Regional Master Plan Consistency Report

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Valley Ridge

244 DOCKERTY HOLLOW, WEST MILFORD TOWNSHIP, Passaic County, Block 08002, Lot 00004



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12/7/2009 10:24 AM 1 of 45



Forest Resource Area:

The Forest Resource Area data layer is an intensity indicator that captures high ecological value forest areas including those forested lands that exhibit the least fragmentation, which are vital for the maintenance of ecological processes.

Policy 1A5: To prohibit through local development review and Highlands Project Review forest clear-cutting within the Forest Resource Area except in accordance with a Forest Management Plan approved by the State Forester.

Policy 1B3: To limit through local development review and Highlands Project Review deforestation in the Forest Resource Area and forested lands within High Integrity Forest Subwatersheds within the Existing Community Zone to maximum extent practicable.



Forest within Forest Resource Area:

The Forest in Forest Resource Area data layer illustrates the forested lands located within the spatially delineated Forest Resource Area. The Regional Master plan provides for the protection of the integrity of these forested lands in order to maintain forest ecological function within the Forest Resource Area.

Objective 1A2d: To prohibit through Plan Conformance, local development review and Highlands Project Review the expansion or creation of public water supply systems or public wastewater collection and treatment systems or community-based on-site wastewater facilities into forested areas of the Forest Resource Area within the Planning Area except as provided for in Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and within the Preservation Area except as provided for in Policy 2I1 and Objectives 2I1a and 2I1b.

Policy 1C1: To require that conforming municipalities and counties address the protection of forested portions of Forest Resource Areas and High Integrity Forest Subwatersheds in their master plans and development regulations.

Policy 5C3: To limit road improvements through local development review and Highlands Project Review where roads are constrained by topography, forested lands or the community character of land uses fronting on the road.



Forest Resource Area:

Planning Area / Preservation Area: Planning Area / Preservation Area

The Forest Resource Area in Preservation Area data layer is an intensity indicator that captures high ecological value forest areas including those forested lands that exhibit the least fragmentation, which are vital for the maintenance of ecological processes within the legislatively delineated Presrvation Area. The Regional Master Plan includes protection policies specific to limiting development and the deforestation of all lands within the Forest Resource Area, as a means to protect and enhance forest resources, forest integrity, habitat, and water resources, including reference to NJDEP's Rules for Upland Forest Areas (N.J.A.C. 7:38-3.9).

Policy 1A2: 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.

Objective 1A2c: To prohibit through local development review and Highlands Project Review the deforestation of lands within the Forest Resource Area of the Preservation Area for human development except where authorized as an exemption by the Highlands Act, or is an agricultural or horticultural development as defined at N.J.S.A. 13:20-31 and meets the requirement of that provision of the Highlands Act, or if qualifying as a major Highlands Development, the project must, at a minimum, be in conformance with the NJDEP Preservation Area Rules at N.J.A.C. 7:38-3.9.

Highlands Forest in Forest Resource Area in Preservation Area Council 244 DOCKERTY HOLLOW, WEST MILFORD TOWNSHIP, Passaic County, Block 08002, Lot 00004



Forest within Forest Resource Area: Planning Area / Preservation Area: Z Planning Area / Z Preservation Area

The Forest in Forest Resource Area in Preservation Area data layer illustrates the forested lands located within the spatially delineated Forest Resource Area of the legislatively delineated Highlands Preservation Area. This data layer illustrates those core, ecologically significant forested lands within the Preservation Area into which the expansion or creation of utilities is prohibited by the Highlands Act, except through approval of a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 which requires protection of sensitive environmental resources within this area.

Objective 211b: The expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area as approved through a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 shall maximize the protection of sensitive environmental resources including avoidance of Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat.

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Forest Outside of Forest Resource Area:

Forest within Forest Resource Area:

Forest Resources represents the Total Forest Area data layer that was extracted from the NJDEP 2002 draft Land Use Land Cover data. This data layer illustrates all upland and wetland forest and scrub/shrub categories (excluding old field) and represents all forested lands within the Region. The Regional Master Plan includes policies that limit clearing of trees within Forest Resources and that seek to protect overall forest resources integrity.

Objective 1B3a: Implementation through Plan Conformance of regulations, which limit the clearing of trees in conjunction with human development to circumstances where the clearing will not diminish the integrity of forest resources.

Policy 1B5: To ensure that forest resources are protected on a site specific basis during local development review and Highlands Project Review.

Objective 1B5a: Applications for local development review and Highlands Project Review require identification of any forest area on and adjacent to a site in accordance with the Highlands Councilos Method for Identifying Upland Forest Areas in the Highlands Region.

Policy 1B7: To prohibit clear-cutting of forest lands except pursuant to an approved Forest Management Plan approved by the State Forester.

Policy 1C3: To require that conforming municipalities adopt a tree clearing ordinance consistent with an approved community forestry plan under the New Jersey Forest Service Community Forestry Program as part of the municipal master plan and local development regulations.

Policy 6H1: To protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.

Policy 6N4: To require through Plan Conformance that municipalities and counties adopt LID

best management practices where disturbance of Highlands resources is proposed, including but not limited to Steep Slopes, forest resources, Critical Habitat, Highlands Open Waters and Riparian Areas, and Prime Ground Water Recharge Areas.

Forest Integrity Value: 🗖 HIGH 📮 MEDIUM 🗖 LOW

High Integrity Forest Subwatershed is a component of the Forest Integrity Value data layer. This data layer represents forest cover integrity in the Region at the watershed level because forests are important for the protection of water quality and quantity.

Policy 1C1: To require that conforming municipalities and counties address the protection of forested portions of Forest Resource Areas and High Integrity Forest Subwatersheds in their master plans and development regulations.



Open Water Protection Area:

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. The vegetated corridors adjacent to Highlands Open Waters are effective and important tools to protect water quality and aquatic habitat. Protection buffers safeguard Highlands Open Waters from the impacts of adjacent land use practices. The Regional Master Plan includes a protection buffer of 300 feet from the edge of the discernable bank of a Highlands Open Waters feature, or from the centerline where no discernable bank exists.

Policy 1D4: Highlands Open Waters shall include a protection buffer of 300 feet from the edge of the discernable bank of the Highlands Open Waters feature, or from the centerline where no discernable bank exists. With respect to wetlands and other Highlands Open Waters features (e.g., seeps, springs, etc.), the feature shall include a protection buffer of 300 feet from the delineated Letter of Interpretation (LOI) line issued by the NJDEP for wetlands, or from a field-delineated boundary for other features. In areas where existing development or land uses within the protection buffers have reduced or impaired the functional values of the buffers, the Council will seek opportunities to restore the buffer and its functions. Any proposed disturbance shall, through local development review and Highlands Project Review, comply with Highlands Open Waters buffer standards. The protection buffer width for Category 2 streams in the Planning Area may be modified through a Stream Corridor Protection/Restoration Plan, as specified in Objective 1D4i. In approved Redevelopment Areas, the Council may, at its discretion, modify the required buffer, upon a showing of no alternatives, no impact to the functional value of the buffer, and provision of alternative approaches to enhancing or protecting Highlands Open Waters and resources of the buffer area.

Objective 1D4a: Require that all applications for approval through local development review and Highlands Project Review include the identification and mapping of Highlands Open Waters.

Objective 1D4c: Require that proposed development within all Highlands Open Waters buffers (Preservation and Planning Areas) conforms through local development review and Highlands

Project Review with the buffer requirements of N.J.A.C. 7:8 (Stormwater Management Rules), N.J.A.C 7:13 (Flood Hazard Area Rules), and N.J.A.C. 7:7 (Freshwater Wetland Rules), and with any applicable requirements of a Regional Stormwater Plan adopted pursuant to N.J.A.C. 7:8 (Stormwater Management Rules).

Objective 1D4i: Develop through Plan Conformance and implement stream corridor or subwatershed-based Stream Corridor Protection/Restoration Plans which shall include Steps 1, 2, and 3, and may include Steps 4 and 5: 1. Identify areas where existing development, land disturbances, or land uses are within Highlands Open Waters buffers have removed or substantially impaired natural vegetation communities, and have significantly reduced or impaired the functional values of Highlands Open Waters buffers. For purposes of this Objective when considering land for conversion to non-agricultural land uses, historic or current agricultural land uses shall not be considered pland improvements, q pdevelopment, q pland disturbances, q or pland usesq; 2. Identify and require opportunities for restoration of areas identified in Step 1 as part of mitigation requirements under a Highlands Act waiver or Objectives 1D4e and 1D4f, and public or nongovernmental restoration/stabilization projects; 3. Identify the extent of stream corridor features that are critical to supporting the functions of a healthy Highlands Open Waters buffer and that extend beyond the buffers required by Objectives 1D4b and 1D4c. The 300 foot buffer in these areas may be expanded to be most protective of these features which may include, but are not limited to, Critical Habitat, pollutant source areas identified through scientific techniques, and steep slopes; 4. Where Highlands Open Waters buffers include areas identified in Step 1, regarding Category 2 surface waters in the Planning Area only, the Stream Corridor Protection/Restoration Plan may identify where, based on scientific analysis of site-specific conditions (e.g., topography, vegetation cover type, habitat, soil type, upstream land uses and pollution inputs, width of floodplain, rate and volume of run-off), a buffer of less than the full 300 feet (but including the undisturbed buffer area at a minimum) is sufficient to maintain or improve the protection of Highlands Open Waters and Riparian Areas. The plan must identify alternative buffers that provide functional buffer values at least equivalent to existing conditions and are no less than 150 feet or no less than the extent allowed in State or municipal regulation (including Objectives 1D4b and 1D4c), whichever is greater. Further, the plan shall include a functional value assessment to ensure that there is no net loss in the overall functional value of the subwatershedos stream buffers. Buffers established through this process shall be determined based on site conditions rather than fixed distances, reflecting findings of the scientific analysis, and shall be used in the site design and development review process regarding determinations of restoration, continued use, or increased use of the disturbed buffer area. Buffer averaging for the purpose of accommodating development proposals is deemed not to meet the requirements of this provision; and 5. Where a proposed Highlands Redevelopment Area would not meet, in full, Objectives 1D4b through 1D4h but affects an undisturbed buffer area determined to not be necessary for the protection of the functional values for Highlands Open Waters buffer (as determined through scientific analysis of site-specific conditions), modification of the undisturbed buffer may be allowed to no less than the extent allowed in State or municipal regulation. However the Council shall first determine that there is no alternative to the proposed reduction of the buffer, and require a showing of no impact to the functional values of the buffer and provision of alternative approaches to enhancing or protecting the Highlands Open Waters and resources of the buffer area. Restoration or enhancement of buffer functional values shall be provided on-site or within the same stream reach to achieve a net improvement of existing buffer functional values.

Objective 1D4j: The Highlands Council may require on a case-by-case basis, through Highlands Project Review, an expansion of the 300 foot buffer to protect the habitat of a water or wetlands-dependant rare, threatened or endangered species, to the minimum expansion necessary to achieve protection of that species.

Objective 1D5b: Limit disturbance of existing natural vegetation or increases in impervious area within High and Moderate Integrity Riparian Areas in any Land Use Capability Zone to the minimum alteration feasible in areas beyond Highlands Open Waters buffer requirements; protect the water quality of adjacent Highlands Open Waters; and maintain or restore habitat value of the Riparian Area.

Objective 2D4a: Development shall not occur in Prime Ground Water Recharge Areas unless

necessary to avoid Critical Habitat, Highlands Open Waters Buffers and Moderately and Severely Constrained Steep Slopes.

Objective 211b: The expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area as approved through a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 shall maximize the protection of sensitive environmental resources including avoidance of Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat.

Objective 2.14a: Prohibit new, expanded or extended public water systems within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The extension or creation of systems shall follow the requirements in Objective 2J4b (parts 2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. Such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2J4b.

Objective 2K3c: Prohibit new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas. and Prime Ground Water Recharge Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety, such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2K3d.

Policy 6H1: To protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.

Policy 6N4: To require through Plan Conformance that municipalities and counties adopt LID best management practices where disturbance of Highlands resources is proposed, including but not limited to Steep Slopes, forest resources, Critical Habitat, Highlands Open Waters and Riparian Areas, and Prime Ground Water Recharge Areas.



Open Water Protection Area: Planning Area / Preservation Area: Planning Area / Preservation Area

Includes all Highlands Open Waters protection buffers within the Preservation Area, which are regulated by the Highlands Preservation Area rules at N.J.A.C. 7:38.

Objective 1D4b: Preservation Area buffers for Highlands Open Waters shall comply with the Highlands Preservation Area rules at N.J.A.C. 7:38, which provide that all major Highlands developments are prohibited within Highlands Open Waters and its adjacent 300 foot buffer in the Preservation Area except for linear development, which may be permitted provided that there is no feasible alternative for the linear development outside Highlands Open Waters or its buffer. Structures or other land improvements existing within Highlands Open Waters buffer in the Preservation Area on August 10, 2004 may remain, provided that the area of disturbance is not increased other than through a HPAA. For purposes of this Objective when considering land for conversion to non-agricultural land uses, historic or current agricultural land uses shall not be considered pland improvements,q pdevelopment,q pland disturbances,q or pland uses.q



Riparian Corridor Integrity Score:

☐ HIGH ☐ MODERATE ☐ LOW

Riparian Areas are areas adjacent to, and hydrologically interconnected with, rivers and streams. They are areas that exhibit periodic inundation or saturation of soils, are subject to periodic flooding, and include wildlife corridors within 300 feet of a surface water feature. Riparian Areas serve as an interface between surface water bodies and terrestrial ecosystems and play a critical role in maintaining the quality and ecological integrity of Highlands Open Waters.

Objective 1D5b: Limit disturbance of existing natural vegetation or increases in impervious area within High and Moderate Integrity Riparian Areas in any Land Use Capability Zone to the minimum alteration feasible in areas beyond Highlands Open Waters buffer requirements; protect the water quality of adjacent Highlands Open Waters; and maintain or restore habitat value of the Riparian Area.

Objective 1D5e: Implement Low Impact Development Best Management Practices for any development activity proposed within a Riparian Area, which minimize both alterations of natural vegetation and increases in impervious area, in compliance with Policies 6N3 and 6N4 and provide for mitigation through restoration of impaired Riparian Areas in the same HUC14 subwatershed.

Objective 1D5f: Require that development within Riparian Areas conforms through local development review and Highlands Project Review to any applicable requirements of a Regional Stormwater Plan adopted pursuant to N.J.A.C. 7:8 (Stormwater Management Rules).

Objective 1D5g: Require identification and implementation of opportunities where the restoration and enhancement of previously impaired Riparian Areas are feasible and appropriate as mitigation to any allowable modification to Riparian Area requirements.

Objective 211b: The expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area as approved through a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 shall

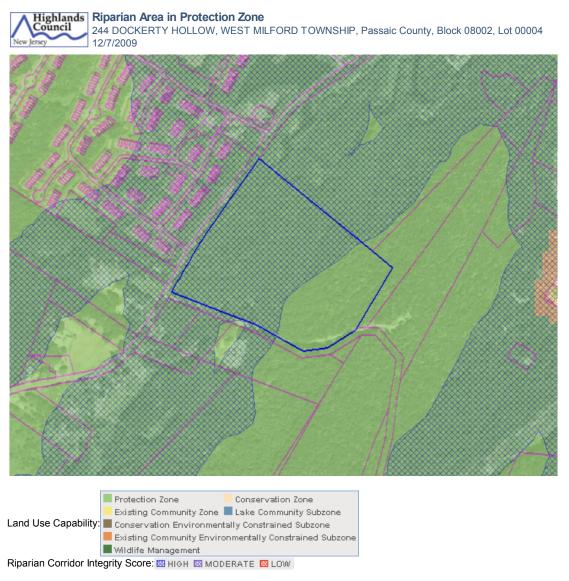
maximize the protection of sensitive environmental resources including avoidance of Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat.

Objective 2.14a: Prohibit new, expanded or extended public water systems within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The extension or creation of systems shall follow the requirements in Objective 2J4b (parts 2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. Such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2J4b.

Objective 2K3c; Prohibit new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety, such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2K3d.

Policy 6H1: To protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.

Policy 6N4: To require through Plan Conformance that municipalities and counties adopt LID best management practices where disturbance of Highlands resources is proposed, including but not limited to Steep Slopes, forest resources, Critical Habitat, Highlands Open Waters and Riparian Areas, and Prime Ground Water Recharge Areas.



Includes all Riparian Areas within the Protection Zone.

Objective 1D5c: Prohibit modifications to Riparian Areas in the Protection Zone except where a waiver is approved by the NJDEP or the Highlands Council under Policy 7G1 or 7G2.

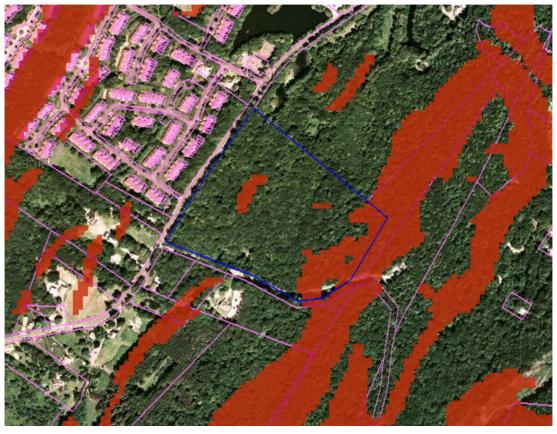


Riparian Corridor Integrity Score:

☐ HIGH ☐ MODERATE ☐ LOW

These areas include watersheds with Riparian Areas that exhibit predominantly natural vegetation including high quality habitat for rare, threatened, and endangered water/wetland dependent species, and a generally low incidence of impervious area, agricultural uses and/or road crossings.

Objective 1D5b: Limit disturbance of existing natural vegetation or increases in impervious area within High and Moderate Integrity Riparian Areas in any Land Use Capability Zone to the minimum alteration feasible in areas beyond Highlands Open Waters buffer requirements; protect the water quality of adjacent Highlands Open Waters; and maintain or restore habitat value of the Riparian Area.



Steep Slope Protection Area:

Slope is a measurement of the steepness of terrain and is defined as the vertical change in elevation over a given horizontal distance. Disturbance of areas containing steep slopes can trigger erosion and sedimentation, resulting in the loss of topsoil. It can also result in the disturbance of habitats, degradation of surface water quality, silting of wetlands, and alteration of drainage patterns. The Highlands Council examined areas of slope in the Highlands Region that exhibited one of the following grade classifications and these grades were established as Steep Slope Protection Areas: 1) grades of slopes of 20% or greater; 2) grades of slope between 15 - 20%; and 3) grades of slope between 10 - 15% that occur within the Riparian Area.

Policy 1E6: To require through local development review and Highlands Project Review that applications for development include topographic information identifying the location of any Steep Slope Protection Areas located on the parcel proposed for development.

Policy 1E7: To require through local development review and Highlands Project Review that applications for development involving parcels of land with slopes of 10% or greater include identification of forested lands, areas which are highly susceptible to erosion, depth to bedrock and Soil Capability Classes.

Policy 1E10: To require that conforming municipalities and counties implement the steep slope protection provisions of Policies 1E2 through 1E9 through master plans and development regulations.

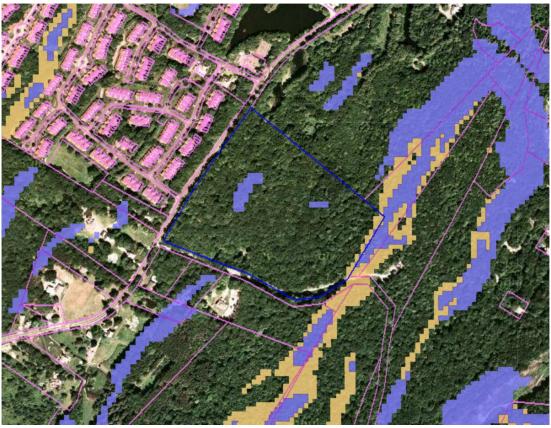
Objective 211b: The expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area as approved through a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 shall maximize the protection of sensitive environmental resources including avoidance of Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat.

Objective 2.14a: Prohibit new, expanded or extended public water systems within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The extension or creation of systems shall follow the requirements in Objective 2J4b (parts 2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. Such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2J4b.

Objective 2K3c: Prohibit new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety, such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2K3d.

Policy 6H1: To protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.

Policy 6N4: To require through Plan Conformance that municipalities and counties adopt LID best management practices where disturbance of Highlands resources is proposed, including but not limited to Steep Slopes, forest resources, Critical Habitat, Highlands Open Waters and Riparian Areas, and Prime Ground Water Recharge Areas.



Moderately Constrained Slopes: Severely Constrained Slopes:

Severely Constrained Slopes are all lands with slopes of 20% or greater and lands within Riparian Areas with slopes of 10% or greater. Moderately Constrained Slopes are all non-Riparian Area lands having a slope of 15% to less than 20% which are forested.

Policy 1E8: To prohibit through local development review and Highlands Project Review land disturbance within areas which are Severely Constrained Slopes and Moderately Constrained Slopes, except for linear development in both the Preservation and Planning Areas that meets the requirements of N.J.A.C. 7:38-3.8(c)1-4.

Objective 2D4a: Development shall not occur in Prime Ground Water Recharge Areas unless necessary to avoid Critical Habitat, Highlands Open Waters Buffers and Moderately and Severely Constrained Steep Slopes.



Critical Wildlife Habitat:

Critical Wildlife Habitat data layer illustrates habitat areas that are critical for the survival of rare, threatened or endangered wildlife species of the Highlands Region. Critical Wildlife Habitat areas are lands within the NJDEPos Landscape Project Version 3 that are Landscape Rank 3 through 5 and Landscape Rank 2 with Highlands Conservation Rank of Critically Significant or Significant in the Planning Area.

Policy 1A2: 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.

Policy 1F2: To prohibit through Plan Conformance, local development review and Highlands Project Review the direct impact of new human development or expansion or increased intensity of existing development within Critical Habitat.

Policy 1F5: To establish a Habitat Conservation and Management Program, including minimum performance standards and criteria for the protection, enhancement, and restoration of lands within Critical Habitat.

Policy 1F6: To require that applications for any local development review and Highlands Project Review for Critical Habitat be subject to minimum standards and criteria outlined in the Habitat Conservation and Management Plan.

Objective 1F6a: Prohibit direct impacts from new development or expansion or increased intensity of existing development that will jeopardize the continued existence of, or result in the likelihood of the destruction or adverse modification of Critical Habitat, except as permitted through the issuance of a waiver under Policy 7G1 or 7G2.

Objective 1F6b: Prohibit indirect impacts from activity that is off-site, adjacent to, or within Critical Habitat that will jeopardize the continued existence of, or result in the likelihood of the destruction

or adverse modification of Critical Habitat, except as permitted through the issuance of a waiver under Policy 7G1 or 7G2.

Objective 1F6c: Waiver applications under Policy 7G2 for local development in a municipality with a Council-approved Critical Habitat Conservation and Management Plan shall be subject to the minimum standards and criteria for waiver provisions as set forth in the plan, to the maximum extent practicable.

Objective 1F6d: Waiver applications under Policy 7G2 for development in a municipality without a Council-approved Critical Habitat Conservation and Management Plan shall be subject to the Low Impact Development Best Management Practices required in Objective 1F5b.

Objective 1F6f: A Critical Wildlife Habitat area or Significant Natural Area delineation may be modified if an applicant can demonstrate, to the satisfaction of the Highlands Council in coordination with the NJDEPos Endangered and Nongame Species Program or Natural Heritage Program, that: 1. The nature of the site is such that it does not provide habitat for species of concern; 2. The species of concern are not present on the site during any critical part of their life cycle, do not depend upon the site for food, shelter or breeding, and the habitat; on the site is either unsuitable or not critical to specieso recovery in the Region; or 3. Existing land uses present a human, natural or development barrier to the use of the site by species of concern. Requirements for demonstrating the above criteria shall be included in the Critical Habitat Conservation and Management Plan.

Objective 2D4a: Development shall not occur in Prime Ground Water Recharge Areas unless necessary to avoid Critical Habitat, Highlands Open Waters Buffers and Moderately and Severely Constrained Steep Slopes.

Objective 211h: The expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area as approved through a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 shall maximize the protection of sensitive environmental resources including avoidance of Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat.

Objective 2.14a: Prohibit new, expanded or extended public water systems within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The extension or creation of systems shall follow the requirements in Objective 2J4b (parts 2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. Such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2J4b.

Objective 2K3c: Prohibit new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas,

Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety, such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2K3d.

Policy 6H1: To protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.

Policy 6N4: To require through Plan Conformance that municipalities and counties adopt LID best management practices where disturbance of Highlands resources is proposed, including but not limited to Steep Slopes, forest resources, Critical Habitat, Highlands Open Waters and Riparian Areas, and Prime Ground Water Recharge Areas.





Critical Wildlife Habitat:

Planning Area / Preservation Area:

Planning Area /

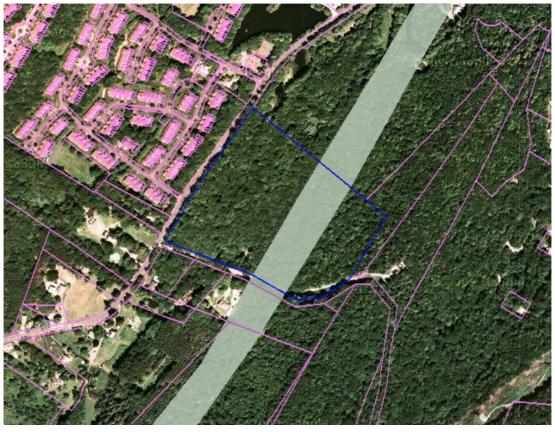
Preservation Area

Planning Area /

Preservation Area

Critical Wildlife Habitat in Preservation Area data layer illustrates habitat areas that are critical for the survival of rare, threatened or endangered wildlife species of the Highlands Region Preservation Area. This layer illustrates those lands within the NJDEPos Landscape Project Version 3 that are Landscape Rank 2 through 5 in the Preservation Area.

Policy 1F7: To require through local development review and Highlands Project Review that projects qualifying as major Highlands Developments, affecting or potentially affecting Critical Habitat in the Preservation Area, comply with the NJDEP Preservation Area Rules at N.J.A.C. 7:38-3.11 and with the minimum standards and criteria outlined in the Critical Habitat Conservation and Management Plan. All projects in the Preservation Area that are not major Highlands Developments shall comply with Policies 1F1 through 1F6.



Carbonate Rock:

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The Carbonate Rock Area is that area of the Region that is underlain by carbonate rocks. The dissolution of carbonate rock can cause surface depressions and the development of such features as sinkholes, sinking streams, enlarged bedrock fractures, caves, and underground streams. These features may direct surface water runoff into aquifers with little or no attenuation of any transported contaminants. Further, they present a potential geologic hazard as they may undermine such infrastructure as stormwater basins, roads, sewer lines, septic systems, and natural gas lines.

Policy 1K2: To identify and delineate through local development review and Highlands Project Review land areas that drain surface water into the Carbonate Rock Area, as changes in the quantity, quality and rate of discharge of surface water runoff from upslope lands can impair ground water resources in the Carbonate Rock Area.

Policy 1K4: To ensure through Plan Conformance that municipalities in, or within subwatersheds draining directly to, the Carbonate Rock Area protect public health and safety and the quality of ground waters from inappropriate land uses and pollutant discharges.

Objective 1K4b: Applications for site plan or subdivision approval will include a multi-phased geotechnical site investigation (e.g., test borings, test pits) to locate any potential karst features and potential hazards to public health and safety, structures and ground water quality.

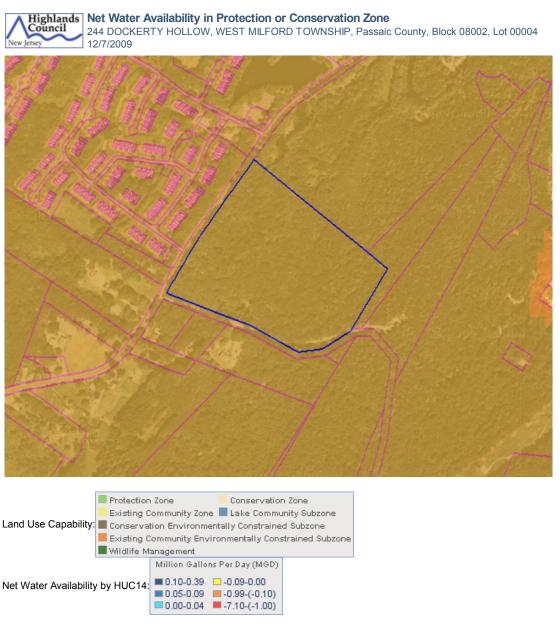
Objective 1K4c: Local development reviews and Highlands Project Reviews and requirements shall ensure that all potential hazards to public health and safety, structures and ground water quality, including but not limited to concentrated surface water flows that dissolve carbonate rock, are fully addressed and mitigated in the construction plans and subsequent approval process, with the maximum emphasis on nonstructural measures, including, but not limited to, avoidance of modifications to the karst features.

Objective 1K4d: Public works projects, including but not limited to water supply, sewerage, stormwater and transportation facilities, shall be constructed and maintained such that the

NJ Highlands Council - Interactive Map

potential for damage from karst features and the contamination of ground water are avoided.

Objective 1K4e: Highlands Project Reviews and requirements and local development reviews (where applicable) shall prohibit new land uses and facilities that constitute unacceptable risks of discharge due to karst topography where karst features have been identified, including but not limited to: Underground storage tanks; Solid waste landfills; Hazardous waste storage and disposal; and Hazardous materials storage and handling.



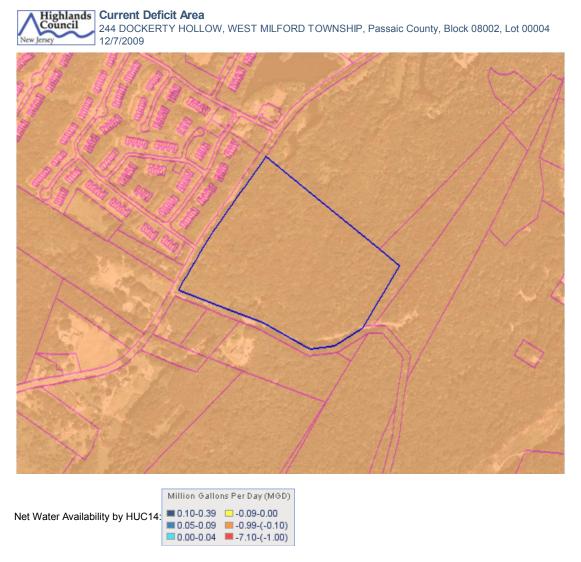
Identifies the portion of a HUC14 subwatershed within the Protection or Conservation Zone.

Policy 2A2:To ensure that increasing water demands do not exceed Net Water Availability or exacerbate existing deficits of subwatersheds. Net Water Availability is affected at a subwatershed level by location and extent of Land Use Capability Zone Map and its status as Current Deficit Area or Existing Constrained Area.

Objective 2B4a: Give highest priority for the use of non-agricultural Net Water Availability or Conditional Water Availability within Protection Zone and Conservation Zone subwatersheds, through a Water Use and Conservation Plan developed under Objective 2B8c, local development review, and Highlands Project review: 1. To address a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. Such needs shall have highest priority for Net Water Availability; 2. To serve a designated Highlands Redevelopment Area; 3. To serve a cluster development that complies with Objective 2J4b; and 4. To serve affordable housing projects where at least 10% of the units are affordable.

Objective 2B4c:Establish and implement mandatory stormwater reuse for recreational and other non-agricultural irrigation, as well as other non-potable water purposes to minimize both the

volume of stormwater discharges and water withdrawals for these purposes.



Identifies HUC14 subwatersheds that are in deficit of Net Water Availability.

Policy 2B6: To require through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B8c), local development review, Highlands Project Review, and interagency coordination that proposed public water supply and wastewater service areas, new or increased water allocations and bulk water purchases will not directly or indirectly cause or contribute to a Net Water Availability deficit, and where feasible will help mitigate any existing deficit.

Objective 2B6a: Areawide Water Quality Management Plans, Wastewater Management Plans or their amendments shall ensure that the proposed service area will not directly or indirectly cause or contribute to a Net Water Availability deficit, and shall be in conformance with any Water Use and Conservation Plan developed under Objective 2B8c.

Policy 2B8: To require through Plan Conformance, local development review, and Highlands Project Review the efficient and effective use of water availability, the planning for future water needs, the reduction and elimination of water deficits, and the mitigation of new consumptive or depletive use in any Current Deficit Areas or subwatersheds that could become deficit areas based on projected development and water uses, to ensure sustainable water supply, water resource and ecological values in conformance with RMP policies and objectives.

Objective 2B8a: Prevent net increases in consumptive or depletive water uses in Current Water Deficit Areas to prevent exacerbation of and help reduce or eliminate the deficit to ensure sustainable water supply, water resource and ecological values, emphasizing techniques

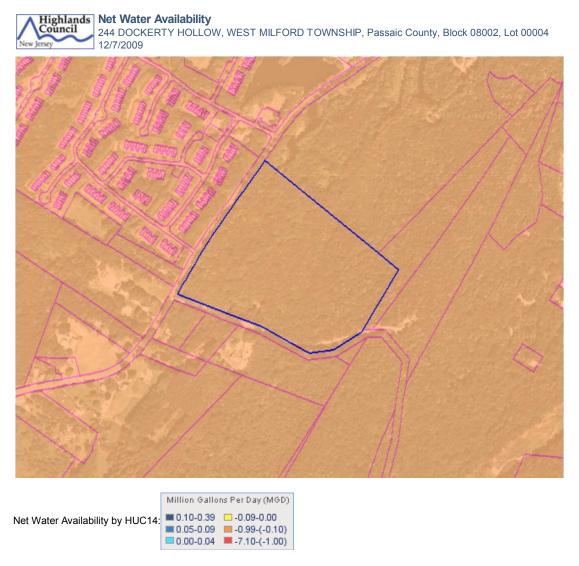
including, but not limited to water reuse, recycling and conservation.

Objective 2B8b: Proposed new consumptive or depletive water uses within a Current Deficit Area shall only occur under the auspices of a Water Use and Conservation Management Plan approved under Objective 2B8c or through mitigation of the proposed consumptive or depletive use within the same HUC14 subwatershed through: a permanent reduction of existing consumptive and depletive water uses; ground water recharge in excess of the requirements of N.J.A.C. 7:8 (Stormwater Management Rules); or other permanent means. Where a Water Use and Conservation Management Plan has not been approved: 1. Each project shall achieve mitigation ranging from 125% to 200%, based on the severity of the Current Deficit and the amount of consumptive or depletive water use proposed; 2. Total consumptive and depletive water uses from any single project and all projects combined are not to exceed the Conditional Water Availability of Objectives 2B3a or 2B3b for any HUC14 subwatershed; 3. Mitigation shall be successfully completed prior to initiation of the water use, except as required by #4, below. Mitigation may be phased in keeping with project development; 4. For water uses where the combination of proposed consumptive and depletive water uses and current subwatershed deficit is high, according to a schedule established by the Highlands Council, off-site mitigation shall be successfully completed prior to any on-site construction. On-site mitigation shall be successfully completed prior to initiation of the water use but may be implemented concurrent with on-site construction. Mitigation may be phased in keeping with the level of consumptive or depletive water uses; and Mitigation plans for a project shall include: specific objectives for each mitigation component; monitoring and reporting requirements; methods by which shortfalls in meeting the mitigation objectives shall be addressed through additional action; and be guaranteed through performance bonds.

Objective 2B8c: Water Use and Conservation Management Plans shall be required through municipal Plan Conformance for all subwatersheds to meet the policies and objectives of Goal 2B, to ensure efficient use of water through water conservation and Low Impact Development Best Management Practices, and to avoid the creation of new deficits in Net Water Availability. Where developed for Current Deficit Areas, the plans shall include provisions to reduce or manage consumptive and depletive uses of ground and surface waters as necessary to reduce or eliminate deficits in Net Water Availability, or to ensure continued stream flows to downstream Current Deficit Areas from Existing Constrained Areas, to the maximum extent practicable within each HUC14 subwatershed. Water Use and Conservation Management Plans shall demonstrate through a detailed implementation plan and schedule how and when the current deficit will be resolved in a subwatershed prior to approval for new water uses in the subwatersheds with the most severe deficits (i.e., in excess of 0.25 million gallons per day), and the plan shall be implemented prior to initiation of new water uses.

Objective 2B8d: All water users within a Current Deficit Area shall seek funding and opportunities to meet the intent of Objective 2B4b.

Objective 2J2a: Limit future water system demand and reduce existing demand where feasible by water systems that are dependent on Current Deficit Areas or Existing Constrained Areas as a source of water.



Net Water Availability is calculated for each HUC14 subwatershed by deducting consumptive and depletive water uses from Ground Water Availability. The Regional Master Plan incorporporates Net Water Availability as a capacity threshold on future water uses. Where Net Water Availability is positive, it is assumed there is water available beyond the existing demand. Where net water availability is negative, the subwatershed is in deficit and deemed to be a Current Deficit Area. In Current Deficit Areas where a Water Use and Conservation Management Plan has not yet been adopted, limited amounts of Conditional Water Availability are provided. The use of Net Water Availability or Conditional Water Availability is subject to Regional Master Plan policies.

Policy 2A2:To ensure that increasing water demands do not exceed Net Water Availability or exacerbate existing deficits of subwatersheds. Net Water Availability is affected at a subwatershed level by location and extent of Land Use Capability Zone Map and its status as Current Deficit Area or Existing Constrained Area.

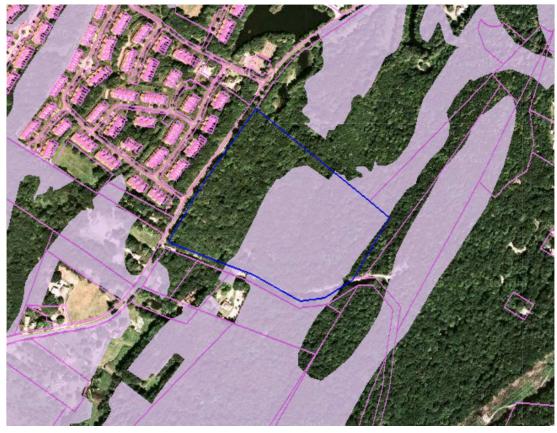
Objective 2B4c:Establish and implement mandatory stormwater reuse for recreational and other non-agricultural irrigation, as well as other non-potable water purposes to minimize both the volume of stormwater discharges and water withdrawals for these purposes.

Policy 2B7: To ensure through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B8c), local development review, and Highlands Project Review that the use of Net Water Availability and Conditional Water Availability within each subwatershed supports development patterns that are in conformance with RMP policies and objectives.

Objective 2B8c: Water Use and Conservation Management Plans shall be required through municipal Plan Conformance for all subwatersheds to meet the policies and objectives of Goal

2B, to ensure efficient use of water through water conservation and Low Impact Development Best Management Practices, and to avoid the creation of new deficits in Net Water Availability. Where developed for Current Deficit Areas, the plans shall include provisions to reduce or manage consumptive and depletive uses of ground and surface waters as necessary to reduce or eliminate deficits in Net Water Availability, or to ensure continued stream flows to downstream Current Deficit Areas from Existing Constrained Areas, to the maximum extent practicable within each HUC14 subwatershed. Water Use and Conservation Management Plans shall demonstrate through a detailed implementation plan and schedule how and when the current deficit will be resolved in a subwatershed prior to approval for new water uses in the subwatersheds with the most severe deficits (i.e., in excess of 0.25 million gallons per day), and the plan shall be implemented prior to initiation of new water uses.

Objective 2J2b: Limit future water system demands to levels that will not create a Current Deficit Area where one does not currently exist.



Prime Groundwater Recharge Area:

The layer displays the mapping of Prime Ground Water Recharge Areas. The Regional Master Plan defines Prime Ground Water Recharge Areas as those lands within a HUC14 subwatershed that most efficiently provide 40% of total drought recharge volume for that HUC14 subwatershed, using a GSR-32 analysis based upon land cover and the 1964-1966 drought of record precipitation.

Policy 2D3: To protect, enhance, and restore the quantity and quality of Prime Ground Water Recharge Areas.

Objective 2D3c: Implement master plans and development review ordinances through Plan Conformance that protect Prime Ground Water Recharge Areas and minimize the potential for disruption of recharge in such areas by development.

Objective 2D3g: Require through Plan Conformance and local health ordinances, that existing land uses that have a significant potential to result in major discharges of pollutants to ground water or to the land surface (including but not limited to non-sanitary wastewater effluent and any major sources of potential discharges such as spills and leaks), such that they may degrade ground water quality within a Prime Ground Water Recharge Area, shall incorporate ongoing management of toxic chemical sources and prohibition of unregulated discharges, so that the potential for ground water contamination is minimized and the opportunity for discharge discovery and control is maximized.

Policy 2D4: To apply standards through Plan Conformance, local development review and Highlands Project Review to protect, restore and enhance the functionality and the water resource value of Prime Ground Water Recharge Areas by restricting development and uses of land within a Prime Ground Water Recharge Area that reduce natural ground water recharge volumes or may directly or indirectly contribute to or result in water quality degradation.

Objective 2D4a: Development shall not occur in Prime Ground Water Recharge Areas unless

necessary to avoid Critical Habitat, Highlands Open Waters Buffers and Moderately and Severely Constrained Steep Slopes.

Objective 2D4b: Any development activity approved to occur in a Prime Ground Water Recharge Area shall provide an equivalent of 125% of pre-construction recharge volumes for the affected Prime Ground Water Recharge Area of the site within the following areas, in order of priority: (1) the same development site where feasible; (2) the same HUC14 subwatershed, or (3) an interrelated HUC14 subwatershed as approved by the Highlands Council where no feasible option exists in the same HUC14 subwatershed. This requirement shall apply to all portions of the Prime Ground Water Recharge Area where the recharge is disrupted through impervious surfaces, routing of stormwater runoff and recharge from natural flow paths, and other similar changes.

Objective 2D4c: Require through Plan Conformance, local development review and Highlands Project Review that the disruption of Prime Ground Water Recharge Area shall be minimized through the implementation of Low Impact Development Best Management Practices meeting the requirements of Objective 2D3a.

Objective 2D4d: Require through Plan Conformance, local development review and Highlands Project Review that the disruption of Prime Ground Water Recharge Area, after conformance with Objectives 2D4a, 2D4b and 2D4c is achieved, shall be limited to no greater than 15% of the Prime Ground Water Recharge Area on the site and shall be preferentially be sited on that portion of the Prime Ground Water Recharge Area that has the lowest ground water recharge rates and the lowest potential for aquifer recharge.

Objective 2D4e: Prohibit through Plan Conformance, local development review and Highlands Project Review the expansion or creation of public water supply systems or public wastewater collection and treatment systems or community-based on-site wastewater facilities into a Prime Ground Water Recharge Area within the Protection or Conservation Zone within the Planning Area except as provided for in Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and within the Preservation Area except as provided for in Policy 2I1 and Objectives 2I1a and 2I1b.

Objective 2D4f: Prohibit through Plan Conformance, local development review and Highlands Project Review new land uses, including those identified through Objective 2D3d, that have a significant potential to result in the discharge of persistent organic chemicals sources (including but not limited to existing discharges of industrial or other non-sanitary wastewater effluent) to ground water or to the land surface within a Prime Ground Water Recharge Area, such that they may degrade or contribute to the degradation of ground water quality.

Objective 2D4g: Require conformance with applicable components of regional stormwater management plans, where applicable, as a mandatory requirement for any site plan application.

Objective 2D4h: Achieve a net improvement in ground water recharge volume and maintenance of water quality as required through compliance with and implementation of any related provisions of an adopted regional stormwater plan.

Objective 2D4I: Achieve a net improvement in ground water volume and maintenance of water quality through redevelopment, enhanced infiltration, pretreatment or other means where feasible.

Objective 211b: The expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area as approved through a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 shall maximize the protection of sensitive environmental resources including avoidance of Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat.

Objective 2J4a: Prohibit new, expanded or extended public water systems within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project

must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The extension or creation of systems shall follow the requirements in Objective 2J4b (parts 2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. Such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2J4b.

Objective 2K3c: Prohibit new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2, and 3, the project must maximize the protection of sensitive environmental resources such as Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat. For approvals regarding part 3, the project must avoid disturbance of Highlands Open Waters buffer areas, Riparian Areas, Steep Slopes and Critical Habitat, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are: 1. To address through a waiver under Policy 7G1 or 7G2 a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety, such needs shall have highest priority for allocation of existing system capacity; 2. To address development permitted through a Highlands Redevelopment Area or takings waiver under Policy 7G1 or 7G2; or 3. To serve a cluster development that meets all requirements of Objective 2K3d.

Policy 6H1: To protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.

Policy 6N4: To require through Plan Conformance that municipalities and counties adopt LID best management practices where disturbance of Highlands resources is proposed, including but not limited to Steep Slopes, forest resources, Critical Habitat, Highlands Open Waters and Riparian Areas, and Prime Ground Water Recharge Areas.



Wellhead Protection Area: 2-Year Tier 5-Year Tier 12-Year Tier

A Wellhead Protection Area is a mapped area around a public water supply well that delineates the horizontal extent of ground water captured by a public water supply well pumping at a specific rate over a specific time. Wellhead Protection Areas consist of three tiers; the ground water within each tier takes a specified period of time to travel to the well: Tier 1 is a two-year time of travel; Tier 2 is equivalent to a five-year time of travel; Tier 3 is equivalent to a twelve-year time of travel. Wellhead Protection Areas are important areas for the protection of ground water quality.

Policy 2H2: To develop and implement, through Plan Conformance, local development review and Highlands Project Review, resource protection measures to protect and enhance ground water and water supply resources within Wellhead Protection Areas consistent with the source water assessments for each water supply source.

Objective 2H4a: Require site specific and municipal stormwater management plans to address wellhead protection requirements.

Policy 2H5: To require that conforming municipalities revise master plans and development regulations to address wellhead protection requirements.

Objective 2H5b: Restrict development activities that pose threats to the water quality of public water supply wells.

Objective 2H5c: Ensure that development activities and existing land use activities implement best management practices to protect the quality of ground water within Wellhead Protection Areas

Objective 2H5d: Amend Areawide Water Quality Management Plans or Wastewater Management Plans for conforming municipalities and counties to ensure that any activity associated with the proposed service area will not adversely affect a Wellhead Protection Area.

Objective 2G6c: Require conforming municipal and county master plans and development regulations to incorporate relevant TMDLs, additional water quality protection measures and wellhead protection for public water supply wells and nitrate standards as development standards.

Policy 6H1: To protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.



Wellhead Protection Area: 2-Year Tier 5-Year Tier 12-Year Tier

Identifies the Tier 1 portion of a Wellhead Protection Area. The calculated time for ground water to travel to the well from this zone is two years.

Objective 2H2a: Prohibit land uses that have a significant potential to result in the discharge of pathogens (including, but not limited to, septic systems and engineered stormwater infiltration from surfaces with significant potential for contact with pathogenic contaminants) to ground water or to the land surface within a designated Tier 1 Wellhead Protection Area, such that they may degrade or contribute to the degradation of ground water quality. Require that the construction of sewer lines within Tier 1 of a Well Head Protection Area prevent seepage of untreated sewage into ground water.

Objective 2H2b: Prohibit land uses that have a significant potential to result in the discharge of persistent organic or toxic chemicals sources (including but not limited to existing discharges of industrial or other non-sanitary wastewater effluent) to ground water or to the land surface within a designated Tier 2 Wellhead Protection Area, such that they may degrade or contribute to the degradation of ground water quality.

Objective 2H2c: Require that land uses that have a significant potential to result in major discharges of persistent organic or toxic pollutants to ground water or to the land surface (including but not limited to non-sanitary wastewater effluent and any major sources of potential discharges such as spills and leaks), such that they may degrade ground water quality within a designated Tier 3 Wellhead Protection Area, shall incorporate ongoing management of toxic chemical sources and prohibition of unregulated discharges, so that the potential for ground water contamination is minimized and the opportunity for discharge discovery and control is maximized.

Objective 2H4b: Encourage stormwater reuse for non-agricultural irrigation and other

non-potable water purposes to minimize the volume of stormwater discharges (other than from clean sources) within a Tier 1 or Tier 2 Wellhead Protection Area.



Wellhead Protection Area: 2-Year Tier 5-Year Tier 12-Year Tier

Identifies the Tier 2 portion of a Wellhead Protection Area. The calculated time for ground water to travel to the well from this zone is five years. Tier 2 also includes the land area within Tier 1.

Objective 2H2b: Prohibit land uses that have a significant potential to result in the discharge of persistent organic or toxic chemicals sources (including but not limited to existing discharges of industrial or other non-sanitary wastewater effluent) to ground water or to the land surface within a designated Tier 2 Wellhead Protection Area, such that they may degrade or contribute to the degradation of ground water quality.

Objective 2H2c: Require that land uses that have a significant potential to result in major discharges of persistent organic or toxic pollutants to ground water or to the land surface (including but not limited to non-sanitary wastewater effluent and any major sources of potential discharges such as spills and leaks), such that they may degrade ground water quality within a designated Tier 3 Wellhead Protection Area, shall incorporate ongoing management of toxic chemical sources and prohibition of unregulated discharges, so that the potential for ground water contamination is minimized and the opportunity for discharge discovery and control is maximized.

Objective 2H4b: Encourage stormwater reuse for non-agricultural irrigation and other non-potable water purposes to minimize the volume of stormwater discharges (other than from clean sources) within a Tier 1 or Tier 2 Wellhead Protection Area.



Wellhead Protection Area:

□ 2-Year Tier
□ 5-Year Tier □ 12-Year Tier

Identifies the Tier 3 portion of a Wellhead Protection Area. The calculated time for ground water to travel to the well from this zone is twelve years. Tier 3 also includes the land area within Tiers 2 and 1.

Objective 2H2c: Require that land uses that have a significant potential to result in major discharges of persistent organic or toxic pollutants to ground water or to the land surface (including but not limited to non-sanitary wastewater effluent and any major sources of potential discharges such as spills and leaks), such that they may degrade ground water quality within a designated Tier 3 Wellhead Protection Area, shall incorporate ongoing management of toxic chemical sources and prohibition of unregulated discharges, so that the potential for ground water contamination is minimized and the opportunity for discharge discovery and control is maximized.



Planning Area / Preservation Area: Planning Area / EM Preservation Area

Means those lands within the Highlands Region which are designated as the Preservation Area by the Highlands Act (N.J.S.A 13:20-7b).

Policy 211: To prohibit the expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area unless approved through a Highlands Applicability Determination (HAD) or a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1.

Objective 211a: Designated sewer service areas in the Preservation Area shall be restricted to the Existing Area Served as of August 10, 2004, except to serve development that is approved through a HAD or a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1.

Objective 211b: The expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area as approved through a HPAA with waiver pursuant to N.J.A.C. 7:38 and Policy 7G1 shall maximize the protection of sensitive environmental resources including avoidance of Highlands Open Waters buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat.

Objective 2L2c: Use the NJDEP Highlands Preservation Area rules and nitrate thresholds for the Preservation Area.

Policy 6J1: To encourage Preservation Area redevelopment of sites with 70% or greater impervious surfaces or a brownfield in areas designated by the Highlands Council as Highlands Redevelopment Areas in accordance with N.J.A.C 7:38-6.6 and 6.7.

Objective 7F1c: Preservation Area exemptions issued by the NJDEP in accordance with N.J.A.C. 7:38, shall be required, where appropriate, prior to consideration of a local development review or a Highlands Project Review. Guidance shall specify the exceptions where a review may proceed absent an exemption determination from the NJDEP.

Policy 7G1: For the Preservation Area, coordinate with NJDEP during Highlands permit review for any major Highlands development including the review of waivers on a case-by-case basis: 1) if determined to be necessary in order to protect public health and safety; 2) for redevelopment in certain previously developed areas as identified by the Highlands Council, or 3) in order to avoid the taking of property without just compensation.



Consists of high natural resource value lands that are important to maintaining water quality, water quantity and sensitive ecological resources and processes.

Policy 6C1: To limit new human development in the Protection Zone to redevelopment, exempt activities, and environmentally-compatible low density new land uses, in accordance with RMP resource protection needs and water quality and quantity capacity constraints and to ensure that the impacts of development using exemptions under the Highlands Act (see Policy 7F1) are considered in regional protection measures.

Objective 6C1a: Centers in the Protection Zone, potentially including clustered development, shall be at densities appropriate to the Zone, the community character, the State Development and Redevelopment Plan, and the use of septic systems or community wastewater systems.

Policy 6C2: To ensure through Plan Conformance, local development review and Highlands Project Review that any future development or redevelopment which does occur in a Protection Zone is subject to standards and criteria which protect the land and water resources of the Protection Zone from any potential adverse impact to the maximum extent possible.



Includes both the Conservation Zone and the Protection Zone.

Objective 2L3f: Carrying capacity shall be documented through the Land Use Capability Septic System Yield Map as the number of allowable septic systems per Conservation and Protection Zone for each HUC14 subwatershed, taking into account the nitrate target, the HUC14 subwatershed drought ground water recharge, and the acreage that is privately owned, undeveloped or underdeveloped, and not preserved.



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