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**New Jersey Conservation Foundation**  
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July 21, 2017

NJDEP – Division of Water Supply and Geoscience  
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**Re: Draft New Jersey Statewide Water Supply Plan**

Dear Commissioner Martin:

On behalf of the 93 member organizations of the New Jersey Highlands Coalition and the New Jersey Conservation Foundation, we request that you extend the comment period for the New Jersey Water Supply Plan Draft 2017-2022. The Plan provides important information to the public that has not been available for many years and involves complex issues that require diligent study in order to understand and effectively comment. A 60-day extension would be appropriate to enable the public to properly consider the requirements of the Water Supply Act, which authorizes the Plan, and the issues addressed by the document.

Our concerns, as best stated given the short time provided by the Department, are below.

Sincerely,

A handwritten signature in blue ink, appearing to read "Elliott Ruga".

Elliott Ruga  
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A handwritten signature in blue ink, appearing to read "Alison Mitchell".

Alison Mitchell  
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**Joint Comments:**  
**New Jersey State Water Supply Plan 2017-2022 (Draft)**  
**July 21, 2017**  
**NJ Highlands Coalition and NJ Conservation Foundation**

**I. Introduction: the Context for the Plan in the Highlands Region**

*The New Jersey Highlands Region is of fundamental importance to New Jersey's water supply.*

The Statewide Water Supply Plan Draft does not adequately reflect the critical, statewide importance of Highlands water. The statement on page 52, that “the Highlands are a vital source of water for over 5 million residents” conflicts with the NJDEP Geological and Water Survey Open-File Report 15-1: *Potable Water Supplied in 2011 by New Jersey's Highlands*. The report states:

“The New Jersey Highlands are a vital source of potable water for the State. In 2011 the Highlands supplied...approximately one-third of the total potable water used in New Jersey... [which] was distributed to 332 municipalities in 16 counties. These municipalities are home to 70% of the State's population. This is an increase from 1999 estimates... of 292 municipalities.”

70% of the State's 2014 population represents 6.2 million people, not 5 million people. Although the entire Highlands region comprises only 17% of the State – *the Highlands supplies one-third of the State's water to over two-thirds of the State's population. Thus, the importance of the Highlands Region to New Jersey's water supply cannot be overstated.*

The Highlands Region contains the headwaters of many streams and Watershed Management Areas that provide this water supply. More than one-third of New Jersey's 20 Watershed Management Areas (WMA's) are located partially or entirely in the Highlands Region:

WMA 1 – Upper Delaware River (includes the Musconetcong River, Pequest River, Lopatcong and Pohatcong Creeks);

WMA 2 – Wallkill River (includes Lake Mohawk, part of Sparta Mtn. and Hamburg Mtn. Wildlife Management Areas);

WMA 3 – Pequannock, Wanaque and Ramapo Rivers, which flow into the Pompton River;

WMA 4 – Lower Passaic and Saddle Rivers (part of Saddle River is in the Highlands);

WMA 6 – Upper Passaic, Whippany and Rockaway Rivers;

WMA 8 – North and South Branch Raritan Rivers (including the Lamington River); and

WMA 11 – Central Delaware Tributaries (Hakihokake, Harihokake and Nishisakawick Creeks are partially located within the Highlands).

The Draft Water Supply Plan has determined that four WMA's are currently stressed, with negative remaining availability, with the shortfalls doubling by 2020 in two WMA's, including WMA 6. The

Highlands Regional Master Plan employed HUC 14 subwatersheds for its analytical and planning purposes. Of the 183 HUC 14 subwatersheds located within the Region, 114 (62%) were determined by the RMP to be Current Deficit Areas.

The Highlands Act gave the primary responsibility for implementation and oversight of future development in the Preservation Area to the NJDEP, while the Highlands Council was accorded primary responsibility for the Planning Area. The New Jersey Highlands Water Protection and Planning Act is explicit in its mandate for strict regulatory protections in the Preservation Area, as follows: In its findings and declarations, the Act states:

*“The Legislature further finds and declares that the protection of the New Jersey Highlands, because of its vital link to the future of the State’s drinking water supplies and other key natural resources, is an issue of State level importance...*

*That the State should take action to delineate within the new Jersey Highlands a preservation area of exceptional natural resource value that includes watershed protection and other environmentally sensitive lands where stringent protection policies should be implemented;*

*That such a new regional approach to land use planning should be complemented by increased standards more protective of the environment established by the Department of Environmental Protection for development in the preservation area of the New Jersey Highlands;*

“The Highlands Act was created largely to protect the Region’s natural resources and the water supplies that depend upon them. ***The Highlands Regional Master Plan is a critical component of this protection effort.*** The Goals, Policies and Objectives of the Highlands Regional Mater Plan (RMP) provide the substantive standards and direction for implementing the goals and requirements of the Highlands Act, and are used as the basis for the implementation programs.” RMP p.137. The RMP includes key goals, policies and objectives that address protection of water supplies and water quality, as noted below.

**“Forest Resources:** The Highlands region contains some of the most important forests in the State. These forests are vitally important to every element of the Highlands Region, including the natural and the built environment. ***Forests provide essential ecosystem functions, including the recharge of ground water aquifers that supply Highlands Region wells and surface water filtration, both of which are important to protecting essential drinking water supplies for the Highlands Region and for the state as a whole. Forests protect stream water quality...***sequester atmospheric carbon and contribute to combating global warming,... are critically important to the maintenance of biodiversity in one of the most populous states in the nation... offer recreational resources and...unique scenic value.” RMP Goal 1A is “Protection of large areas of contiguous forested lands of the Highlands Region to the maximum extent possible, while Policy 1A2 is “To limit human development in the Forest Resource Area in the Preservation Area ***in order to protect and enhance forest resources, forest ecosystem integrity, Critical Habitat, and the quantity and quality of water resources.***” (Emphasis added.) RMP Part 1, Natural Resources, Subpart A, p. 138.

**“Highlands Open Waters and Riparian Areas...** are a primary focus of the Highlands Act and ***must be protected, enhanced and restored to ensure achievement of the Act’s goals for water***

*quality, water supply, and ecological sustainability.*” Highlands Open Waters are defined by the Highlands Act as all springs, streams including intermittent streams, wetlands, and bodies of surface water, whether natural or artificial (excluding swimming pools), located within the Region. Highlands Riparian Areas are the lands associated with and bordering Highlands Open Waters...” RMP Subpart B, pg. 141.

**Water Resources:** The Highlands RMP Technical Report *Water Resources Volume II – Water Use and Availability*, 2008 analyzed the Net Water Availability by HUC 14 in the Highlands (Appendix D). Of the 183 HUC 14 sub-watersheds in the region, 114 (62%) “have maximum monthly consumptive and depletive current water uses that exceed their Ground Water Availability; therefore, these areas are considered Current Deficit Areas...Of the 183 HUC 14 watersheds, 22 have consumptive and depletive ground and surface water uses that exceed their full Ground Water Capacity. An additional 44 HUC’s have ...uses greater than 20 percent of Ground Water Capacity. Therefore, if the 20 percent threshold discussed above was applied uniformly across the Highlands Region, 66 HUC14’s would already have no net available water at this level of analysis. Many of these subwatersheds are within areas where ground water models have been developed in response to known stresses on aquifer systems, such as the Central Passaic River Buried Valley Aquifer system, the Ramapo River and the Rockaway River, all in the Passaic River Basin.” *RMP Technical Report Water Resources Vol. II, pg. 126.*

By failing to fully integrate the Highlands into the Plan and in minimizing the extent of reliance on water provided by the Highlands, by ignoring the challenges of maintaining the quantity and quality of Highlands water, the Plan contributes to the risks that threaten the Highlands water supply. By failing to concur on the deficits the Highlands Council identified in 62% of its subwatersheds, the Plan risks allocating water resources *where they do not in fact exist.*

## **II. General Comments**

**A. The time frame of the Draft Water Supply Plan – 2020 or 2025 – is entirely inadequate for planning purposes.** The water availability projections in Appendix A go only to 2020 – a mere 2 ½ years from now. Water supply planning must address at least two generations in advance, or 40 years ahead. Most of the major projects that could improve water supply, such as new reservoirs or other major infrastructure improvements or replacement, would take a decade or more to accomplish, from authorization to funding to construction to completion.

**B. The Plan does not adequately protect aquatic life and aquatic resources.** The water availability methodology used by the Highlands Council does a better job of protecting those resources. The DEP should adopt the Highlands Council methodology until a better model can be developed.

**C. The DEP must update the data used to prepare the Plan.** The data should be developed and analyzed at the HUC 14 level.

**D. The Draft WSP does not satisfy requirements of the New Jersey Water Supply Management Act** (58:1 A-13) which establishes the framework and requirements for the New Jersey Statewide Water Supply Plan. Specifically, in (7)(d) the Act requires the Department to engage in consultation with the New Jersey Highlands Council prior to adopting “any revision” of the Plan. The draft plan contains no evidence that this consultation has taken place, when, or who was involved. In fact, the appointed Members of the Council only received a presentation on the plan by Department officials on July 20, 2017, one day prior to the end of the comment period. It was not a deliberative meeting, but merely a presentation. There is no record of issues raised or resolved in any meetings that may have occurred with Council staff.

### **III. The Draft Water Supply Plan Does Not Adequately Address Planning Issues with Substantial Impacts on Water Supply**

**A. Climate Change:** The WSP needs to include and deal broadly and substantively with climate change, perhaps the most serious challenge that we face. Climate change is anticipated to bring challenges to water supply and water quality, including likely hotter summers with increased demand for water consumptive outdoor irrigation, erratic droughts as well as heavier rainfall with more intense flooding, including inundating water and wastewater treatment plants located adjacent to water bodies (which has already occurred), causing backup of combined sewers, creating changes in watercourses, causing erosion and sediment deposition. Other than addressing the issue of confined aquifers, the Water Supply Plan dodges the climate change issue at the State’s peril.

**B. Interstate Planning Issues:** WSP p.53. The WSP needs to address interstate water planning issues more substantially, with New York State to our north, and with the Delaware River Basin Commission and Pennsylvania to the west.. The New York headwaters of the Ramapo River provide important supply to New Jersey, but diversions approved in New York are increasing, and by the time the water arrives in New Jersey, an ever-larger percentage of the flow is comprised of wastewater. Development pressures in the Ramapo River headwaters in New York are strong, even though large preserved areas including Sterling Forest, Bear Mountain and Harriman New York State Parks comprise part of the headwaters. In addition to the surface water issues, wells adjacent to the Ramapo in Bergen County siphon flow from the River. The interstate Hudson and Saddle Rivers likewise need to be addressed.

Water supply and water quality planning require coordination with the Delaware River Basin Commission, the four-state and federal compact that holds substantial jurisdiction over water quality and water supply issues in the Delaware River watershed. Additional important land use issues with water supply implications need to be addressed, including such bi-state issues as proposed gas or oil pipelines with potentially serious impacts on water quality, water supply, and aquatic ecosystems.

**C. Preservation of forested watershed open space lands to protect water supply and water quality, and to offset the adverse impacts of increased impervious cover that accompany**

**continued urbanization:** It is striking that, despite New Jersey's history of taking strong land preservation actions to protect the Pinelands and Highlands, prioritizing the goal of preserving their forests to protect water quality and supply, that the Draft WSP does not recommend continuing these efforts. In the Highlands, the task was not completed with passage of the Highlands Water Protection and Planning Act. Although substantial acreage in the Highlands has been preserved by both governmental and nonprofit entities, working at the state, county and municipal levels in the last two decades, the task has by no means been completed. Many acres of forest and farmland remain to be protected from development, with its accompanying increased impervious cover. The relationship between water quality/supply and impervious cover is well-established. Some years ago the NJDEP identified, mapped and sought to spur protection of all watersheds in the Highlands with less than 10% impervious cover – the point at which water quality degrades. We urge the final WSP to recommend support of vigorous efforts and funding to permanently protect the state's remaining significant undeveloped watershed lands, especially in the Highlands Region.

**D. Water Treatment Costs:** If dense development is allowed in the Highlands, the water treatment costs for many New Jersey residents would likely increase substantially, due to the need for increased water treatment. Increased water treatment cost was one of the major reasons that the State of New Jersey led the way in the preservation of Sterling Forest – slated for development as a “new town” – contributing the initial \$10 million that kick-started the acquisition of Sterling Forest State Park for open space and water supply protection.

**E. Management of Public Forested Watershed Lands:** A closely related issue is the management of the protected forestlands. It is important, for protection of both water resources and native ecosystems, that the forests not be logged. The following recommendation by the Upper Rockaway River Watershed Association, whose organizational focus area watershed is located in WMA 6 - identified as “stressed” in the Draft WSP – deserves serious consideration.

The Upper Rockaway River Watershed Association urges that the Water Supply Plan should include a recommendation that the State of New Jersey declare all State owned forestlands located in watersheds supplying drinking water to the citizens of the State be designated as “Forever Wild,” and that these lands shall not be leased, sold or exchanged, nor be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed.

They make this recommendation because state public forests in the New Jersey Highlands acquired with Green Acres funding comprise a significant portion of the Highlands region and are critical components of New Jersey's water supply systems. Green Acres forests in the Highlands require greater protection from logging and degradation of the forests' ecosystems than is being proposed, and implemented under current Division of Fish and Wildlife forest stewardship plans. Today, these forests are being opened to proposals from competing interests within the state that are leading to degradation of both ecosystems and water quality/supply.

In New York State, mounting concerns about water supply and water quality in the 19<sup>th</sup> century led to protection of the Adirondack and Catskill Parks, where huge acreages are protected

from logging through passage in 1894 of Article 14 of the NY State Constitution, which declared certain forested lands “Forever Wild.” The system has been steadily increased in size over the years, until today it encompasses over one million acres in state wilderness management.

**F. Water Resource Protection and Source Water Assessments and Protection Plans are not currently valid.** WSP @ pg. 54. While it is true that the DEP has “taken significant steps to protect New Jersey’s water resources since... 1996,” more recently, the State has endeavored over the past several years to weaken and eliminate those protections. In just this past year, we have seen proposed amendments that seek to remove stringent protections and weaken the Stormwater Protection Rules, Coastal Zone Management Rules, Flood Hazard Area Rules, DEP Highlands Septic Density Rules, Water Quality Management Planning Rules and Freshwater Wetlands Protection Act Rules. In addition, the DEP Best Management Practices for Forest Management do not incorporate or recognize the critical symbiotic relationship between strong protections for both forests and water, which is recognized in the Highlands Regional Master Plan and the DEP Highlands rules. Forest management plans have been provided exemption from stringent state water, riparian and wetlands protection requirements in the Highlands that would otherwise apply, and that would protect inextricably linked resources: forests, water quality, water supply and aquatic and riparian ecosystems.

#### **IV. Analysis/critiques of specific Highlands-related WMA’s and watersheds**

**A. WMA 5, Hackensack, Hudson and Pascack Basins:** Analysis of the Hackensack, Hudson and Pascack basins by NJIT Dept. of Civil and Environmental Engineering Adjunct Professor Mr. Paul Schorr, PE and colleagues appears to show that there are existing basin wide deficits as a result of the drought of 2001/2002. The deficits are based on the inability to maintain passing flows at the New Milford USGS gage on the Hackensack River in 2002, and on the inability of UWNJ to refill the Oradell reservoir in 2002. These deficiencies amount to an annual average between 10 mgd and 20 mgd when the passing flow shortages, the reservoir storage deficiency, and the permitted diversion from Wanaque Reservoir are combined. The Draft WSP estimates that 1 mgd is available in the Hackensack basin, but that appears to be incorrect when the observed deficits between 10 mgd and 20 mgd from published USGS data and permitted diversions during the 2001/2002 drought are considered.

If Highlands water from the Wanaque Reservoir or the Passaic River (WMA’s 4, 6 and 7) were to be diverted to the Hackensack Basin to meet the existing deficit described above, then there would be less high quality water left in the Passaic basin. The deficit in the Hackensack basin indirectly lowers the water quality in the Passaic River by diverting out of the basin the high quality Highlands water. This casts possible doubts on findings in the Draft Water Supply Plan, which did not identify either water quantity or water quality stress in these basins. Therefore, we would urge that all the determinations in the Plan be reviewed in depth by Professional Engineering consultants retained by the State, for verification or adjustment, prior to finalizing the Plan, in order to support legislation and funding for future water supply projects.

**B. Musconetcong River:** The Musconetcong’s narrow watershed is the only watershed located entirely within the Highlands Region. Congress has designated 26 miles of the River as a *National Wild and Scenic River*. Much of the Musconetcong Watershed is underlain by carbonate rock, which is associated with karst topography, which allows surface waters to enter the groundwater through weathered carbonate formations, such as sinkholes and caverns. The Musconetcong River is designated C-1, with many of its tributaries listed as Trout Producing, due in part to their being fed by cold groundwater. Groundwater quality and quantity is important to the residents, businesses, and ecology of the Musconetcong Watershed. Groundwater withdrawals can affect the quantity of water in the Musconetcong River and its tributaries. All communities in the Musconetcong Watershed rely on groundwater for drinking water;

The watershed has seen a significant increase in development since 1990, much of it in single family homes outside of public water supply systems, thus increasing the number of potable wells across the watershed. There has also been a significant increase in commercial development, with increasing impervious cover throughout the watershed. Impervious cover alters natural hydrology by diverting water that otherwise would have been groundwater into surface water systems.

While much of the statewide WSP focuses on water supply systems, reservoir management, and transfers between water supply areas to maintain water availability, the issues in the Musconetcong Watershed are different. They are also different from WMA 1. Although WMA 1 is depicted in the WSP as a net surplus area, **the Musconetcong watershed is a net deficit area. We specifically note that the WSP states regarding unconfined aquifers, such as the majority of the Musconetcong Watershed, “In these areas, no additional depletive and consumptive water loss from the surface water system is recommended” (WSP, Pg.- 28).** However, the WSP provides few recommendations on how to manage over-withdrawals from potable public and private wells.

As a result, our comments on the WSP focus on: 1) the need to identify issues and develop recommendations based upon a watershed or HUC-level and not the WMA-level, 2) impact of groundwater withdrawals on natural stream flows from changes in land use, and 3) the need for increased monitoring, analysis, and research in carbonate rock aquifers on the interaction between surface water and groundwater.

Thank you for your consideration of our comments.

**Contributors to the New Jersey Highlands Coalition Comments:**

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**New Jersey Highlands Coalition member organizations:**

[Active Citizens for Responsible Sustainability Inc. \(ACRES\)](#)

Alliance for Historic Hamlets

[Angry Erik Brewing, LLC](#)

[ANJEC \(Association of NJ Environmental Commissions\)](#)

Beaver Lake Realty Company

Bergen Passaic Chapter of Native Plant Society of NJ

[Bethlehem Township Environmental Commission](#)

[Bolero Snort Brewery](#)

[Boonton Main Street, Inc.](#)

[BR Environmental, LLC](#)

Brookside Garden Club

[Burnham Park Association](#)

[Byram Township Environmental Commission](#)

[Canal Society of New Jersey](#)

[Citizens for Health, Safety and Welfare](#)

Citizens to Save Tewksbury

[Coalition Against Pilgrim Pipeline](#)

[Cross Roads Camp & Retreat Center](#)

Eco Action Initiatives of Warren County

[Ecological Solutions, LLC](#)

[Farr Forestry Services](#)

[Ferromonte Historical Society of Mine Hill](#)

[Foodshed Alliance](#)

[Fred S. Burroughs North Jersey Chapter of Trout Unlimited](#)

Friends of Holland Highlands

[Friends of the Musconetcong](#)

Friends of Sparta Mountain

[Friends of Wallisch Homestead](#)

[Friends of Waterloo Village](#)

[Garden Club of Madison](#)

[Garden Club of Montville](#)

[Great Swamp Watershed Association](#)

[Greater Newark Conservancy](#)

[Greener by Design](#)

[Greenfaith, Inc.](#)

[Greenwood Lake Commission](#)

[Grow It Green Morristown](#)  
[Harding Land Trust](#)  
[Harvest Moon Brewery](#)  
[Hunterdon Land Trust Alliance](#)  
[Jersey City Environmental Commission](#)  
[Kinnelon Conserves](#)  
Knowlton Lions Club  
[Krogh's Restaurant & Brew Pub](#)  
Lake Gerard Fish & Game Club  
[Lake Hopatcong Foundation](#)  
[Lopat Speaks](#)  
[Mahwah Environmental Volunteers Organization, Inc.](#)  
[Man Skirt Brewing, LLC](#)  
[Mendham Borough Environmental Commission](#)  
[Morris County Trust for Historic Preservation](#)  
[Morris Rugby Corporation](#)  
Mountain Lakes Concerned Citizens  
[Musconetcong Mountain Conservancy](#)  
[Musconetcong River Management Council](#)  
[Musconetcong Watershed Association](#)  
[New Jersey Audubon Society](#)  
[New Jersey Conservation Foundation](#)  
[New Jersey Environmental Lobby](#)  
[New Jersey State Council of Trout Unlimited](#)  
[New Jersey State Federation of Women's Clubs](#)  
[New York-New Jersey Trail Conference](#)  
[North Jersey Pipeline Walkers](#)  
[Oakland Environmental Commission, Borough of](#)  
[Passaic River Coalition](#)  
[Paulinskill Valley Trail Committee](#)  
[Phillipsburg Riverview Organization \(PRO\)](#)  
[POWWW \(Preserve Our Wetlands, Waters and Woods\)](#)  
Preserve Historic Hackettstown, Inc  
Ramapough Conservancy  
[Raritan Headwaters Association](#)  
Residents Alliance for Neighborhood Preservation, Inc. (RANPI)  
[Ridge and Valley Conservancy](#)  
[Ringwood C.A.R.E.S.](#)  
[River Horse Brewing Company](#)  
Rockaway Borough Conservation Alliance  
[Roxbury Environmental Action Coalition](#)  
[Rutherford Hall](#)  
Save Historic Oldwick

[Shannon's Fly & Tackle, Califon](#)

Stop the Quarry Expansion

[Teaneck Creek Conservancy](#)

[The Land Conservancy of New Jersey](#)

[The New Weis Center for Education, Arts and Recreation](#)

The Upper Rockaway River Watershed Association

The Willowood Foundation

[Thonet Associates, Inc.](#)

[Transition Newton](#)

[Trout Unlimited East Jersey Chapter](#)

[Union Forge Heritage Association](#)

Washington Valley Community Association

Water For Our Future

Weequahic Park Association