



STATE OF THE NEW JERSEY HIGHLANDS

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New Jersey
Highlands Council

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Foreword

This report has been created primarily for the benefit of the incoming administration as critical policy and priority decisions are being made. It should be noted that the perspective represented here extends well beyond the New Jersey Highlands and reflects significant public sector experience and deep expertise in environmental policy, municipal land use law, sustainable local, regional and state-wide land use practices, land preservation, agricultural retention, and strategic planning.

Long before serving as the Executive Director of the New Jersey Highlands Water Protection and Planning Council beginning in 2022, Ben Spinelli was an original member of the Council, from 2004 to 2006. He also served as Chief Counsel and Policy Director for the New Jersey Office of Smart Growth (now the Office of Planning Advocacy) between 2006 and 2007 and the agency's Executive Director from 2007 to 2009. The insights and recommendations in this report are also informed by Ben's municipal experience as a three-term elected Mayor of Chester Township, in Morris County.

I. Introduction



Four-State Federal Highlands Region
(larger image in appendix)

The New Jersey Highlands region is a part of a four-state federally recognized geologic area stretching from northwestern Connecticut, across southeastern New York State, northwestern New Jersey and eastern Pennsylvania. The Highlands region spans 3.4 million acres across the four states. It is characterized by rugged forested terrain and a substantial agricultural presence. The Highlands is also the source of drinking water for the major population centers of the Northeast and Mid-Atlantic states.

The U.S. Forest Service undertook a study of the Highlands, first in 1992 then again in 2002. The Forest Service study highlighted the importance of the region's forests in providing and protecting the water supply in and near the study area. It also emphasized the urgent need to protect the region from over development. The findings of the Forest

Service study became the foundation for a specific New Jersey analysis of the region. In 2004, Governor McGreevey created the Highlands Task Force. The recommendations and findings of that Task Force led to the enactment of the Highlands Water Protection and Planning Act in August 2004 (the "Highlands Act" or "Act") which established protections for the Highlands region.

This iconic landscape is distinguished by Appalachian ridges, hills and plateaus. It is marked by deciduous and coniferous forests, streams and lakes, and working farms. -1992 U.S. Forest Service Highlands Study

In New Jersey, the Highlands region covers approximately 860,000 acres (1,340 square miles). This includes 88 municipalities and portions of 7 counties. The region has a population of approximately 850,000. While comprising only about 17% of the state's land area, the region provides some or all of the drinking water for about 70% of the state's population. Highlands

water is distributed to 332 municipalities across 16 counties. This includes about 8 out of every 10 people living in a designated Overburdened Community (OBC). In addition to being the source of drinking water for nearly 7 million people, the region has a substantial agricultural industry and is a destination for recreation for nearly 18 million people annually.

The region is characterized by rugged terrain with steep rocky ridges, dense forests and pristine streams. New Jersey’s largest drinking water reservoirs are located within the Highlands, including those serving the cities of Newark and Jersey City. Most municipalities in the region are rural with low to very-low population densities, particularly for an urbanized state like New Jersey. However, portions of the Highlands are highly developed, with primarily suburban style housing interspersed with several larger cities (e.g., Morristown, Dover, and Phillipsburg) along with numerous small-town centers (e.g., Chester Borough, Califon, and Clinton Town).

N.J. Highlands Quick Facts

(as of December 2025)

Land Area	<i>Approximately 1,340 square miles</i>
In-Region Population	<i>Approximately 850,000 people</i>
Water Exported Daily	<i>863 million Gallons/Day</i>
Population Served	<i>Approximately 7 million people</i>
Forested Land	<i>725 square miles</i>
Land in Agriculture	<i>Approximately 110,000 acres</i>
Municipalities in Region	<i>88</i>
Counties in Region	<i>7</i>
Preserved Land	<i>Approximately 509.2 square miles</i>

While the value of the Highlands as a source of drinking water has been recognized since the late 19th Century, it took until the early 21st Century before meaningful protections for the region were put in place. New Jersey is the only one of the four Highlands states to take aggressive protection measures. This has proven to be prescient. The Highlands Act was visionary legislation at the time of its passage. While it was not intended as “Climate Legislation” at the time it was adopted, it has proven to be an important part of the state’s overall climate resilience as the protection of an adequate supply of drinking water, protection of the vital natural resources of the area, preservation of food production capacity in proximity to large population centers and the ability of the forests and wetlands of the region to mitigate the impacts of increased extreme precipitation events are all benefits of protecting the region.

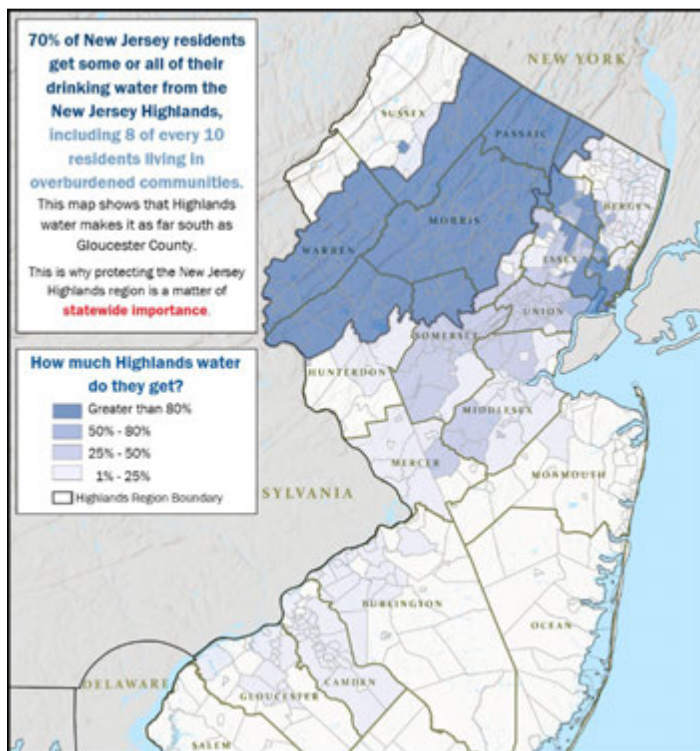
A. The Highlands Act

The Highlands Water Protection and Planning Act was adopted on August 10, 2004. This was landmark legislation designed to extend land use protection to the resources of the Highlands region of New Jersey. The primary resource of the region is drinking water. The Highlands exports approximately 860 million gallons of clean drinking water to the rest of the state each

day. This includes nearly all of the state’s major population centers. The Highlands Act also created a governing body known as the Highlands Water Protection and Planning Council (the “Highlands Council” or “Council”), consisting of 15 members and established an agency of the same name to administer the provisions of the legislation. The Council and its professional staff of 23 work with the region’s counties and municipalities to implement the Highlands Act and achieve its statutorily mandated mission. The Highlands Act also required the Highlands Council to produce and adopt a Regional Master Plan (RMP) to guide its actions.

It should be noted that in the decade preceding the adoption of the Highlands Act, the region was subject to intense development pressure. On average, 17,000 acres of forested land and 8,000 acres of farmland were lost to new development annually. Meanwhile, New Jerseyans from Montclair to Jersey City found their drinking water at risk. This threat to the state’s water supply led to the passage of the Highlands Act and the creation of the Highlands Council. The Act significantly reduced that development pressure and charged the Council with overseeing the protection and stewardship of the natural and cultural resources within the Highlands region

The Highlands Act contained a number of provisions. One divided the region into two distinct areas; a statutorily defined “Preservation Area” where there are mandatory restrictions on



Who Drinks Highlands Water
(larger image in appendix)

future development and where Highlands municipalities are required to align their zoning and planning with the Highlands RMP, and a “Planning Area” where conforming to the RMP is voluntary along with a series of limitations on future development. A description of the geographic boundaries of each are contained in the Act. The Planning Area is not a “growth” area, as it contains significant natural resources. The only voluntary element of the Planning Area is the requirement for municipalities to align their land use planning and ordinances with the RMP. State agencies, including the New Jersey Department of Environmental Protection (NJDEP), should be required to guide all actions

(permitting, planning, investments, capital projects, etc.) by the provisions of the Highlands Act and Highlands RMP.

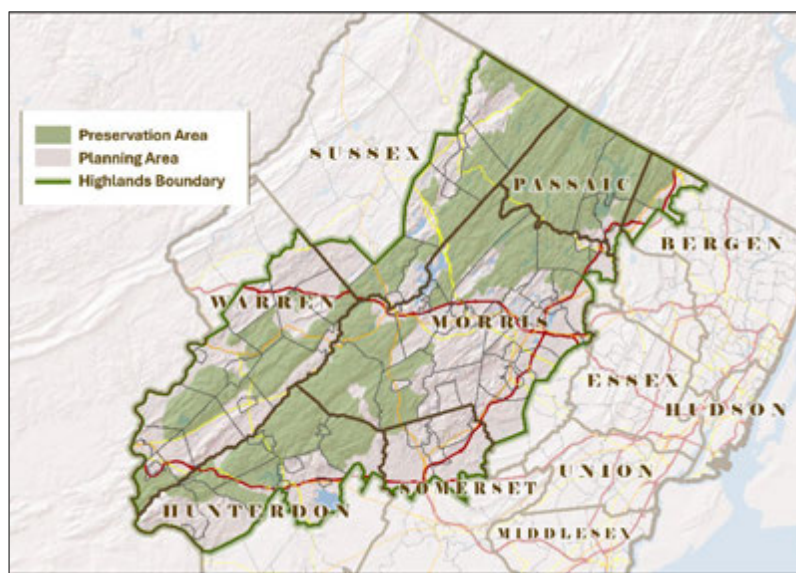
The Highlands Act granted the Highlands Council broad authority. However, due to a lack of adequate resources, both financial and personnel, the ability to carry out the various mandates of the Act has been limited. There is a perception that the Highlands Council is “merely” a planning agency. While land use planning is the primary focus of the Council’s work, the Act authorizes the Council to exercise its authority to take a broad range of actions to protect the region’s resources. This includes open space and farmland preservation, the use of a Transfer of Development Rights program, scientific research and data collection, sustainable economic development measures as well as other activities designed to ensure the resources of the Highlands are available to meet the needs of the entire state.

...all such ...measures should be guided, in heart, mind, and spirit, by an abiding and generously given commitment to protecting the incomparable water resources and natural beauty of the New Jersey Highlands so as to preserve them intact, in trust, forever for the pleasure, enjoyment, and use of future generations while also providing every conceivable opportunity for appropriate economic growth and development to advance the quality of life of the residents of the region and the entire State. N.J.S.A. 13:20-2

The Highlands Council was not established as a regulatory agency. Responsibility for administering the land use regulations is delegated to the NJDEP with comment and consultation from the Council’s staff. The administrative rules can be found at N.J.A.C. 7:38-1, et. seq. The most impactful provisions are centered on availability of wastewater and public drinking water services. The NJDEP rules contain a waiver provision (N.J.A.C. 7:38-6.4) to allow relief for Public Health and Safety, designated redevelopment sites, to avoid regulatory takings or to permit the construction of 100% affordable housing projects. The Act further contains statutory exemptions from the provisions of the Act. These provide relief from some of the Act’s more stringent restrictions in the Preservation Area for designated purposes. There are 17 defined exemptions that can be found at N.J.S.A. 13:20-28.

It should be noted that due to the strict public adoption process required by the Highlands Act, the RMP and associated amendments have been found by the courts to have the same effect as a rule adoption. In accordance with this the Highlands Council has adopted a number of amendments to the RMP including standards for affordable housing, warehouse siting and development, and redevelopment in the region with future RMP amendments that address data centers, climate change and impervious coverage limitations planned for the next year.

B. The Highlands Council



The New Jersey Highlands
(larger image in appendix)

The Highlands Act established the Highlands Water Protection and Planning Council to administer the provisions of the legislation and authorized the creation of a professional agency to implement them. At the time of passage, it was envisioned that the Highlands Council would be a robust agency with the resources necessary to manage a region of the size and scale of the Highlands. Projections were for the agency to have between 40 and 50 full-time staff to carry out

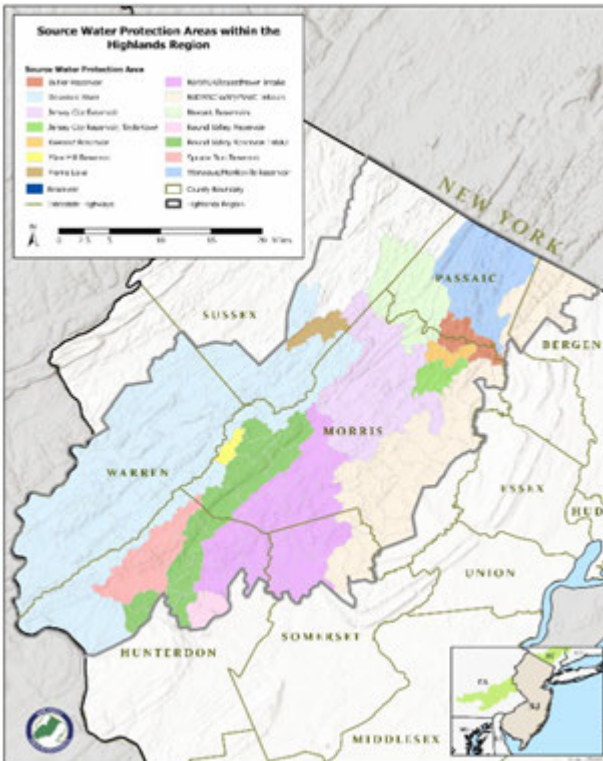
its vital mission that would include overseeing land use, coordinating state agency actions and conducting scientific research and study of the region's resources. However, in the 21 years since the passage of the Highlands Act, the agency has been chronically starved by a lack of adequate funding and resources. This is directly related to the lack of strong political support and a failure to grasp the inter-relationship between the protection of the Highlands region and general health and well-being of the entire state.

Understanding the current state of the agency requires a look at the history of the Highlands Act. At the time of adoption, the Highlands Act was met with strong resentment from residents of the region who saw the law's measures as an infringement on home rule with the potential to stifle economic growth. To the state's residents beyond the Highlands, there is a fundamental disconnect between the urban and suburban communities in the remainder of New Jersey who fail to understand that the Highlands is their source of clean drinking water as well as a destination for recreation and a source of local food production. The resulting lack of a political constituency has translated into a lack of support from the legislature and prior administrations.

C. Mission

The mission of the Highlands Council is a non-partisan, non-political effort to protect the vital resources of the Highlands region. The most important of those resources is the supply of clean drinking water. It is a foundational principle of good governance that ensuring a reliable adequate supply of clean drinking water is a primary responsibility of any governing administration. The mission of the Council must endure any political change, as the future of

the state is at stake. The need for clean drinking water does not begin or end with political affiliations. The Highlands region exports approximately 860 million gallons of water each day to other parts of New Jersey. While primarily serving the large cities of the northeastern part of the state, the Highlands provides 70% of New Jersey's residents with some or all of their drinking water with municipalities as far away as Gloucester County receiving water from the region.



Surface Water Supplies in the Highlands
(larger image in appendix)

In addition to residential use, the Highlands provides water to businesses that are vital to the economic well-being of the state. Agriculture, the Food and Beverage industry, and the pharmaceutical industry are just some of the important users in the state that rely on an adequate, dependable, high-quality source of water. Protection of the Highlands is not a regional matter. It's an issue of statewide importance. If the state fails in this endeavor, it will have long-term negative consequences for New Jersey. One key factor that must always be considered is that the entirety of the region is a source of drinking water. Every drop of rain that falls on the Highlands eventually contributes to a drinking water source, whether that source is a groundwater well, a surface reservoir, or a riverine intake. On the ground conditions impact water quality, water quantity and

water timing. What happens in the Highlands impacts all of New Jersey. This illustrates why protection of resources in both the Planning Area and the Preservation Area is critical.

The intention of the Act was two-fold. One aim was to slow or halt the overdevelopment of the region that characterized development patterns of the late 1990's and early 2000's. The second was to bring a unified, comprehensive and strategic approach to the management of the region's resources. Unfortunately, politics has impacted the work of the Council over its 21-year history to the detriment of its important mission. The denial of funding and the appointment of Council members who were hostile to the goals of the Highlands Act were political decisions that have handicapped the Council's work. The past three years have seen some of this damage undone, but a concerted effort to continue along this path must be made to allow the Highlands Council to fulfill the initial vision for the agency.

D. Council Membership

The Highlands Act established the Highlands Council as a public oversight body to administer the provisions of the legislation. The Council has a mandated membership of 15 with the composition of the Council prescribed by the terms of the Act. Eight of the 15 members are required to be public elected officials from the seven Highlands counties. Morris County is allotted an additional member as the most populous in the region. Of those eight elected officials, five are required to be municipal officials and the remaining three county elected officials. Within those eight members, no more than four can be from the same political party. The remaining seven members can be from the public at-large with the only requirements being “to the maximum extent practicable, expertise, knowledge, or experience in water quality protection, natural resources protection, environmental protection, agriculture, forestry, land use, or economic development, and at least four of them shall be property owners, business owners, or farmers in the Highlands region or residents or nonresidents of the Highlands region who benefit from or consume water from the Highlands region.” (N.J.S.A. 13:20-5)

All members of the Council are appointed by the Governor with the advice and consent of the state Senate. Note that two of the at-large members, while being appointed by the governor, are to be nominated upon the recommendation of the Speaker of the Assembly and the Senate President. Members are appointed to five-year terms and serve until the appointment and qualification of their successor. No meeting can take place without a quorum of at least eight Council members present. No action can be taken by the Council without an affirmative vote of at least eight members, regardless of how many members are present and voting.

During 2025, and for several years prior, the Council operated with only 10 of its allotted 15 members with only two serving current terms and the remainder in holdover status. Additionally, many of the Council’s members were 70 years old or older, some with health issues that made attendance problematic. This led to issues with achieving the quorum necessary to hold public meetings. In 2025, nearly half of the scheduled meetings (5 out of 11) had to be cancelled due to a lack of quorum. Additionally, three Highlands counties were not represented (Bergen, Somerset, and Warren) and Morris County did not have a second member. This severely hampered the ability of the Council to conduct its public business and the lack of representation for nearly half the region impacted upon the legitimacy and acceptance of its work.

During the final weeks of 2025, Governor Murphy set forth seven new nominations for the Council. These nominations were quickly reviewed by the Senate Judiciary Committee and confirmed by the full Senate. For the first time in over a decade, the Council has its full 15-member composition, and all seven counties are properly represented. Future administrations

should be cognizant of the impacts of failing to have adequate Council membership and provide qualified nominees who support the provisions of the Highlands Act whenever vacancies arise.

E. Current Staffing

The Highlands Council currently has a staff of 23 full and part-time employees. The bulk of the staff consists of professionals with advanced degrees. The Highlands employs five licensed planners, five environmental scientists, three GIS professionals along with support and administrative staffing that includes communications, grant administration, IT/Technological support and human resources. As discussed later in this document (see Priority Actions for New Administration, Address Staff Shortage) the Council needs additional professional staff to address issues of immediate importance to the mission of protecting the region and its resources. As discussed previously, this is far short of the agency envisioned at the time of the Act's passage.

It must be clearly understood that the failure to invest in the Highlands Council and its important work places the future of the entire state at risk.

F. Budgets

The Highlands operating budget has remained flat since 2011 (Fiscal Year 2010-11) and its grant budget – which ultimately goes directly to municipal and county governments – was substantially reduced in 2011 as well. These cuts have hampered the operations of the Council and have the potential to severely limit the effectiveness of the Highlands Act and the Council's ability to implement the intent of the Act. That the Council is able to continue its work and deliver results – as the cost of *everything* continues to rise, particularly software licensing, supplies, and utilities – **with a budget from 15 years ago** is nothing short of miraculous.

1. Operating Budget

The Highlands Council's annual operating budget is \$3.325 million. At the time of the development of the Highlands RMP, the budget was \$4.2 million. This amount was reduced to \$2.3 million (with a cut in the state appropriation to \$1.8 million) in Fiscal Year 2010-11 and has basically remained at that level since. A stagnant budget with increasing unavoidable expenses (software licensing fees alone now account for \$100,000.00 annually) is unsustainable. Other than increases to meet the contractually obligated raises for unionized employees starting in FY 2024, the budget and staffing has remained the same since 2011.

2. Grant Budget

The Highlands Council is statutorily allocated a portion of the annual Realty Transfer Tax collections for distribution only to Highlands counties and municipalities. This money is restricted to planning activities in conjunction with aligning local land use with the Highlands RMP. Currently this allocation is \$2.1 million per year. Originally, the allocation was \$4.4 million. Like the operating budget, this was substantially reduced in 2011 and has remained the same since. This funding was intended to offset (in part) the impacts on Highlands municipalities that are taking the necessary measures to implement the Highlands Act and the Highlands RMP.

II. Current Work of the Council

Despite the fiscal and personnel limitations previously explained, the Highlands Council staff has been aggressively pursuing initiatives designed to implement the intentions of the Highlands Act and to ensure the protection of the region's resources for future generations. The relationship between the Council and the 88 municipalities and 7 counties of the region is the best it has been in the 21-year history of the agency. It is worth considering what could be accomplished with proper funding, resources and support.

A. Climate Action Plan

The Highlands Council is currently engaged in developing a Climate Action Plan/Regional Master Plan element to address current and anticipated impacts of climate change on the resources of the region. For example, the region is currently in the midst of a multi-year drought and has experienced several major forest fires in and around major water supply areas. This has direct impact on water quality and quantity. The creation of this plan is essential because climate impacts in the Highlands are somewhat different than other areas of the state. The Highlands needs to concentrate on anticipating and reacting to the likely effects and to address both in-region outcomes and the implications for the state as a whole.

The primary responsibility of the Highlands Council is to ensure that the state has a reliable source of adequate clean drinking water, regardless of the variable precipitation patterns that will occur. Extended drought conditions interspersed with more extreme precipitation events make that challenging. Increased risk of inland tropical storm events raises the specter of damage to the region's forests (as was seen in Superstorm Sandy) and inland flooding. There are projected to be more extreme rainfall events in the Highlands than other parts of the state. Temperature and precipitation changes will have an effect on the ecology of the region, primarily forest composition. Agricultural impacts and the need to secure food production

capacity in the region are key factors. Finally, the region's forests will need to retain flood waters and mitigate downstream flooding outside the region.

Data collection and analysis for this project is now underway. It is critical to understand the impact to the environmental resources and the consequences of those impacts for drinking water supply, the overall water quality, local food production, mitigation of flooding from extreme precipitation events and the projections for future conditions, and the measures that must be taken to prepare for or to offset the effects that will occur. The Highlands region will play a critical role in the state's overall climate resilience strategy, and the Council must take appropriate measures to ensure it can provide the ecosystem services necessary to meet New Jersey's needs.

The traditional response to drought has been to take measures to reduce water demand. This is not a demand problem. The protection of land from development and the restoration of degraded forests, wetlands and streams in the region are the appropriate response. These actions will make the Highlands more resilient to the changes in precipitation patterns that climate change will continue to bring and enable the state to better tolerate periodic drought conditions.

B. Regional Open Space and Recreation Plan (OSRP)

Currently, there are 19,000 individual building lots region-wide that remain undeveloped but developable. This represents approximately 230 square miles of the Highlands, or about 17% of the region's land mass. Much of this land does not fall squarely within existing Farmland Preservation (SADC) or Green Acres funded programs, making the Highlands Council the only viable avenue to protect these properties. A comprehensive strategic plan to preserve properties that are at risk is necessary.

At the present time, the Council is in the process of developing an Open Space and Recreation Plan for the region in cooperation with the Trust for Public Land. The Highlands Region OSRP will identify key properties, provide criteria for prioritizing acquisitions, distinguish between properties that are appropriate for either fee acquisition and those where conservation easements would be adequate, and identify financing needs and mechanisms. This plan is funded in large part by a grant from the U.S. Fish & Wildlife Service under the federal Highlands Conservation Act grant program. The work is now at an advanced stage with public outreach and research completed.

When finished, the Highlands Region OSRP will help advance existing Highlands Council land preservation programs: the Highlands Open Space Partnership Funding Program, and the Highlands Development Credit (HDC) Purchase Program (the Council's legislatively mandated

Transfer of Development Rights (TDR) program). Details of both programs can be found at N.J.A.C. 7:70-3.

C. Regional Branding and Marketing Initiative

The Highlands Council commissioned the creation of a regional branding and marketing plan as an element of the overall sustainable economic development initiative. The plan included the creation of a logo and tag line for the region – “you never Knew Jersey” – that is available for use by the region’s counties and municipalities as well as businesses serving the nearly 18 million people who visit the region each year. It will assist with raising the public awareness of the Highlands as a defined region and the benefits that the region provides to the state at large. This is critical in a limited growth area like the Highlands where opportunities for economic activity are constrained by resource protection needs. This requires fostering the available assets like eco-tourism, recreation, heritage tourism, agricultural production and the great small towns found throughout the Highlands.

A similar program in the New York City watershed called “Catskill Pure” has been very successful. The NYC Department of Environmental Protection invests around \$3.5 million in this effort. Implementing “you never Knew Jersey” will require a similar infusion of funds to be successful. Currently, the Council has been able to make small grants available for implementation of the initiative, but this ad hoc method of funding is wholly inadequate for the effort that is required. The program was recently recognized by the New Jersey Tourism Industry Association (NJTIA) with the President’s Award at NJTIA’s annual Tourism Excellence Awards ceremony.

D. Monitoring Program Recommendation Report (MPRR)

The Highlands Act requires the Council to review and update the Highlands Regional Master Plan at least once every six years. The Monitoring Program Recommendation Report (MPRR) addresses this periodic review. The Program evaluates progress toward achieving the goals of the RMP through implementation of policies and programs and involves a public process that may result in amendments or addendums to the RMP. The first review of the RMP was completed in 2018. The resulting MPRR provided a baseline for future evaluation of the RMP.

Recommendations contained in the MPRR are the result of an analysis of indicators identified through a public process, combined with an examination of implementation activities to date. In this way, the MPRR provides a framework for potential amendments to the RMP along with a six-year work plan for the Council.

A review of the RMP is currently underway and a new MPRR will be completed in 2026. It will provide the basis for any amendments to the RMP going forward.

E. Regional Master Plan Amendments

The Act contemplates that amendments to the RMP will arise principally out of the periodic review discussed above. There is an established procedure for adopting amendments to ensure that there is both a sound basis for any amendments and the opportunity for meaningful public participation. The MPRR provides the informational foundation that will drive a data-driven analysis for any proposed amendments. Adoption of any amendment to the RMP requires a 60-day public comment period and six public hearings to be held around the region and in Trenton. This process is why the RMP and its amendments have the legal status of administrative rule making. As a result of the current RMP review referenced above, the Council anticipates the potential for at least three new amendments related to Climate Policy, Data Center Design and Siting, and Impervious Coverage Standards.

In the past two years the Council has adopted three significant amendments related to the needs of our municipal constituents: Warehouse Siting Policy Standards, Affordable Housing Guidance, and, underpinning both of those, an update to the Highlands Land Use Capability Zone (LUCZ) Map and Technical Report. Additional details about Affordable Housing and the LUCZ follow in subsequent sections.

It should be noted that due to the strict public adoption process required by the Highlands Act, the Regional Master Plan and associated amendments have been found by the courts to have the same effect as a rule adoption.

Regarding the Warehouse Siting Amendment, with relatively large areas of undeveloped land and access to three major interstate highways, the Highlands region proved an attractive area for development of warehousing facilities. To assist Highlands towns in managing this onslaught, the Highlands Council develop an RMP Amendment that addressed **Policy Standards for Warehousing in the New Jersey Highlands**. The amendment addresses a number of factors including siting (primarily near access to Interstate highways), design criteria, where warehouses should be permitted in the context of Highlands resources (less than 3% of the region) and where they should be prohibited (the remaining 97+%), traffic concerns, impervious coverage, stormwater management and loss of agricultural lands.

F. Municipal Support for Affordable Housing Compliance

Amendments to the Fair Housing Act (N.J.S.A. 52:27D-301, et. seq.) adopted in early 2024 contained specific references to the Highlands Act and the Highlands RMP. This inclusion recognized the difficult proposition of balancing the need to build new affordable housing in the state with the need to protect the vital resources of the Highlands. These resources directly

support the ability of the state to accommodate additional residential development by protecting the water supply necessary to support the population. As a result of the provisions of the amendments, the Highlands Council prepared a series of guidelines for Highlands municipalities designed to allow towns to achieve both goals. The guidelines were adopted through the RMP amendment process, giving them the weight of administrative rules, and were accompanied by model land use ordinances and a GIS based buildout tool. The end result was to determine the appropriate amount of new development that Highlands towns could accept without placing resources at risk along with where within the region development could realistically take place and the preferred methods of providing that housing.

This is vital for the future of the state. Clearly there is a need for more affordable housing units. However, addressing this need must be different in the Highlands. If too much or inappropriate development occurs within the region there are several consequences:

- 1) It would increase internal (in-region) demand for drinking water;
- 2) It would, at the same time, decrease the ability of the natural systems to produce drinking water as the result of loss of forest and increased impervious coverage; and
- 3) This would all happen at a point where external (out-of-region) demand for Highlands water continues to increase.

Highlands Council staff are actively engaged with the municipalities and the Courts in navigating this complex but important set of policies.

G. Mapping Initiatives

The Highlands Council maintains a talented staff of Geographic Information Systems (GIS) professionals capable of creating and maintaining innovative mapping products that support implementation of the Highlands Act by providing valuable access to scientific data in a manner that can be interpreted and utilized by both the general public and land use professionals. GIS allows the Highlands Council to incorporate a sophisticated level of data analysis about the region's resources into its decision-making process.

1. Land Use Capability Zone Map

The Land Use Capability Zone (LUCZ) mapping is the backbone of the evaluation and decision-making work of the Highlands Council. The LUCZ mapping was updated in 2024 and the updated mapping was adopted by the Council through the RMP Amendment process. This ensured that the LUCZ map was as accurate and up to date as possible. The LUCZ map is NOT a political map but is based upon scientific data from numerous sources, including the NJDEP. The mapping contains three primary zone designations (Conservation, Protection and Existing Community) and four sub-zones within those designations. LUCZ designations

are derived through an analytical process with established criteria that lead to each particular designation. The LUCZ map is critical to the Council's operations as well as for permitting decisions by other agencies. The primary impact is that Sewer and Public Water services are not to be allowed in or extended to or through either the Conservation or Protection Zones.

2. Highlands Interactive Map (REX)

The Highlands Resource Explorer or REX is a publicly available mapping tool. Access to REX is through the Highlands Council's website. REX is a multi-layered mapping tool that can display information from as broad as a region-wide perspective down to a parcel-level analysis. Highlands Council staff as well as land use professionals and the general public have open access to this product, which displays multiple data sets in a mapping form. The tool can further produce a text version analysis of any Highlands lot that includes all relevant scientific information impacting that site.

3. Interactive ERI

The Highlands Interactive Environmental Resource Inventory (ERI) mapping tool was introduced in 2021. The Highlands Interactive ERI is a map-based application designed to assist in the development of municipal ERIs. The application can be used to view and export maps and associated narratives describing a wide range of environmental and other resource data for the Highlands region.

The application pulls data directly from a variety of sources, ensuring the best currently available data is always being presented. The ERI has a function that can produce a text version of a municipal or county ERI saving local governments thousands of dollars in the costs of developing these documents.

H. Stream/Water Quality Monitoring Programs

The Highlands Council, and in particular its science staff, were not engaged in scientific field work during the first two decades of its existence. This is changing. Monitoring water conditions across the region is essential for understanding the impacts (or lack thereof) of the Highlands Act and the policies and actions of the Council. It also provides baseline information that is essential for determining future investments in the region to maintain, enhance or restore water quality where necessary. The Council's science staff has partnered with Montclair State University on research and monitoring of Harmful Algal Blooms (HAB's) in water bodies in the Highlands. This is an emerging threat to both water quality and public health. The staff is also working with NJDEP on monitoring stream sites within the Highlands to determine the health of the region's waterways, the majority of which are designated C-1 streams that both contribute

to water supply and are important environmental resources. Most of the state's Trout Production Waters and streams that host native Brook Trout are in the Highlands.

Every drop of rain that falls on the Highlands eventually contributes to a drinking water source, whether that source is a groundwater well, a surface reservoir, or a riverine intake.

A much more robust monitoring program and a more prominent presence of Highlands science staff in the field is required. In 2025, the Highlands Council and Kean University hosted the first Highlands Science Symposium at the Kean Skylands Campus in Jefferson Township. Raising the profile of scientific study and research in the region is an important goal and monitoring programs are a big step towards that end. Ultimately, having substantial ongoing tracking of water conditions in the region allows for a science program that can provide four essential functions. The program should provide an adequate description and assessment of conditions, provide early warning of water quality issues, identify long-term trends and the conditions that drive them, and ultimately allow for predictive modeling that can inform future Highlands Council and NJDEP decisions based upon facts and data.

I. Newark/Pequannock Watershed Initiative

The City of Newark is the largest landowner in the Highlands region. The City's 35,000-acre Pequannock Watershed in Sussex, Morris and Passaic Counties contains some of the healthiest intact forests anywhere in the state. There are five large drinking water reservoirs and over a hundred miles of pristine rivers and streams within these land holdings. Newark is also the single largest consumer of Highlands water. Management of these huge land holdings has proven to be a challenge for the city. For the first two decades of its existence, the Highlands Council had no meaningful relationship with the City of Newark, despite the obvious connections.

There is, in fact, no better example of the inter-relationship between the Highlands and the urban parts of the state that rely upon the region for their drinking water than the Pequannock watershed. Newark could not exist as a city of its size without this protected source of adequate clean drinking water. Understanding this, the Highlands Council and Newark have created an MOU stating the intention to work together to develop a strategy for the long-term protection of this vital resource including identifying resources that can be utilized in achieving this goal and the involvement of Highlands staff (in particular the science team) in evaluating, monitoring, and planning for its future.

J. Sustainable Agricultural Grant Program

Agriculture is the single largest land use other than residential development in the region. It is also one of the biggest economic drivers in the Highlands; one that is also consistent with the goals of the Highlands RMP. There has always been a somewhat strained relationship between the agricultural community and the Highlands Council based upon the perception that the Highlands Act deprived farm owners of substantial equity in their lands. The Council has made a concerted effort to mend that relationship and become an asset to the region's farmers.

One of the concepts that drives this effort is the understanding that Highlands farms are within a two-hour drive of the largest concentrations of population in the nation with over 20 million people living within that radius. Many farms, particularly in Warren and Hunterdon Counties, do not take advantage of this potential market. Allowing food and specialty production on the region's farms serves multiple goals. Addressing the demands of the huge marketplace nearby enables farmers to be more economically viable and profitable. It also allows agricultural practices that have a reduced impact on water quality when compared to commodity production of crops such as soy and corn. Finally, it allows for the retention and expansion of food production capacity in proximity to large population centers in an area that will still expect substantial rainfall and that is host to some of the highest quality agricultural soils in the country. This is an essential element of climate resilience.

K. Watershed Improvement Plans

In 2023 the Highlands Council approved funding for three projects to complete watershed Restoration and Protection Plans (WRPPs) in the Highlands region. Once finalized, the WRPPs can be used to apply for funding from the New Jersey Department of Environmental Protection (NJDEP) for Water Quality Restoration Grants under the federal 319(h) pass-through grants of the Federal Clean Water Act (CWA). Other funding sources may also be available to implement the plans. The funded projects covered the Musconetcong, Raritan, and Lopatcong Creek watershed and incorporated the Environmental Protection Agency (EPA) identified nine key elements that are critical for achieving improvements in water quality, because the EPA requires these elements to be addressed in all WRPPs funded with CWA section 319 funds. This format provides a clear, concise, and implementable plan. The nine elements are:

1. Project summary, historical data review, identification of causes and sources of pollution
2. Estimate load reductions expected from management measures
3. Description of management measures and description of the critical areas in which those measures will be implemented
4. Estimate amount of technical and financial assistance, associated costs, and /or the sources and authorities that will be relied upon to implement the plan

5. Information and education component to enhance public understanding of the project and encourage participation
6. Schedule for implementation of management measures
7. Description of interim measurable milestones for determining whether management measures are being implemented
8. Evaluation criteria of the management measures
9. Monitoring component

The projects will ultimately identify methods for improving the watershed(s), including but not limited to load reduction methods, septic system maintenance recommendations (if needed), green stormwater infrastructure implementation, stormwater facilities retrofit/rehabilitation projects, dam removal projects (if applicable), and best management practices within the identified sub watersheds.

L. Municipal Support for Stormwater Management

The most recent municipal separate storm sewer system (MS4) permit became effective on January 1, 2023. NJDEP funding for this obligation was not adequate to cover the actual costs to municipalities. There was also inadequate guidance to assist municipalities with their work. Because proper stormwater management advances the goals and purposes of the Highlands Act and the RMP, Highlands Council grant funding was made available to supplement NJDEP funding for permit compliance. While all Highlands municipalities were eligible for this funding, requests exceeded available funding, therefore priority was given to conforming municipalities. The combination of affordable housing requirements and stormwater management requirements, both of which were extremely important to the mission of the Highlands Council, nearly exhausted available planning grants this in both 2024 and 2025.

The Council also created guidelines to assist municipalities and their professionals in navigating the new stormwater requirements. Effective stormwater management is an important element of natural resource protection, and therefore, vital to the success of the Highlands Act and implementation of the RMP. Because the Highlands region provides drinking water to more than 300 municipalities that are home to 70% of New Jersey residents, the Highlands Stormwater Management Program provides additional guidance, beyond the New Jersey Stormwater Management Rules, to ensure the enhanced natural resource protections dictated by the Highlands Act are in place. The Highlands Stormwater Management Program has four main components:

- GIS Mapping of Stormwater Structure Locations and Conditions Assessment
- Adoption of Highlands Area Stormwater Control Ordinance Amendments
- Review and Update of Municipal Stormwater Mitigation Plan
- Stormwater Management Training

The Council's work with the region's municipalities continues. This is a program area where having a water resource engineer on staff would be extremely helpful. The ability to review plans and provide technical assistance to Highlands municipalities would be an important asset for the constituent municipalities of the Council.

M. Ongoing Plan Conformance Work with Municipalities

The roster of conforming municipalities continues to grow. Municipalities that have previously shied away from working with the Council are now seeking Plan Conformance and taking the necessary steps to align their local planning with the Highlands RMP. The importance of this cannot be overstated, particularly when it comes to conformance within the Planning Area of the Highlands where mandatory restrictions on development don't exist, but important resources are present. While there are still communities in the Planning Area (and several with Preservation Area lands that are in open defiance of the Highlands Act) that still do not work with the Council, their numbers are shrinking as towns recognize the value in Plan Conformance.

The Highlands Act relies on municipal action for much of its implementation. Because of this, having as much of the land area of the region managed by municipal governments in accordance with the Highlands RMP is an essential element of successfully carrying out the legislative intent of the Highlands Act. Over a dozen new towns have engaged in the conformance process over the past year. Adding these additional towns will place a strain on the staff as we need to work closely with all Highlands municipalities to ensure that required measures are adopted across the region, but that is a challenge the Council welcomes.



III. Comparison - NYC Watershed and The Highlands

While the Highlands Council has been effective in advancing the mandates of the Highlands Act, it has only been able to accomplish a fraction of what is needed to achieve the long-term security of the state's water supply. There has been a lack of commitment to the mission from the governor's office and the legislature during the 20+ years since the Act was adopted.

Passage of the Highlands Act in 2004 should have marked the low point for the condition of the region's resources and signaled an end to their degradation. Instead, because of the lack of commitment to their protection, we have only slowed the rate of decline.

For an illustrative example of the disparity between the resources needed and the resources actually allocated to the effort of protecting the state's water supply, a comparison with the investments made by New York City to protect its water supply is instructive.

The Highlands and the NYC Catskill watershed are roughly analogous. While similar in size, population served, amount of water supplied daily, and the resources present that contribute to protection of water quality and water quantity, there couldn't be a more stark difference in how the two water supply areas have been protected. NYC has invested approximately \$108 million per year since 1997 to the tasks necessary to safeguard its water supply with world-renowned success. Meanwhile, New Jersey has tried to get similar results while only spending about \$3 million per year – a bare minimum investment. Failure to adequately support the work of the Highlands Council will have consequences, particularly as the demand for Highlands water rises annually and the impacts of climate change on the reliability of the water supply increase.

	 New Jersey Highlands Region	 NYC Catskill/ Delaware Watershed
Area	1,340 sq. mi.	1,972 sq. mi.
Communities	88 Municipalities, parts of 7 Counties	42 Municipalities, parts of 5 Counties
Residents Served	6 million 70% of NJ residents >200 Municipalities 15 of State's 21 Counties 8 out of 10 residents living in Overburdened Communities	9 million 8 million in NYC 1 million in Ulster, Orange, Putnam & Westchester Counties 90% of NYC Water Supply
Water Exported	840 million gallons/day	1.1 billion gallons/day
Region Population	850,000	62,000
Agricultural Land	110,000 acres in agriculture	135,000 acres in agriculture
Forested Land	54% Forested (725 sq. mi.)	75% Forested (1,500 sq. mi.)
<i>figures are approximate</i>		

NYC vs. New Jersey Highlands
(larger image in appendix)

This disparity should be seen as particularly problematic at this point in time. At the time of writing, the state is in a declared “Drought Warning” for the second consecutive year. New Jersey, and specifically the Highlands region, is in the midst of a two-year period of below normal rainfall with 20 of the past 24 months recording shortages, including for the first time, a month where there was no precipitation (October 2024). New Jersey is not making the same investments that other states are in safeguarding its water supply. Nearly 7 million people, primarily in the state’s urban core, rely on the Highlands for their drinking water. Any hope of spurring investment and growth in the state’s urban areas depends upon having an adequate supply of clean drinking water. Properly investing in the Highlands is a key element of any plans that the new administration may have for either economic development or environmental protection.

New York City's Department of Environmental Protection (NYCDEP) provides tax relief to the municipalities in its watershed. The NYCDEP invests in an aggressive land preservation program. They work with private landowners on forest management and better agricultural practices. They have a program to engage in resource restoration. They promote sustainable economic growth. They engage in scientific study of the watershed. These are all actions that the Highlands Council aspires to but simply cannot duplicate because of a lack of adequate resources. Due to this failure, we are playing Russian Roulette with the state's future.

The NYCDEP created two entities to carry out its comprehensive strategy to protect its water supply. The Watershed Agricultural Council and the Catskill Development Corporation engage landowners and municipalities in the region to address the critical issues necessary to protect that region's resources. In addition to land preservation, restoration and stewardship activities, there is a direct investment in septic management, community wastewater treatment improvements, flood hazard management, stormwater management, public education and economic development.

It was clearly understood that supporting a population center as intensely occupied as New York City required securing an adequate water supply. They also understood the importance and economic impacts of protecting both water quality and quantity. Knowing the methodologies employed by the NYCDEP in protecting its water supply, and understanding the success that those methods have achieved, there is no doubt that New Jersey must make a similar investment in the Highlands if we are ever going to adequately safeguard the state's most vital natural resource.

IV. New Programs

The Highlands Council envisions the creation of a series of programs that are similar in nature to those utilized by New York City, however, the available resources pale in comparison. The lack of funding, staffing, and state-level support for the work of the Highlands Council handicaps these efforts and places the region and the state's future at risk.

A. Comprehensive Land Management Program

Affordable Housing mandates along with the proliferation of Warehousing and Data Centers have all contributed to an increase in development pressure in the region requiring an aggressive response. Land use and land cover are key drivers of human impact on natural systems. Adequate protection requires a multi-faceted approach. An approach that includes a combination of land preservation, land stewardship, and ecological restoration.

The Highlands Council has drafted a comprehensive land management program but currently lacks adequate resources for full implementation. The draft program:

- Builds on the existing Highlands Council Open Space Partnership Funding Program and Highlands Development Credit Purchase Program, and adds Land Stewardship, Ecological Restoration and Septic Upgrade/Replacement Programs.
- Explores possible funding sources for the program including the Corporate Business Tax (CBT), Regional Green House Gas Initiative (RGGI), Natural Resource Damage Claims (NRDC), and the New Jersey Infrastructure Bank (I-Bank).
- Recommends the creation and implementation of Best Management Practices for Agriculture and Forestry Practices in the Highlands.

Current conditions couldn't be more illustrative of the need to engage in these activities. As mentioned earlier, the Highlands region is currently in the midst of a two-year extended drought. The lack of normal rainfall has been accompanied by extended periods of above-normal temperatures, which contribute to higher water usage and increased evaporation. The traditional response to drought has been to take measures to reduce water demand. ***This is not a demand problem.*** The protection of land from development and the restoration of degraded forests, wetlands and streams in the region are the appropriate response. These actions will make the Highlands more resilient to the changes in precipitation patterns that climate change will continue to bring and enable the state to better tolerate periodic drought conditions.

In addition to these land management actions, there should also be a program designed to remove sources of pollutants, primarily from inadequate wastewater treatment. New York City invests approximately \$30 million each year into upgrades of existing water treatment plants, construction of new facilities and underwriting the costs of replacing or upgrading existing private septic systems. Inadequate wastewater treatment is a significant factor in the Highlands and needs to be addressed.

B. Climate Action Strategy

The role of the Highlands region in the overall climate resilience of the state must be better understood. So too, the impacts of a changing climate on the region's resources need to be both ascertained and addressed with a strategic set of initiatives designed to mitigate these effects. We need to fully grasp both the internal in-region changes and what those changes mean to the entire state that relies upon the ecosystem services the region provides. Changes to forest composition and health, variability of precipitation patterns, impacts to local food production, increased flood hazard risks and dangers from increased occurrences of severe weather (floods, wind, tornadic thunderstorms, inland tropical storm conditions, and extended drought) are all incredibly consequential. Currently we have a minimal awareness of the true nature of these likely occurrences. We must invest in both study of these impacts and the creation of a comprehensive strategy to address them. The Climate Action Plan currently being developed

and discussed earlier in this report will help inform a larger Climate Action Strategy for the region.

C. Highlands and Carbon Offset

One avenue to attract investment in the land use and land management programs in the Highlands is to explore the designation of the region as a Carbon Sink or Carbon Credit receiving area. Carbon emission offset programs need locations that can be protected or enhanced to mitigate the difficult to eliminate and unavoidable sources of greenhouse gas emissions. This is particularly true for businesses that are operating in the European Union, where strict standards exist. The airline industry in particular is impacted by the requirements to account for emissions. U.S. Airlines that fly to Europe must find outlets for the mitigation requirements. The Highlands region is particularly well-suited to serve as an offset location.

The offset programs require objective actions that can be quantified and proven to qualify for consideration. The needs of the Highlands are tailored to programs like this. Land preservation, reforestation, environmental restoration, and sustainable agricultural practices are all eligible activities. In the Highlands, these activities translate to water quality and quantity protection. Finding a partner, or partners, in need of a source of offset credits and then crafting an implementation schedule would be necessary. However, this is a potential source of funding for the projects identified in this document. This is an instance where the needs of industry, the needs of the Highlands and the requirements to do business in the European Union align.

Passage of the Highlands Act in 2004 should have marked the low point for the condition of the region's resources and signaled an end to their degradation. Instead, because of the lack of commitment to their protection, we have only slowed the rate of decline.

Additionally, existing U.S. programs such as the Regional Greenhouse Gas Initiative (RGGI) have similar requirements and are currently generating substantial sums of money. The use of these funds for land management activities that increase carbon sequestration (and coincidentally water supply protection) is an ideal solution for funding Highlands programs. The practices that would be utilized in the Highlands are easily quantifiable and the results provable. This is necessary to avoid any implication that the benefits are illusory or merely “green washing” polluting activities.

D. Field Science and Research Program

The Highlands Council needs the capacity to conduct scientific study, research and monitoring in the region. There is a lack of Highlands specific scientific research in general. Understanding the condition of resources, the impacts of climate change on those resources, and the effects on

water supply those changes will bring are just some of the key areas requiring scientific study. The Council has not engaged in this type of analysis of the region during its 20+ year history. Study both by in-house staff and in cooperation with academic institutions is a critical need to inform the work of the Council in the future.

Understanding the impacts on water quality, quantity and timing posed by changes in forest composition, pollution sources (septic, stormwater) and impacts on lakes (harmful algal blooms) and groundwater, especially given the Highlands' role as a drinking water source is necessary. Assessing the impacts of climate change on the region and the consequences for both the water supply and the forests and wetlands that protect that supply must be done. Developing and testing approaches to protect ecosystems and manage hazards while providing human benefits, utilizing the region's unique ecology are also areas that require close analysis and will provide the necessary information to inform future actions. Cooperation with Rutgers, Montclair State, Kean and other research universities must take place and must be funded. The science symposium organized by the Highlands Council staff and held at the Kean Skylands Campus in March 2025 brought scientists working in the region together to discuss Highlands-specific research and findings. It was the first of its kind. It should not be the last.

V. Priority Actions for the New Administration

Two decades of neglect have put the Highlands Council, the Highlands Act and the state's water supply at risk. Fortunately, the steps necessary to remedy the biggest issues facing the region and the state are relatively simple and known. Funding program initiatives can be accomplished through access to existing sources such as the dedicated portion of the Corporate Business Tax (CBT) or the Regional Greenhouse Gas Initiative Funds (RGGI), both of which are currently underutilized. The addition of essential staff could be accomplished with a modest annual investment of less than \$1 million in a state budget of over \$60 billion. Other actions included here only require the support and active engagement of the Governor's office.

A. Support the Work of the Highlands Council

Recognize that protection of the Highlands region is a matter of state-wide importance. Protecting the Highlands region not only helps ensure clean plentiful water for generations to come, it is integral to the state's climate resilience as highlighted throughout this report. The Highlands Council was established as an independent authority within the Governor's purview because its mission is about more than resource protection, it is about the long-term viability of the state.

1. Address NJDEP Regulations that do not Align with the Highlands Act

The Highlands Act assigned regulatory responsibility for the region to the NJDEP. A comprehensive series of administrative rules can be found at N.J.A.C. 7:38-1, et. seq. Beyond these specific Highlands rules, there are several related NJDEP regulations that need to be amended to reflect the impact of the Highlands Act and the Highlands RMP. These include the rules covering Freshwater Wetlands (N.J.A.C. 7:7A-1, et. seq.), Vernal Pools (7:7A-5.7), and amendments to Water Quality Management Plans (WQMPs) (7:7A-15 et. seq.).

Currently, the NJDEP rules fail to reflect the Highlands wetlands transition and vernal pool buffers, which are afforded 300-foot and 1000-foot buffers respectively. The existing NJDEP rules only afford a maximum 150-foot buffer, even within the Highlands. Of greater significance, the WQMP amendment rules require input and deference to the Highlands only within the Preservation Area; this input should be required in the Planning Area as well where sensitive resources also exist. A 2016 amendment to these rules removed the requirement for NJDEP to solicit and follow the findings of the Highlands Council in making decisions on extensions of sewer or water service in the Planning Area. That rule change was not rolled back during the past eight years. Highlands Council input in the Planning Area should be reinstated to ensure the important resource found throughout the Highlands are both protected and accounted for in the decision process.

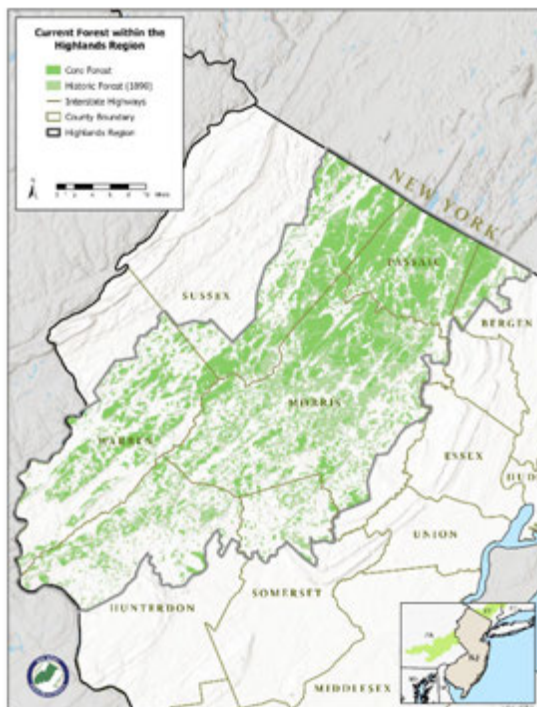
2. Urge NJDEP to Update Forest Management Practices

New Jersey currently has Forestry Best Management Practices (BMPs) that were created in 1995. This was prior to the adoption of the Highlands Act and prior to our understanding the potential impacts of climate change. Perhaps more critically, ‘current’ state BMPs completely ignore the importance of forest health in the protection of water quality, quantity and timing, which has been recognized in forestry practices in the United States for over a century. Research has shown that forested lands serve to provide the most stable and the cleanest water supply compared to other land use types. The introduction of sound forestry practices by the nation’s first professional forester, Gifford Pinchot, was, in part, focused on the role of forests in providing protection from floods, degradation of rivers and streams and availability of clean drinking water. The U.S. Forest Service continues to highlight this relationship and has promulgated a set of Best Management Practices for water supply areas that account for this.

Changing climate conditions, particularly warming temperatures and increased periods of drought, will have an impact on the region’s forests, and thereby on the reliability of water supply. The threat of wildfires, species composition changes and the introduction of new pests and diseases will all threaten the health and coverage of the region’s forests. In addition, there is the increased threat of inland Tropical Storm events that bring extreme

rain and wind conditions. Superstorm Sandy was particularly destructive in the Highlands as were Tropical Storms Irene and Ida. Catastrophic flooding and tree damage similar to what occurred in these storms is likely to happen again. We need to anticipate these threats and take all necessary actions to ensure that forest coverage and forest health 50 years from now is better than the conditions present today.

In the New Jersey Highlands, managing forested lands in a manner that is optimal for protection of water quality, water quantity and water timing is essential for the future of the region and the future of the state. There are many ecosystem management tools available



Highlands Forests
(larger image in appendix)

to assist in managing forests for this purpose. Conversely, poor forest management can have long-term negative impacts on forest health and water resources. A growing human population and a changing climate have put pressure on many ecosystem services, increasing the need to manage forests for water. Highlands forests are also impacted by fragmentation, an over-population of deer and the extensive introduction of non- native invasive species. These conditions all need to be addressed through appropriate active management practices. Taking this approach will provide ancillary climate resilience benefits beyond reliability of the water supply such as retention of floodwaters in extreme precipitation events, temperature moderation and increased carbon sequestration within the region's forests.

NJDEP needs to adopt new BMPs that acknowledge that the Highlands forests must be managed differently than the rest of the state. The lack of defined practices for the region resulted in the Department conducting forestry management in some of the most pristine areas of the Highlands at Sparta Mountain Wildlife Management Area that were not designed to enhance and protect the water protection quality of the forest there-despite admonishments from the Highlands Council. A nearly complete set of BMPs was drafted by the Highlands Council and delivered to the NJDEP in 2023 with no further action from the Department. This is not acceptable long-term environmental policy.

3. Direct all State agencies to align actions with the Highlands RMP

This agency relies on leadership from the Governor’s office to help ensure the authority of the Highlands Council as defined in the Highlands Act is maintained. State government has historically been subject to “siloing” where each agency operates in its own areas of interest, often without consulting other relevant bodies. The Highlands in particular needs the support of the departments and agencies such as the NJDEP, the Department of Transportation, the Department of Agriculture, and the Department of Community Affairs, whose work directly affects the region. There must be direction from leadership to align all administrative regulations, capital investments, infrastructure projects and programs with the Highlands RMP.

4. Support Cooperation with Water Purveyors

One of the challenges in the protection of Highlands water sources stems from the diversity of those sources. The majority of the approximately 850,000 residents of the region rely upon private groundwater drinking wells. When it comes to public water and the 863 million gallons of water exported from the region on a daily basis, it is much more complex. There are high volume groundwater extraction wells, riverine intakes and the most visible and well-known source, surface reservoirs. These water sources are under the control of a patchwork of both private companies, municipal water systems and quasi-governmental water supply agencies. The Highlands is charged with protection of the resources that provide water to these entities across the region and across jurisdictional boundaries. These water providers sell their water as a commodity. The Highlands Council essentially protects the commodity sold by these purveyors at no charge.

While there are many different water supply entities operating in the region, there are six that account for the bulk of the water distributed from the Highlands. The so-called “Big 6” purveyors meet on a quarterly basis to discuss common issues. Recently, the Highlands Council has been invited to these meetings. Those 6 purveyors are:

- New Jersey American Water Company
- Veolia
- North Jersey District Water Supply Authority
- New Jersey Water Supply Authority
- City of Newark Department of Sewer and Water
- Passaic Valley Water Commission

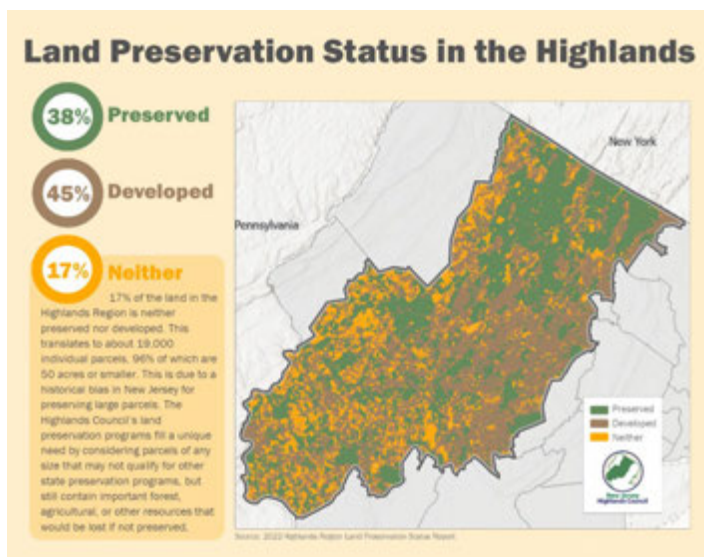
Entering into a productive and cooperative relationship with these purveyors to address common problems that impact all of them would be an important and valuable measure. At best, a cost-share agreement for scientific studies, such as an analysis of the root causes of

Harmful Algal Blooms or an agreement to fund resource restoration efforts on a cost-share basis could be the result of this cooperation. At the least, there will be open communication between the Highlands and the major purveyors of Highlands water. Leadership in the form of endorsement and directives from Trenton would no doubt help ensure the success of these efforts.

B. Properly Fund the Work of the Highlands Council

1. Provide Land Management Funding

As discussed, a comprehensive land management program will address permanent land preservation, improved land stewardship practices, and ecological restoration. The Council currently has no source of funding to support such a program. At present, the only preservation projects that move forward are those that leverage Federal Highlands Conservation Act (HCA) land preservation funds for which the Highlands Council is the designated state-level partner with the U.S. Fish and Wildlife Service, which administers the HCA grant program.



17% of the Region is open to development
(larger image in appendix)

There is a misconception that the restrictions of the Act in the Preservation Area and NJDEP regulations for the region are sufficient to protect the long-term health of the region's resources. This is a potentially dangerous assumption as development has continued to take place in the region, albeit at a greatly reduced pace, and no effort has been made to restore the resources of the Highlands that were in a degraded state at the inception of the Act.

A defined, repeating source of land preservation funds would support direct fee, easement, and Highlands Development Credit (HDC) acquisitions. These funds would be leveraged in multiple ways. First, the Highlands Council is able to preserve properties that do not fall within the requirements of the existing state land conservation programs (Green Acres and SADC Farmland Preservation). Second, the Council would supplement these programs along with existing county and municipal programs as well as match available Federal HCA monies which go unclaimed by New Jersey without a match capability. These uses are vital to the

health of the region's resources as there are approximately 230 square miles of the region that are undeveloped but developable, even under Highlands Act restrictions. There are currently substantial balances in the CBT dedicated funds for open space protection that could be directed to this purpose.

Regarding stewardship and restoration, one of the most valuable efforts undertaken by NYC in management of its watershed lands is the continuing partnership with private landowners. Forest management, forest restoration, invasive species removal, stream restoration and stabilization and low impact agricultural practices are all part of the strategic management of watershed lands. Cost sharing is an effective means of achieving better protection of the water supply. There is currently no such program and no funding available in the Highlands. Making a dedicated allocation of RGGI funds available to the Highlands for these activities would immediately address this shortcoming.

2. Provide Financial Support for Highlands Municipalities

The 88 municipalities of the Highlands have been required by the Highlands Act to severely limit future development and to take measures at the local level to support the Highlands Act and the Highlands Regional Master Plan. This has resulted in significant financial stress for Highlands towns, particularly those that are 100% within the Preservation Area where restrictions are the greatest. There is currently a one-way flow of benefits. That is outbound from the Highlands with no effort to underwrite the costs and consequences of the responsibilities placed on Highlands municipalities. Highlands communities need some measure of financial support to account for the loss of development potential and mandates to take resource protection actions at the local level. Consider that New York City pays \$165 million annually in local taxes across the Catskill/Delaware watershed in addition to funding the Catskill Development Corporation and the Watershed Agricultural Council's respective activities.

There is a misconception that the restrictions of the Act in the Preservation Area and NJ DEP regulations for the region are sufficient to protect the long-term health of the region's resources. This is a potentially dangerous assumption as development has continued to take place in the region, albeit at a greatly reduced pace and no effort has been made to restore the resources of the Highlands that were in a degraded state at the inception of the Act.

There is no funding to offset the tax and budget implications to Highlands communities. The Watershed Moratorium Aid provisions that provide some relief for impacted municipalities are not applied region-wide and where available is only incremental (\$47/acre). Funding for this program is provided by the Highlands Protection Fund which is an allocation from the

Realty Transfer Fee. Currently, funds from this allocation are distributed as far away as Lower Alloways Creek Township in Salem County, while some Highlands municipalities that have significant watershed lands are omitted from funding. Legislation in 2025 authorized payment to Highlands towns that have been left out of this program. An adequate additional allocation of the Realty Transfer Fee (approximately \$450,000/yr.) is necessary to meet the legislative requirement.

Lack of financial support undermines the ability of the Highlands Council to implement its mission. Municipalities that are not obligated to follow the RMP and that are struggling with fiscal constraints make short-sighted land use decisions. The message that “we are in this together” rings hollow when the state only takes from the Highlands with no recognition of the costs and responsibilities of protecting the region’s resources is made. Slashing the grant budget in 2011 effectively diminished the Council’s credibility with Highlands municipalities. Restoring that budget and providing real financial support to Highlands towns would be extremely beneficial in carrying out the intent of the Highlands Act. This need has increased as more Highlands towns have been enticed to enter into Highlands Conformance. There is an obligation on behalf of the state to support these efforts.

C. Address Staff Shortage

As discussed earlier in this report the original vision for the Highlands Council was to have a staff effectively twice its current size. There are key policy areas that have either gone unaddressed or have been given only cursory attention due to a lack of resources. There are four positions that should be filled as soon as possible. An additional \$500,000 in the Council’s annual budget would allow these positions to be filled.

1. Agricultural Specialist

Assist with agricultural retention issues in the region. The largest single land use in the Highlands after residential is agricultural. It is also the primary economic driver in the region.

2. Climate Scientist

The biggest unknown factor in safeguarding the state’s water supply is the impact of climate change on the resources of the region. Both disruption in precipitation patterns and changes to the forest ecology of the region need greater scrutiny and a strategic approach to adapting to anticipated climatological conditions in the Highlands.

3. Land Management Specialist

A scientist to oversee land acquisition efforts, ecological restoration projects, and stewardship activities in the region.

4. Water Resource Engineer

A position that the Council originally had. The need for an engineer with expertise in stormwater management practices to assist and review municipal plans and to deal with issues ranging from the impacts of impervious coverage on water supplies to increasing the use of green infrastructure.

VI. Conclusion

As discussed throughout this report and is hopefully abundantly clear by now, protection of the Highlands region is a matter of statewide importance. The benefits of protecting the New Jersey Highlands extend well beyond its boundaries and will have generational impact. For much of the first 21 years of the Highlands Council's existence this point seems to have been lost. The Sherrill administration has the opportunity to correct course and make an impact that will benefit current and future residents of New Jersey by making the appropriate and necessary investment in the protection of the Highlands region.

It is a foundational principle of good governance that ensuring a reliable adequate supply of clean drinking water is a primary responsibility of any governing administration.

With approximately 1,290 people per square mile, New Jersey is the most densely populated state in the country. In the state's urban corridors densities are even higher – Hudson County's population density is over 15,000 residents per square mile with several of the county's towns coming in at over 50,000 per square mile. (See population density map in appendix.) **This intensity simply could not occur and is not sustainable without the resources of the Highlands.**

Consider also, that for all of the comparisons with New York City's efforts, the Catskill/Delaware watershed has a total population of around 62,000. The Highlands is home to around 850,000 people making the tasks of resource protection much more complicated with success being all the more imperative.

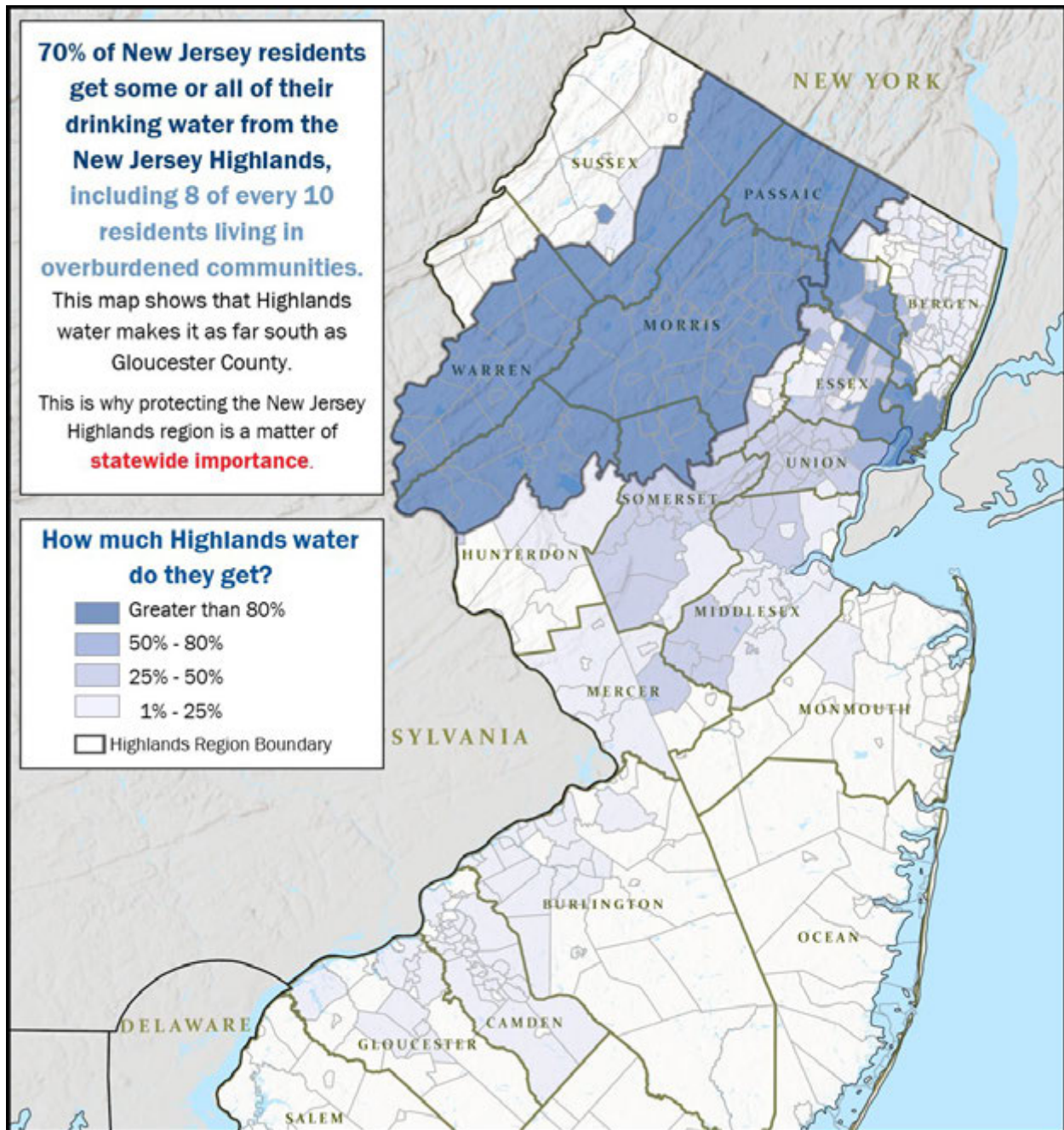
The vision of the Highlands Act to safeguard the state's water supply to meet the state's needs has not been met with a corresponding commitment to invest in the actions needed to realize that vision. This must change. The state's population and resource demands will continue to grow. Climate change will present additional challenges for resource protection. Quality of life, economic growth, and the general health and welfare of the state all depend on the success of this endeavor. We cannot delay properly protecting the Highlands any longer.

VII. Appendix - Maps and Charts

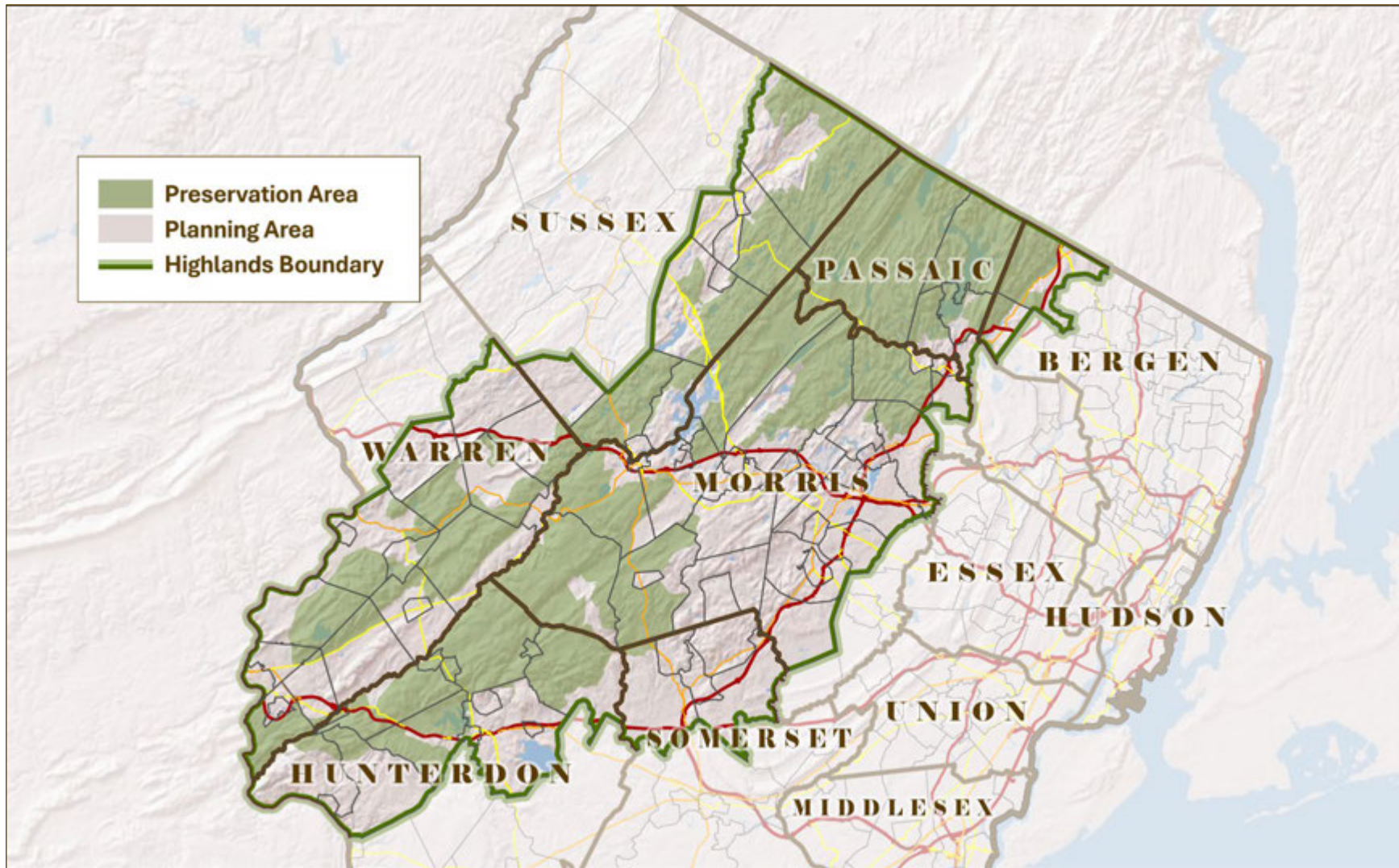
A. Four-State Federal Highlands Region

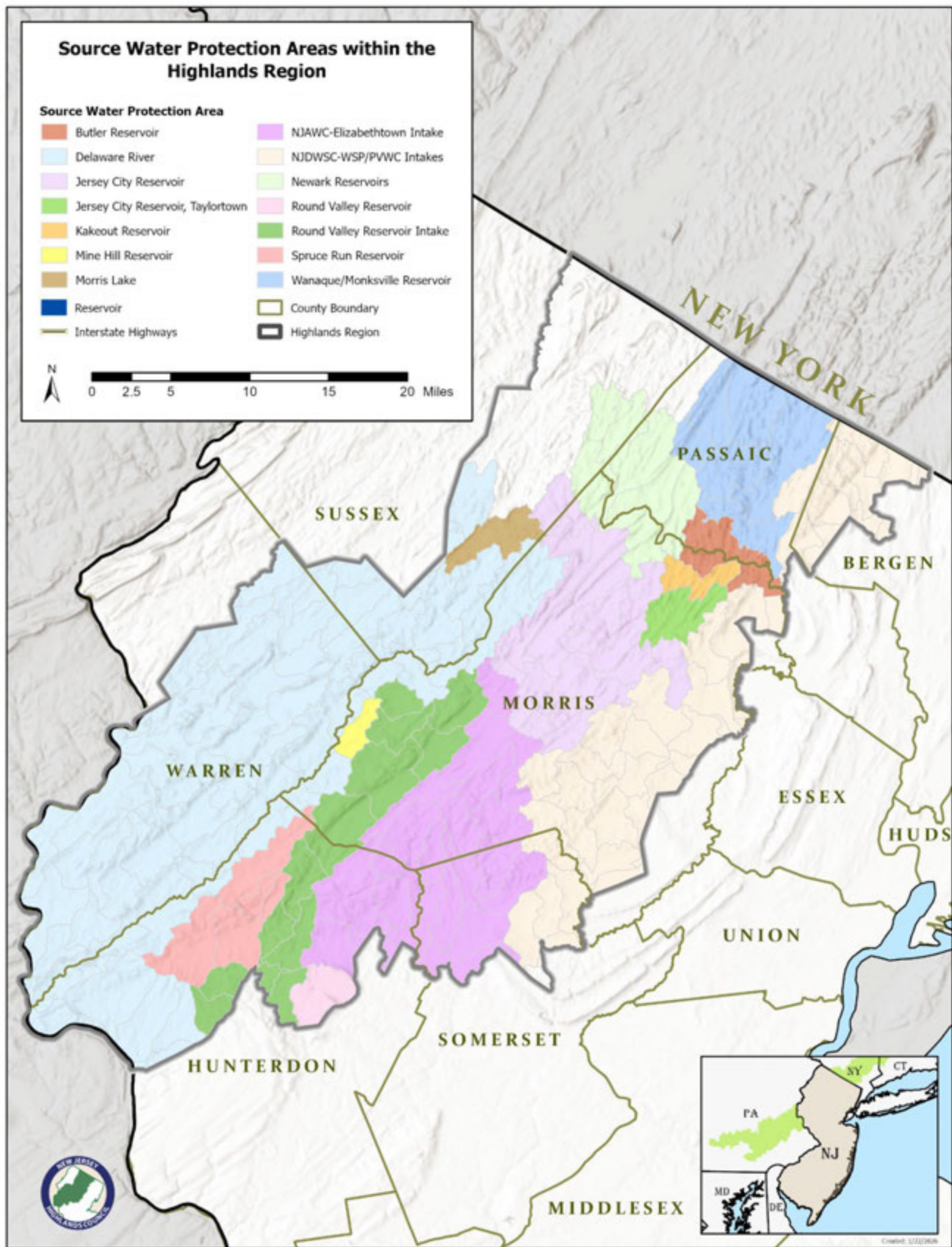




B. Who Drinks Highlands Water



The New Jersey Highlands Region





	 New Jersey Highlands Region	 NYC Catskill/Delaware Watershed
Area	1,340 sq. mi.	1,972 sq. mi.
Communities	88 Municipalities, parts of 7 Counties	42 Municipalities, parts of 5 Counties
Residents Served	6 million 70% of NJ residents >200 Municipalities 15 of State's 21 Counties 8 out of 10 residents living in Overburdened Communities	9 million 8 million in NYC 1 million in Ulster, Orange, Putnam & Westchester Counties 90% of NYC Water Supply
Water Exported	840 million gallons/day	1.1 billion gallons/day
Region Population	850,000	62,000
Agricultural Land	110,000 acres in agriculture	135,000 acres in agriculture
Forested Land	54% Forested (725 sq. mi.)	75% Forested (1,500 sq. mi.)
<i>figures are approximate</i>		

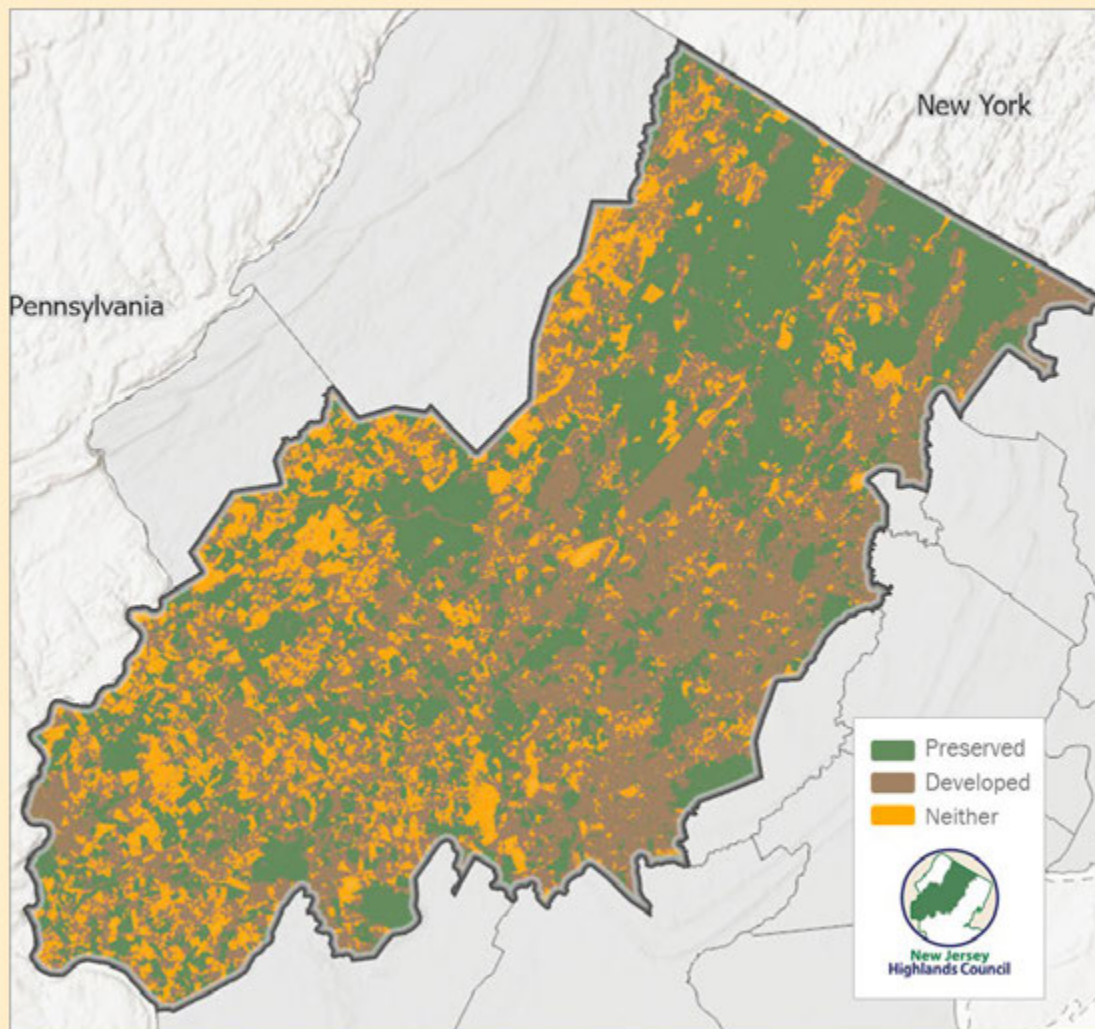
Land Preservation Status in the Highlands

38% Preserved

45% Developed

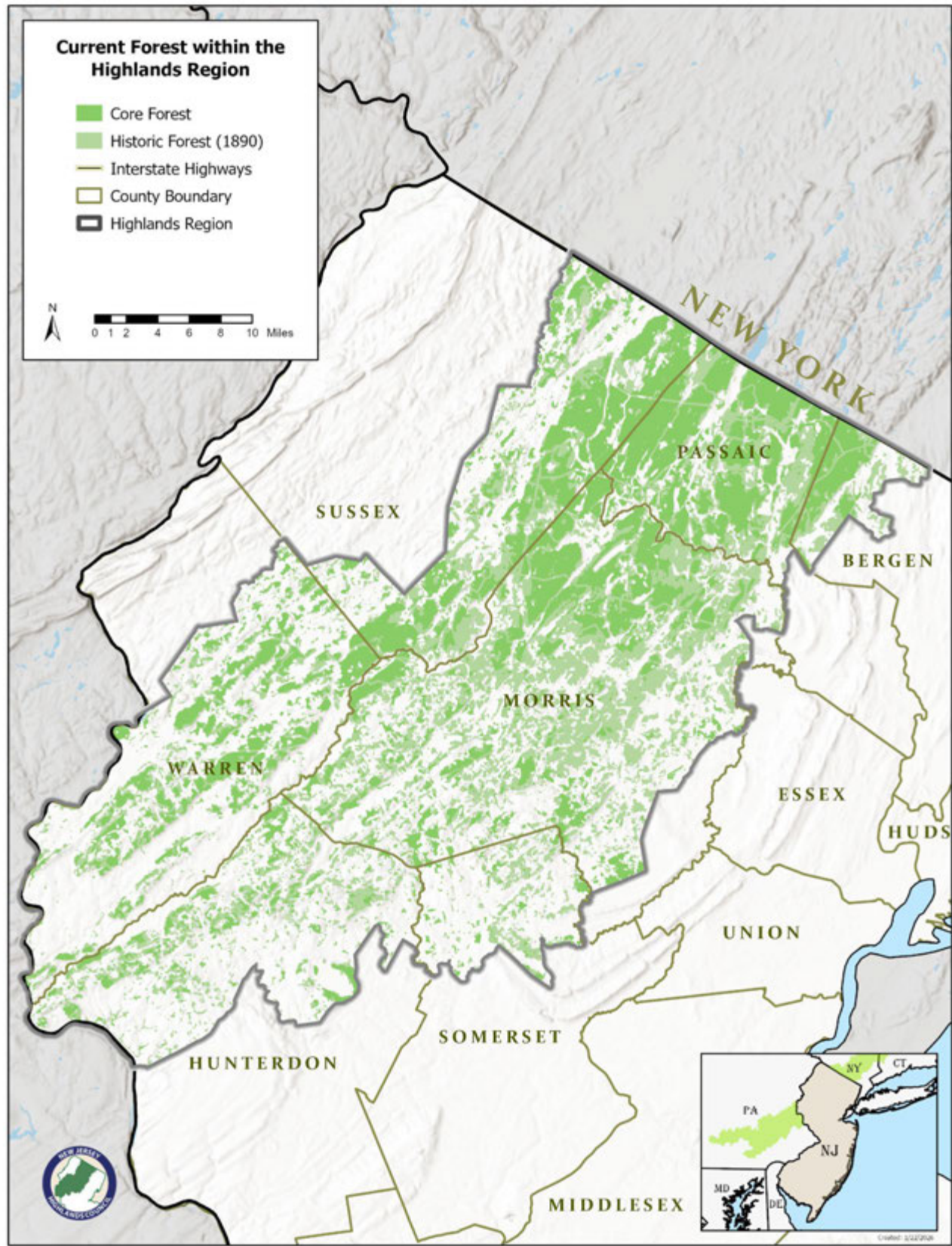
17% Neither

17% of the land in the Highlands Region is neither preserved nor developed. This translates to about 19,000 individual parcels, 96% of which are 50 acres or smaller. This is due to a historical bias in New Jersey for preserving large parcels. The Highlands Council's land preservation programs fill a unique need by considering parcels of any size that may not qualify for other state preservation programs, but still contain important forest, agricultural, or other resources that would be lost if not preserved.



Source: 2022 Highlands Region Land Preservation Status Report

G. Highlands Forests



H. Population Density of New Jersey by Municipality

