severely impact the amount of water being withdrawn from reservoirs and aquifers, while at the same time reducing the flow of water in streams and rivers that is vital to aquatic ecosystems. New pavement and impervious surface cover will also decrease recharge of aquifers and increase runoff into surface water, leading to poor ground water quality and increased incidents of flooding.

Extensive impervious cover changes not only would affect the hydrology of Highlands' streams, it also would affect the streams' water quality. Undeveloped upland and wetland forest serve to protect the integrity of ground and surface water supplies, as well as provide critical habitat to a number of plant and animal species.

Degradation of the drinking water supply due to new development will eventually lead to a dramatic increase in water costs for residents throughout northern New Jersey, not just those living in the Highlands region. The North Jersey District Water Supply Commission estimates that the Highlands water purveyors currently spend an estimated $14.3 million to treat 550 million gallons of water per day. Degradation of water quality will require the water purveyors to upgrade existing plants and purchase additional chemicals. The Commission estimates that if development continues without a change in policy, treatment costs will reach $30.3 billion by 2054. Moreover, costly investments for additional water sources and treatment plants will be necessary to supply increased demand. The Commission estimates that a treatment plant constructed in 2003 totals $170 million. To the contrary, simply with implementation of a regional plan, the

resident ratepayers will have a $ 5 billion cost-savings in treatment costs, will eliminate the need for new water sources and treatment plants, and will continue to enjoy the pristine drinking water the Highlands has to offer.

The water resources of the Highlands Region, and those dependent on these resources, will face several challenges as the population in this area grows. Left unabated, new development will result in additional stream flow depletion, loss of reservoir yield, increased biological impairment, increase in treatment costs and a host of other undesirable effects that could be lessened with implementation of a regional plan.

Biodiversity

New Jersey's Highlands support a rich, diverse set of ecosystems and natural communities. With habitats ranging from upland forests to wetlands, the area contains an array of species, including 30 animal species that are classified as threatened or endangered by the state or federal government. In addition, the area supports some of the last remaining habitat in New Jersey that is suitable for maintaining these rare species. Given this significant role the area plays in New Jersey's ecological heritage, land preservation and habitat management strategies must be a part of any future planning for the Highlands.

Table 1 below lists the threatened or endangered animals that have been identified in the Highlands region.

Species	Status
Birds	
Bald Eagle	Federal T/E
American Bittern	State Endangered
Henslow's Sparrow	State Endangered
Loggerhead Shrike (migrant)	State Endangered
Northern Goshawk	State Endangered
Northern Harrier	State Endangered
Pied-billed Grebe	State Endangered
Red-shouldered Hawk	State Endangered
Sedge Wren	State Endangered
Upland Sandpiper	State Endangered
Vesper Sparrow	State Endangered
Barred Owl	State Threatened
Black Rail	State Threatened
Black-crowned Night-heron	State Threatened
Bobolink	State Threatened
Cooper's Hawk	State Threatened
Grasshopper Sparrow	State Threatened
Long-eared Owl	State Threatened
Osprey	State Threatened
Red-headed Woodpecker	State Threatened
Savannah Sparrow	State Threatened
Herptiles	
Bog Turtle	Federal T/E
Blue-spotted Salamander	State Endangered
Timber Rattlesnake	State Endangered
Longtail Salamander	State Threatened
Wood Turtle	State Threatened
Invertebrates	
American Burying Beetle	Federal T/E
Mitchell's Satyr	Federal T/E
Appalachian Grizzled Skipper	State Endangered
Arogos Skipper	State Endangered
Silver-bordered Fritillary	State Threatened
Mammals	
Indiana Bat	Federal Endangered
Bobcat	State Endangered

Table 1. Highlands Threatened or Endangered Animal Species

While each of these animals has its own role in a particular ecosystem, strategies and solutions for preserving their limited populations are very similar.

For example, the Indiana Bat was listed as a federally endangered species in 1967 and is a small mammal that congregates in the thousands in caves during the wintertime. Found across the eastern half of the United States, these bats once hibernated in the tens of millions during the winter in some caves. Now limited to just a few caves and abandoned mining shafts, the Indiana Bat in New Jersey only has one large wintering area, where approximately 30,000 bats gather, in an old mine in Rockaway Township.

During the summer, the bats require riparian and floodplain forests as well as some upland habitats. Trees located along the sides of streams are particularly important in providing areas to forage for insects, as well as large bodies of open water such as reservoirs. The bats are considered extremely vulnerable to human disturbance and require intact forest areas for their summer habitat. The bats typically avoid roost sites in the summer that are near paved roads, making it important to avoid fragmenting forest areas.

Thus, protection of this species will require continued vigilance to protect stream corridors and preserve buffers along stream margins, as well as preserving large areas of intact riparian and floodplain habitat.

Similarly, the Blue-Spotted Salamander has been listed as endangered in New Jersey since 1974 and is found in the state only in Sussex and Warren Counties and in the Passaic River basin of Somerset, Essex, Morris and Passaic Counties. Within this very limited range, these amphibians inhabit mature hardwood forests, such as red maple swamps and oak/birch woodlands. The salamanders only travel a very limited distance from the ponds where they were born and will return only to these same ponds to breed.

Given this strong bias towards its existing locations, it is vitally important to protect the salamander's dwindling habitat from future encroachment. In particular, the salamanders require excellent water quality and the maintenance of healthy buffers around their waterways. Furthermore, forest fragmentation by roads can hinder the movement of salamanders, making it critical to protect contiguous forests and preserve them as much as possible.

Similar protection strategies are also important for most other species, from barred owls to timber rattlesnakes. The barred owl requires mature hardwood forests that are not fragmented. Thus it is vitally important to maintain upland forest buffers and to provide corridors of protected land between owl habitats. Timber rattlesnakes can be severely impacted by human disturbance and are finding their populations increasingly isolated from each other. Thus it is

important to protect roadless areas from fragmentation and provide connected areas of habitat.

Throughout the Highlands, critical habitat areas must be protected from further degradation and maintained as intact as possible if these sensitive animal populations are to survive for future generations of New Jersey residents to enjoy. Protection must focus on preserving large cores of area and maintaining the water quality in the area, as so many aquatic and terrestrial organisms depend on the water for their well-being.

Forests

More than half of the Highlands region contains rich and diverse forests occupying 370,000 acres of land. Much of these forests remain in large, unfragmented pieces, some exceeding 5,000 acres in size. Most of the forestland is dominated by oak-hickory forest with northern hardwoods, hemlock, and swamp hardwoods. These forests contribute to the region's clean water and air, wildlife habitat, recreational resources, and serve as an excelled timber resource.

The most current data from the USDA Forest Service in New York and New Jersey estimates that there are between 50,000 and 75,000 private forestland ownerships in the Highlands region. A majority of the forest is owned by private citizens and organizations with the remainder owned by public agencies. Most forestland ownerships are small with more than 50% of them smaller than 10 acres, and more than 90% smaller than 50 acres in size. Much of the private ownership is simply because it is part of an individual’s property for enjoyment of green space and wildlife. However, a significant amount is owned as a real estate investment. The publicly owned forestlands are predominately owned to provide the general public with clean drinking water, recreational opportunities, and to provide habitat for wildlife and rare species. The publicly owned lands are unlikely to be converted to other land uses.

Whereas a majority of forestland is in private ownership, only 5600 acres are enrolled in the USDA Forest Service’s Forest Stewardship Program, a preferential assessment program that gives landowners a reduced tax rate in exchange for their promise not to develop the land. The 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 while maintaining forest health and vigor. Actively managed forests provide timber, wildlife habitat, watershed protection, recreational opportunities and many other benefits for landowners and society.

Continued suburban development, and increased fragmentation of large contiguous forest tracts and land ownerships will result in fewer parcels of a size

that is efficient for forestry management. Clearing of land will also impact water quality and critical habitat of the Highlands unique wildlife. Unfortunately, unless policies change and more private owners enroll in land management programs, it is the private investors who will decide the fate of the Highlands forest: whether the land will remain forested to replenish and purify groundwater and protect critical habitat or whether the land will be cleared and developed with increased impervious surface coverage.

Historic Resources

In addition to the rich array of natural resources, the New Jersey Highlands are also home to many of the state's cultural and historic resources. With a long history dating back at least 11,000 years to the first Native American settlements, the area has continued to play a significant historical role in more recent centuries. Many Revolutionary War historic sites are located within the Highlands, as well as historic farms, bridges, and monuments.

While the various sites vary in both size and form, including everything from stone tool workshops to modern canals and iron forges, they all provide a link to New Jersey's past while educating and enlightening new generations about our history. Statewide, historic preservation and historic sites contribute significantly to the state's economy, with more than $120 million spent on improving historic buildings and over $400 million generated from heritage tourism spending. In addition, statewide historic preservation generates over $260 million a year in income for New Jerseyans and $120 million annually in property taxes.

Many of these sites and resources being preserved are located in the Highlands region. According to the State Historic Preservation Office, the Highlands contain at least 99 historic districts and 434 individual sites that are either listed on the State Historic Register or have been deemed eligible by the state for listing. In addition, the region also hosts four national historic landmarks and 52 archaeological sites. These resources range from Morristown National Historic Park to the Black Creek site in Vernon Township that has artifacts of the Lenne Lenape Indians dating back thousands of years.

New Jersey already has a number of plans in place to ensure the continuation and growth of historic preservation efforts. The New Jersey State Development and Redevelopment Plan calls for the preservation of historic, cultural and scenic resources as an important way to create attractive, prosperous and livable communities while saving New Jersey's rural landscape. Similarly, the Garden State Preservation Trust has dedicated $98 million a year to open space acquisition and historic preservation over the next ten years and authorizes issuance of up to $1 billion in revenue bonds for these purposes.

Furthermore, the State Historic Preservation Office has drawn up a Blueprint for Building Historic Preservation into New Jersey's Future. The blueprint calls for five goals:

1. Make historic preservation integral to local and regional planning to enhance the attractiveness and quality of life in New Jersey communities;

2. Use historic preservation as a catalyst to strengthen New Jersey's state and local economies;

3. Expand understanding and appreciation of history and historic preservation among New Jersey's residents;

4. Become a national leader in stewardship of publicly-owned historic and cultural resources;

5. Provide the financial resources and incentives necessary to advance historic preservation in New Jersey.

With so much planning and policy work already in place, it is all too easy to be complacent about the preservation of historic resources in the Highlands and to assume that no additional preservation is needed. Nothing could be further from the truth, however.

Even with this stated commitment of money and admirable policy goals at the state level, historic resources not identified or protected continue to disappear in the face of continued development and land use changes. Even those resources surveyed and identified have not been thoroughly mapped or had their information digitized. Some of the historic surveys are more than ten years old and need updating.

Unless there is a rededicated effort to integrate the planning and preservation efforts of the state and local municipalities, many of these valuable resources may be lost before this or future generations can appreciate them. Thus planning for the future of the Highlands must consider how to protect these remnants of New Jersey's rich cultural and historical heritage.

Recreational Resources

The Highlands are home to a number of recreational areas and resources that are enjoyed by hundreds of thousands of visitors every year.

Among the many recreational resources in this area are the 18 state Wildlife Management Areas (WMAs) identified in Table 1 below.

Name of Tract	County	Total Acreage
Alpha Grasslands Preserve	Warren	128
Beaver Brook	Warren	606
Berkshire Valley	Morris	1893
Black River	Morris	3042
Hamburg Mountain	Sussex	2775
Holland Church Access	Warren	8
Honey Run	Warren	248
Ken Lockwood Gorge	Hunterdon	401
Musconetcong	Warren	1147
Pequest	Warren	4110
Pohatcong	Warren	129
Rockaway River	Morris	2938
Rockport Pheasant Farm	Warren	685
Sparta Mountain	Sussex	1974
Wanaque	Passaic	2320
Weldon Brook	Sussex	1256
Whittingham	Sussex	1930
Wildcat Ridge	Morris	3079
Total	**Highlands Region**	**28669 acres**

Table 1. Wildlife Management Areas (WMAs) located all or partially within the Highlands region.

In addition, there are magnificent State Parks, including Ringwood, Norvin Green, Abraham S. Hewitt, Wawayanda, Farny, Hackelbarney and Voorhees. State Parks provide the public with hiking, swimming, picnicking, sightseeing and other recreational opportunities.

APPENDIX C

AGRICULTURE IN THE HIGHLANDS

The Highlands region of New Jersey is home to approximately 222,000 acres of unpreserved farmland-assessed land that contribute more than $120 million to the local economy every year. Of that, about 118,000 acres are considered high-quality priority lands according to the SADC's draft Strategic Targeting Program. The State Agriculture Development Committee's (SADC) Farmland Preservation Program has succeeded in preserving about 10 percent of Highlands farms, over 16,000 acres.

Strategic Farmland Acquisition

The Highlands are unique in that although they have supported a vibrant agricultural economy for generations, their soil types, topography, and wooded acreage often resulted in a lower statewide ranking in the SADC's competitive Farmland Preservation Program. However, the additional funding made available as a result of voter approval of Public Question #1 will provide the SADC with funds to be used specifically for Highlands farmland preservation, and will free the SADC to develop criteria for the use of the funds that meet the dual purpose of preserving the agricultural and natural resources of the Highlands. Combined with the ongoing dialogue with the DEP's Green Acres Program, there is a great potential to take the Farmland Preservation Program in a direction that is particularly relevant to the Highlands resources and historic farming culture.

Aside from securing a stable land base for continued agriculture, participation in the Farmland Preservation Program also provides preserved farmers with the option to participate in the SADC's Farmland Preservation Cost Share program. The program provides cost share grants for water and soil conservation projects on preserved farms, including trickle irrigation systems, terracing, and buffers.

Agricultural Resource Conservation Planning for Non-Preserved Farms

Farmland Preservation is a voluntary program, and even if the incentives to preserve resulted in an application from every eligible Highlands farmer, there is simply not enough funding to preserve them all. However, regardless of the developability of the farm property, the Highlands natural resources, and the farmer's productivity, will still benefit from cost-share funding for water and soil conservation projects. To this end, the Department's Conservation Cost Share Program, administered by the Division of Agricultural and Natural Resources, provides cost-share funding to non-preserved farms throughout New Jersey. In 2003, approximately $1.2 million in combined federal and state cost share were paid to non-preserved Highlands' farmers for Farm Bill conservation programs

including:

- Conservation Reserve Program (CRP) – provides cost-share grants for highly erodable cropland;

- Conservation Reserve Enhancement Program (CREP) – provides rental payments for land taken out of production and placed into stream buffers and filter strips;

- Wetland Reserve Program (WRP) – provides assistance to restore wetlands converted to agricultural use prior to 1985;

- Wildlife Habitat Incentive Program (WHIP) – provides assistance for farmers who wish to develop and implement a wildlife habitat development plan, which includes the control of foreign and invasive vegetative species;

- Environmental Quality Incentives Program (EQIP) – provides cost share assistance for the implementation of water, soil, and animal waste management plans

Agricultural Viability

Unlike the preservation of natural open space or recreational open space, the preservation of farmland is only meaningful and useful for the community if the farms remain viable, tax-paying businesses. To this end, thriving agricultural operations are built upon a supportive regulatory framework that recognizes that farms include uses or have needs that often do not fit neatly into the existing regulations that govern residential development. The Highlands Task Force recognized this aspect of agricultural viability when recommending that the Highlands Council consider a procedure for evaluating agricultural development applications with a sensitivity to the needs of viable agribusiness.

The combination of preservation, conservation planning, and supportive regulation will ensure that agriculture remains an integral component of the local economy, a steward of the natural landscape, and a significant contributor to the quality of life of the Highlands for generations to come.

APPENDIX D

SMART- GROWTH, DEVELOPMENT AND REDEVELOPMENT

While the Task Force recommends protections for the Highlands region, it is not recommending that the entire Highlands be a "no growth" area. The Task Force's review of the scientific data reveals that there are approximately 175,000 acres outside of the Preservation Area that are not environmentally constrained or already developed. This provides the ability for growth to occur, so long as that growth is planned and appropriate. The Task Force recommendations provide a number of specific recommendations that are designed to ensure that any growth will be both planned and appropriate. These measures include regional planning and smart-growth incentives.

The capacity for future growth should be analyzed based on drinking water and other natural resource constraints. Development densities, including the establishment of greater densities where growth should occur such as with transit villages, should be set at appropriate levels. Consideration should be given to existing infrastructure, such as existing roads, power lines and sewer lines already in the ground. Appropriate re-development consistent with the regional master plan and State regulations should be encouraged.

Smart-growth should be followed. The State should continue to provide fiscal aid and policy support for existing infrastructure that supports smart-growth. Smart-growth projects -- like the 200 acre Harrison Metrocentre Project in Harrison, New Jersey across the Passaic River from downtown Newark -- can turn underutilized, developed land into liveable, mixed-use redevelopments that benefit the residents and community at large both esthetically and financially.

APPENDIX E

PUBLIC HEARINGS, COMMENTS AND SURVEY RESULTS

In its work, the Task Force actively sought the public's involvement in the task force's work. The Task Force held two public meetings in the Highlands, the first on December 4, 2003 at Cultural Center at Lewis Morris Park in Morristown and the second on January 20, 2004 at the Hall of Heroes, County of Bergen Department of Law and Public Safety Institute in Mahwah. The public hearings were very well attended, with approximately 300 people speaking at each event. Many other members of the public provided separate written comments. In addition, almost two thousand people responded to the survey posted on the Task Force's web site (see chart of responses below).

Overall, public comment and survey response uniformly provided strong support for Highlands preservation and regional planning.

WWW.Save the Highlands Survey Responses
Date Range: 11/26/2003 – 3/9/2004
1,891 Total Survey Responses

1. How important is it to protect water quality and quantity in the Highlands?

Choices	# of Responses	Percentage of Total
Very Important	1,883	95.05%
Important	63	03.18%
Somewhat Important	18	00.91%
Not Important	17	00.86%

2. What level of environmental protection do you think reservoirs, rivers and streams should receive in the Highlands?

Choices	# of Responses	Percentage of Total
Strong	1,896	95.71%
Moderate	58	02.93%
Weak	27	01.36%

3. How important is it to preserve open space and farmland in the Highlands?

Choices	# of Responses	Percentage of Total
Very Important	1,815	91.62%
Important	120	06.06%
Somewhat Important	28	01.41%
Not Important	18	00.91%

4. Should the State pass legislation to require regional planning in the Highlands?

Choices	# of Responses	Percentage of Total
Yes	1,891	95.46%
No	90	04.54%

5. Should the state require regional planning in the Highlands to protect drinking water, forests, and other sensitive environmental lands even if it meant that local municipalities could lose some of their influence over certain development decisions?

Choices	# of Responses	Percentage of Total
Yes	1,873	94.55%
No	108	05.45%

APPENDIX F

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