

Policy Consideration: **Forest Integrity Protection Requirements**
Status: **For Consideration by the Highlands Council at
the September 21, 2006 Work Session**
Date: **September 19, 2006**

I. STAFF POLICY RECOMMENDATIONS

- 1) The Regional Master Plan (RMP) shall provide for the protection of Forest Resources in the Highlands Region, and their protection areas shall be incorporated into the Land Use Capability Map.

Rationale: **Forests** will be included in the RMP to provide essential ecosystem functions, including surface water and air filtration, carbon sequestration, groundwater recharge, and provide habitat to a wide range of animal and plant species. Forests are the original and existing primary land cover of the Highlands. Highlands forests are the dominant land cover of the region (approximately 464,200 acres of forest or 54% of the total of land area. Highlands forests function as surface water filtration systems, protecting the integrity of vital water supplies for the Highlands Region. The positive correlation between forest cover and surface water quality is well documented in scientific literature. Larger forest tracts forming the core of the Highlands protect natural communities by reducing anthropogenic effects and protecting area-sensitive wildlife species. The Highlands Act includes specific goals to protect the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora (Section 10.b.3). Section 11 of the Highlands Act requires a Resource Assessment of Highlands resources in order to maintaining the overall ecological values of the Highlands Region.

- 2) Establish the **Forest Ecological Integrity** in the Land Use Capability Map to protect important contiguous forest resource that should be maintained in a **Forest Resource Area** to protect ecological integrity according to the following forest integrity indicators: Total Forest Area, Core Area, Forest Patch Size, Proportion of Total Forest and Distance to Nearest Forest Patch.

Rationale: Forest ecological integrity includes landscape metrics applied on a forest patch basis to identify those forests that include criteria most suited to support ecological processes. A Forest Resource Area includes high ecological integrity forest areas including those forested areas that express one or more of the following forest integrity indicators – a contiguous forest patch of equal to or greater than 500 acres in size, an area consisting of 250+ acres of Core forest greater than 300 feet from an altered edge, or areas that account for 45% or greater of mean total forest cover. The Highlands Act includes specific goals to protect the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora (Section 10.b.3). The evaluation of forest ecological integrity, as a measure of fragmentation, provides guidance for where contiguous forests are located in the Highlands Region.

- 3) Assign **Forest Watershed Integrity** classifications for each HUC14 subwatershed based on the forest watershed integrity indicators.

The following values classes, relating to the importance of forest areas for water quality protection, will be included in the RMP:

- **High Integrity Forest Area** – Those forested areas within each subwatershed that are predominantly forested, include a high proportion of forest cover consisting of high core area, large patch size, and a low distance to nearest patch.
- **Moderate Integrity Forest Area** – Those forested areas within each subwatershed that are predominantly forested, include a moderate proportion of forest cover consisting of moderate core area and patch size.
- **Low Integrity Forest Area** – Those forested areas within each subwatershed that are predominantly non-forested, include minimal proportion of forest cover consisting of small patch size.

Rationale: Section 11 of the Highlands Act requires a Resource Assessment of Highlands resources in order to maintaining the overall ecological values of the Highlands Region. Forest ecological integrity is a measure of the importance of forest cover to protect watershed characteristics that are important to maintaining water quality and quantity. Forest ecological integrity includes landscape level metrics applied on a watershed basis to identify those forests that include criteria most suited to support ecological processes. The ecological integrity of forested lands is affected by the degree of fragmentation, including total forest area, core forest area, patch area size, distance to nearest forest patch, and proportion of total forest. The Highlands Act includes specific goals to protect the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, and critical habitat for fauna and flora (Section 10.b.3). The evaluation of forest ecological integrity, as a measure of fragmentation, provides guidance for where contiguous forests are located in the Highlands Region. The integration of the forest integrity indicators occurs through a decision model that assesses the extent to which one or more values indicate high, medium or low watershed protection needs, and how differences among them inform the overall rating.

- 4) The following standards shall be incorporated into the **Regional Protection Zone** of the Land Use Capability Map (LUCM) in furtherance of the goals and requirements of the Highlands Act to protect and enhance Highlands resources, as follows:

- Include all areas identified as the Forest Resource Area to the maximum extent practicable.
- Include all high integrity forest areas to the maximum extent practicable.
- No clearing of forest should be allowed within a Forest Resource Area unless in exceptional circumstances determined by public good, or when within a **Specially Planned Area**, as determined by the Highlands Council, and only upon demonstration that any relief of protection requirements will not impair or reduce the integrity of the forest.

- Where clearing of forest is permitted, Low Impact Development (LID) best management practices must be followed to minimize that impact, and mitigation and restoration of forest areas must be provided.
- Prioritize acquisition and/or TDR credit bonuses for lands within the Forest Resource Area.
- Encourage Forest Management and restoration practices on public and private lands that prioritize ecological and watershed protection measures.

Rationale: The Highlands Act requires the development of Land Use Capability Map and minimum standards based upon the Resource Assessment and Smart Growth Component. Sections 11.a.(1) , 11.a.(6) and 12. An assessment of the extent of the Forest Resource Area and high integrity HUC14 subwatersheds facilitates an understanding of its regional significance to ensure that the level of protection afforded is adequate and appropriate. The results are used as one input to the Land Use Capability Map. Applicable Resource Protection and Smart Design standards can then be assigned to the extent they are appropriate and necessary to maintain ecological value.

- 5) The following standards shall be incorporated into the **Regional Conservation Zone** of the Land Use Capability Map in furtherance of the goals and requirements of the Highlands Act to provide the conservation based approach for agricultural areas, rural areas and suburban areas, as follows:

- Include all moderate integrity forest areas to the maximum extent practicable.
- Require Forest Protection and Restoration Plans and Low Impact Development (LID) Best Management Practices (BMPs) to mitigate for forest resource losses.
- Encourage Forest Management and restoration practices on public and private lands that prioritize ecological and watershed protection measures.

Rationale: The Highlands Act requires the development of Land Use Capability Map and minimum standards based upon the Resource Assessment and Smart Growth Component. Sections 11.a.(1) , 11.a.(6) and 12. An evaluation of the condition and ecological integrity of forest areas within a subwatershed facilitates an assessment of its regional significance to ensure that the level of protection afforded is adequate and appropriate. The integrity of the forest areas supports the goals of the Act with consideration of the impacts of the dominant land use (e.g., open space, agriculture, low density development, higher density development) within the HUC 14. The results are used as one input to the Land Use Capability Map. Applicable Resource Protection and Smart Design standards can then be assigned based on regional indicators of forest area quality to the extent they are appropriate and necessary to maintain ecological value.

- 6) The following standards shall be incorporated into the **Regional Development Zone** of the Land Use Capability Map in furtherance of the goals and requirements of the Highlands Act within areas of existing developed land that may serve to support additional

development, redevelopment and voluntary TDR Receiving Zones based on infrastructure and land use conditions and local desire, as follows:

- Require Low Impact Development (LID) BMPs for any development activity to minimize clearing of forest.

Rationale: The Highlands Act requires the development of Land Use Capability Map and minimum standards based upon the Resource Assessment and Smart Growth Component. Sections 11.a.(1) , 11.a.(6) and 12. An evaluation of the condition and ecological integrity of the forests within a subwatershed facilitates an assessment of their regional significance to ensure that the level of protection afforded is adequate and appropriate. The integrity of the Highlands forest areas supports the goals of the Act with consideration of the impacts of the dominant land use (e.g., open space, agriculture, low density development, higher density development) within the HUC 14. The results are used as one input to the Land Use Capability Map. Applicable Resource Protection and Smart Design standards can then be assigned based on regional indicators of forest area quality to the extent they are appropriate and necessary to maintain ecological value.

- 7) The following **Resource Protection Standards** are recommended for the RMP in furtherance of the goals and requirements of the Highlands Act to protect and enhance forest areas, including:
- Restrict clearing activities and new land uses within the Forest Resource Area or high integrity forest area.
 - Establish minimum site design guidelines and permissible uses within a forest area as follows:
 - a) Permissible uses within the Forest Resource Area or a high integrity forest area shall be limited to maintenance of pre-existing uses. No increase in land clearing shall be permitted. Prioritization for restoration of impaired areas shall be required wherever practical. Relief from strict adherence to Resource Protection Standards shall be permitted only within areas deemed a Specially Planned Area as approved by the Highlands Council. Acquisition and restoration of impaired areas within the Forest Resource Area shall be encouraged wherever practical.
 - b) Permissible uses within a moderate integrity forest area shall be limited to maintenance of pre-existing uses. Minimal clearing of forested lands shall be permitted upon approval of a Forest Protection and Restoration Plan and Low Impact Development (LID) BMP program approved by the Highlands Council.
 - c) Activities within a low integrity forest area shall encourage redevelopment of previously developed areas and allow for other compatible uses that minimize losses to forested lands in accordance with prior approval of a Forest Protection and Restoration Plan and Low Impact Development (LID) BMP program approved by the Highlands Council.
 - Establish minimum requirements for development and approval of Low Impact Development (LID) BMPs.
 - Require preparation and inclusion of Forest Protection and Restoration Plans within municipal zoning and land use ordinances.

- Establish minimum requirements for incorporation of Forest Stewardship and Management plans within municipal and County Open Space Plans.

Rationale: The RMP Standards support the necessity to determine the amount and type of human development and activity the Highlands Region can sustain while still maintaining the ecological value of the Highlands Region. Section 11.a.(1)(a). The Highlands Act requires the development of Land Use Capability Map and minimum standards based upon the Resource Assessment and Smart Growth Component. Sections 11.a.(1) , 11.a.(6) and 12.

- 8) The following **Smart Design Standards** are recommended for the RMP in furtherance of the goals and requirements of the Highlands Act to encourage appropriate conservation based design throughout the region, including:

- Require upland forest identification methodology outlined in *Highlands Council Alternate Method for Identifying Upland Forest Areas in the Highlands* for any site or portion thereof as a mandatory requirement for any site plan application.
- Require development and implementation of a Forest Protection and Restoration Plan in designated growth areas in the Highlands.

Rationale: Pursuant to the Act, NJDEP has adopted the Highlands Water Protection and Planning Act Rules at N.J.A.C. 7:38. The rules at N.J.A.C. 7:38-3.9(b) provide a methodology to identify upland forested areas using a 16-point system to define upland forest areas. In addition, the rules at N.J.A.C. 7:38-3.9(e) enable NJDEP to identify as an upland forest area any other area so identified by the Highlands Council, using an alternate method of identification, after notice, public comment and consultation with the State Forester. The Highlands Council worked with NJDEP and the New Jersey State Forester to develop an alternate methodology to define upland forest areas. The alternate methodology is intended to further augment and refine the existing 16-point system for forests in the Highlands Region. The alternate methodology proposed a multi-step process to verify the presence of upland forest areas by means of aerial photograph interpretation and on-site field verification. Community forest plans would address forests and trees in parks, along roadways and public right of ways to increase forest cover, improve community forest health, reduce storm water flows increase precipitation infiltration rates, and promote nutrient uptake.

- 9) The following **Pre-Conformance Strategies** are recommended in furtherance of the goals and requirements of the Highlands Act to ensure successful implementation of the RMP prior to the conformance period, including:

- Develop technical guidelines and procedures for development of Forest Stewardship and Management Plans for all preserved land as part of municipal and county Open Space Plans
- Develop technical guidelines for development of Forest Protection and Restoration plans for inclusion in municipal Master Plans, Zoning and Land Use Ordinances, as appropriate.

- Develop technical guidelines and procedures for development and implementation of Low Impact Development (LID) Best Management Practices to protect, enhance and restore forest resources within the Highlands.

Rationale: RMP Implementation Strategies support the necessity to determine what activities, data and programs will be required of both the Highlands Council and municipal and county stakeholders during the Plan Conformance process as well as what initiatives will require longer term planning goals. Sections 11.a.(3), 14 and 15. The RMP is a “living document” and will continue to be refined and developed in support of regional planning goals. In order to facilitate regional planning goals it is imperative that the RMP have State, County, and local support from all levels of government and the support of the stakeholders of the Highlands Region.

10) The following **Conformance Strategies** are recommended in furtherance of the goals and requirements of the Highlands Act to ensure successful implementation of the RMP during the conformance period, including:

- Require that municipal conformance approval include forest area inventory, protection standards and approval guidelines consistent with the resource protection standards of the RMP.
- Require inclusion of Forest Protection and Restoration Plans into Municipal conformance documents, Master Plans, Zoning and Land Use Ordinances, as appropriate.
- Require inclusion of Forest Resource Area in the Conservation Element of Municipal and County Master Plans and inclusion in Open Space Plans.

Rationale: RMP Implementation Strategies support the necessity to determine what activities, data and programs will be required of both the Council and municipal and county stakeholders during the Plan Conformance process as well as what initiatives will require longer term planning goals. Sections 11.a.(3), 14 and 15. The RMP is a “living document” and will continue to be refined and developed in support of regional planning goals. In order to facilitate regional planning goals it is imperative that the RMP have State, County, and local support from all levels of government and the support of the stakeholders of the Highlands Region.

11) The following **5-year Resource Protection and Planning Goals** are recommended in furtherance of the goals and requirements of the Highlands Act to ensure continued refinement and development of the RMP, including:

- Develop a coordinated agroforestry program throughout the Highlands Region
- Propose an amendment to the Farmland Assessment Act to include sustainable management provisions and yearly income adjustments for societal benefits provided by small, forest woodland owners.

- Establish a cooperative monitoring program for forest health within the region, using indicators of forest integrity, in cooperation with the US Forest Service and NJDEP Division of Forestry.

Rationale: Trees and forests are a renewable resource which, managed properly, can be maintained in perpetuity (sustainably) while being actively managed. In order to determine the sustainability of the forest resource in the Highlands Region there needs to be measurable scientific based data and information. The Highlands Act includes specific goals to protect the natural, scenic, and other resources of the Highlands Region, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora (Section 10.b.3). The evaluation of forest health provides guidance for the status of the Region’s forest resources and provides direction toward sustainable use of that resource.

The Highlands Act requires the Highlands Council to periodically revise and update the RMP at least once every six years. Section 8.a. RMP Implementation Strategies support the necessity to determine what activities, data and programs will be required of both the Council and municipal and county stakeholders during the Plan Conformance process as well as what initiatives will require longer term planning goals. The RMP is a “living document” and will continue to be refined and developed in support of regional planning goals. In order to facilitate regional planning goals it is imperative that the RMP have State, County, and local support from all levels of government and the support of the stakeholders of the Highlands Region. Sections 11.a.(3), 14 and 15.

12) The following **Coordination and Consistency Considerations** are recommended to promote active participation in the implementation of the RMP among state and federal agencies:

- In cooperation with the NJ Forest Service, create and maintain a Highlands Certified Forester and Logger Program.
- Coordinate with the NJ Forest Service and US Forest Service to develop standards for sustainable forestry practices consistent with the resource protection goals of the RMP as a required element of Forest Management Plans.
- Coordinate with NJDEP on controlling deer population within managed woodlands.
- Develop a coordinated regulatory review program with the NJDEP to ensure consistency of permit actions, open space acquisition priorities and public lands management strategies consistent with the resource protection goals of the RMP.
- Coordinate with the USDA Natural Resource Conservation Service and NJDA to promote forest area resource protection requirements and standards in Resource Management System and Farm Conservation Plans for existing agricultural uses to the maximum extent practical.

Rationale: RMP Implementation Strategies support the necessity to determine what local, State, and federal programs and policies may best be coordinated to promote the goals, purposes, policies, and provisions of the RMP. Sections 11.a.(4). The RMP is a “living document” and will continue to be refined and developed in support of regional planning

goals. In order to facilitate regional planning goals it is imperative that the RMP have State, County, and local support from all levels of government and the support of the stakeholders of the Highlands Region.

13) The following **Local Participation Considerations** are recommended to promote the understanding and support for the RMP resource protection goals at the local level:

- Develop educational program for municipal officials on methods to develop a Forest Protection and Restoration Plan.
- Develop educational programs for municipal officials and land owners on forest management and stewardship methods.

Rationale: RMP Implementation Strategies support the necessity to provide for the maximum feasible local government and public input into the Highlands Council's operations. Section 11.a.(3). The RMP is a “living document” and will continue to be refined and developed in support of regional planning goals. In order to facilitate regional planning goals it is imperative that the RMP have State, County, and local support from all levels of government and the support of the stakeholders of the Highlands Region.

II. REQUIREMENTS OF THE HIGHLANDS ACT AND RMP GOALS RELATED TO FOREST INTEGRITY PROTECTION REQUIREMENTS:

Goals of the Highlands Act:

In accordance with Section 10 of the Highlands Act, the overarching goal of the Regional Master Plan “with respect to the entire Highlands Region shall be to protect and enhance the significant values of the resources thereof in a manner which is consistent with the purposes and provisions of this act.” Section 10.a.

The Highlands Act establishes specific goals relating to protection of forest resources. Those goals with respect to the Preservation Area shall be to:

- protect, restore, and enhance the **quality and quantity of surface and ground waters.** Section 10.b.(1). (emphasis added).
- preserve **extensive and, to the maximum extent possible, contiguous areas of land in its natural state,** thereby ensuring the continuation of a Highlands environment which contains the **unique and significant natural,** scenic, and other resources representative of the Highlands Region. Section 10.b.(2). (emphasis added).
- protect the natural, scenic, and other resources of the Highlands Region, including but not limited to **contiguous forests,** wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora. Section 10.b.(3). (emphasis added).
- preserve **farmland** and historic sites and other historic resources. Section 10.b.(4).
- promote compatible **agricultural, horticultural,** recreational, and cultural uses and opportunities within the framework of protecting the Highlands environment. Section 10.b.(8). (emphasis added).

- prohibit or limit to the maximum extent possible construction or development which is **incompatible with preservation of this unique area**. Section 10.b.(9). (emphasis added).

In addition, the goals with relating to protection of forested areas with respect to the Planning Area shall be to:

- protect, restore, and enhance the **quality and quantity of surface and ground waters**. Section 10.c.(1). (emphasis added).
- preserve to the maximum extent possible any **environmentally sensitive lands** and other lands needed for recreation and **conservation purposes**. Section 10.c.(2). (emphasis added).
- protect and maintain the **essential character of the Highlands environment**. Section 10.c.(3). (emphasis added).
- preserve **farmland** and historic sites and other historic resources. Section 10.c.(4). (emphasis added).
- promote the continuation and expansion of **agricultural, horticultural**, recreational, and cultural uses and opportunities. Section 10.c.(5). (emphasis added).

Requirements of the Highlands Act:

Resource Assessment

The Highlands Act includes specific requirements relating to protection of forest resources requiring the development of a Resource Assessment for the Highlands Region which “(a) determines the amount and type of human development and activity which the ecosystem of the Highlands Region can sustain while still maintaining the overall ecological values thereof, with special reference to surface and ground **water quality** and supply; **contiguous forests and woodlands**; endangered and threatened **animals, plants, and biotic communities**; ecological factors relating to the protection and enhancement of **agricultural or horticultural production or activity**; **air quality**; and **other appropriate considerations affecting the ecological integrity of the Highlands Region**; and (b) includes an assessment of scenic, aesthetic, cultural, historic, open space, **farmland**, and outdoor recreation resources of the region, together with a determination of overall policies required to maintain and enhance such resources;” Section 11.a.(1)(a) and (b)(emphasis added).

Smart Growth Component

The Highlands Act also includes specific requirements relating to protection of forest resources requiring the development of a Smart Growth component that includes “an assessment, based upon the resource assessment prepared pursuant to paragraph (1) of subsection a. of this section, of opportunities for appropriate development, redevelopment, and economic growth, and a transfer of development rights program In preparing this component, the council shall:

- prepare a **land use capability map**;
- identify existing developed areas capable of sustaining redevelopment activities and investment;
- identify undeveloped areas in the planning area, which are not significantly constrained by environmental limitations such as steep slopes, wetlands, or **dense forests**, are not prime

agricultural areas, and are located near or adjacent to existing development and infrastructure, that could be developed;

(g) identify **special critical environmental areas and other critical natural resource lands** where development should be limited. Section 11.a.(6)(emphasis added).

Preservation Area Assessment

For the Preservation Area, Section 12 of the Highlands Act requires “**a land use capability map** and a comprehensive statement of policies for planning and managing the development and use of land in the preservation area, which shall be based upon, comply with, and implement the **environmental standards**” adopted by NJDEP and the **Resource Assessment prepared the Highlands Council** under Section 11. Section 12.(emphasis added).

Section 12 specifically requires implementation “that will ensure the continued, uniform, and consistent protection of the Highlands Region in accordance with the goals, purposes, policies, and provisions of this act, and shall include:

- a. a preservation zone element that **identifies zones within the preservation area where development shall not occur** in order to protect **water resources and environmentally sensitive lands** and which shall be permanently preserved through use of a variety of tools, including but not limited to land acquisition and the transfer of development rights; and
- b. minimum standards governing municipal and county master planning, development regulations, and other regulations concerning the development and use of land in the preservation area, including, but not limited to, standards for minimum lot sizes and stream setbacks, construction on steep slopes, maximum appropriate population densities, and **regulated or prohibited uses** for specific portions of the preservation area. Section 12.(emphasis added).

In addition, Section 36 of the Highlands Act requires that NJDEP’s permitting review approval without a waiver may be issued only upon a finding that the proposed major Highlands development:

- (1) would have a **de minimis impact on water resources** and would not cause or contribute to a significant degradation of surface or ground waters. In making this determination, the commissioner shall consider the extent of any impacts on water resources resulting from the proposed major Highlands development, including, but not limited to, the regenerative capacity of aquifers or other surface or ground water supplies, increases in stormwater generated, increases in impervious surface, increases in stormwater pollutant loading, changes in land use, and **changes in vegetative cover**;
- (2) would cause **minimal feasible interference with the natural functioning of animal, plant, and other natural resources** at the site and within the surrounding area, and **minimal feasible individual and cumulative adverse impacts to the environment** both onsite and offsite of the major Highlands development;
- (3) will result in **minimum feasible alteration or impairment of the aquatic ecosystem** including existing contour, vegetation, fish and wildlife resources, and aquatic circulation of a freshwater wetland;
- (4) **will not jeopardize the continued existence of species** listed pursuant to "The Endangered and Nongame Species Conservation Act," P.L.1973, c. 309 (C.23:2A-1 et seq.) or the "Endangered Plant Species List Act," P.L.1989, c. 56 (C.13:1B-15.151 et seq.), or which appear on the federal endangered or threatened species list, and **will not result in the likelihood of the destruction or adverse modification of habitat for any rare, threatened,**

or endangered species of animal or plant;

(5) is located or constructed so as to neither endanger human life or property nor otherwise impair the public health, safety, and welfare;

(6) would result in **minimal practicable degradation of unique or irreplaceable land types**, historical or archeological areas, and existing public scenic attributes at the site and within the surrounding area; and

(7) meets all other applicable department standards, rules, and regulations and State laws.” Section 36 (emphasis added)

Preservation Area Requirements

The NJDEP’s rules at N.J.A.C. 7:38-3.9 protect upland forested areas. In accordance with N.J.A.C. 7:38-3.9(e), the NJDEP will “identify as upland forest area any other area so identified by the Highlands Council, using an alternate method of identification.” The Highlands Council provided NJDEP with an alternative method of identification in September of 2005.

This rule implements the forest protection requirements in the Preservation Area pursuant to Section 34.k: including the “prohibition on development that disturbs upland forested areas, in order to prevent soil erosion and sedimentation, protect water quality, prevent stormwater runoff, and protect threatened and endangered animal and plant species sites and designated habitats; and standards to protect upland forested areas that require all appropriate measures be taken to avoid impacts or disturbance to upland forested areas, and where avoidance is not possible that all appropriate measures have been taken to minimize and mitigate impacts to upland forested areas and to prevent soil erosion and sedimentation, protect water quality, prevent stormwater runoff, and protect threatened and endangered animal and plant species sites and designated habitats.” Section 34.k.

The following activities are exempt from the Highlands Act: “an activity conducted in accordance with an approved woodland management plan pursuant to section 3 of P.L.1964, c. 48 (C.54:4-23.3) or the normal harvesting of forest products in accordance with a forest management plan approved by the State Forester.” Section 30.a.(7).

In addition, Section 31 of the Highlands Act includes restrictions on “agricultural or horticultural development in the preservation area that would result in the increase, after the date of enactment of this act either individually or cumulatively, of agricultural impervious cover by three percent or more of the total land area of a farm management unit.” The Department of Agriculture has adopted regulations, at N.J.A.C. 2:92, to implement this provision requiring the review and approval by the local soil conservation district of a farm conservation plan.

Section 31 also includes restrictions on “agricultural or horticultural development in the preservation area that would result in the increase, after the date of enactment of this act either individually or cumulatively, of agricultural impervious cover by nine percent or more of the total land area of a farm management unit.” Where there is a nine percent increase, there is a requirement for the review and approval by the local soil conservation district and NJDEP of a resource management systems plan which shall be prepared and submitted by the owner or operator of the farm management unit.

Local Participation Component

A component to provide for the maximum feasible local government and public input into the council's operations, which shall include a framework for developing policies for the planning area in conjunction with those local government units in the planning area who choose to conform to the regional master plan. Section 11.a.(3).

Coordination and Consistency Component

A coordination and consistency component which details the ways in which local, State, and federal programs and policies may best be coordinated to promote the goals, purposes, policies, and provisions of the regional master plan, and which details how land, water, and structures managed by governmental or nongovernmental entities in the public interest within the Highlands Region may be integrated into the regional master plan. Section 11.a.(4).

III. TECHNICAL BASIS AND JUSTIFICATION FOR STAFF RECOMMENDATIONS

In furtherance of the requirements and goals of the Highlands Act as summarized above, the Forest Area Protection Requirements of Ecosystem Management element of the RMP are intended to protect the natural resources of the Highlands Region, including but not limited to contiguous forests.

The Highlands Council has been charged with recommending policy to lay the groundwork for scientific management and long term sustainability of forest resources in the Highlands. A forest is a complex ecosystem defined by the interactions of living organisms and the surrounding environment. A native, healthy, and diverse forest cover is the preferred land use to protect water quality and quantity. The multiple benefits and values provided by forests are realized by society as a whole while individual landowners are responsible for the care and stewardship of this resource. The benefits to society should be realized when it comes to active management of the forested ecosystem and on private property in relation to the Farmland Assessment Act.

Despite being the most densely populated State in the Nation, forests cover 45% of New Jersey's land mass and 54% of the total of land area (approximately 464,200 acres) of the Highlands Region. As more pressure is placed on water resources, development continues, non-native species proliferate, and wildlife habitat is fragmented within watersheds which provide water outside the Highlands. Active management becomes more critical as time proceeds.

The purpose of this element is to recommend protection requirements of the Highlands forest areas for inclusion in the RMP and Land Use Capability Map based on the following actions in furtherance of the requirements and goals of the Act:

- identify forest areas and provide the framework for incorporation of these sites into the RMP and Land Use Capability Map.
- identify appropriate land use planning and management strategies that can help preserve these areas.

These approaches are based on the best available science and the results of the Resource Assessment performed in support of the RMP, and reinforced through the scientific literature and existing state or federal regulatory programs, where applicable. In addition, as required by Section 12 of the

Highlands Act for the Preservation Area, these approaches are based upon, comply with, and implement the environmental standards adopted by NJDEP and the Resource Assessment performed by the Highlands Council. This requirement of the Highlands Act authorizes the Highlands Council to integrate results of these two elements of the Act into a unified approach for the protection of Highlands resources.

IV. GLOSSARY

This section defines the terms that are used to develop the approach and methods that informed the proposed policy actions for this RMP element. Topic specific glossaries will contribute to the general RMP glossary of terms.

Altered Edge – The spatial delineation of the geographic boundary (i.e., edge) between forest and non-forest land.

Core Forest - Forest patches greater than 300 feet in distance to an altered edge.

Farm Conservation Plan - A site specific plan that prescribes needed land treatment and related conservation and natural resource management measures, including forest management practices, that are determined to be practical and reasonable for the conservation, protection, and development of natural resources, the maintenance and enhancement of agricultural or horticultural productivity, and the control and prevention of nonpoint source pollution.

Forest – A biological community as described in *Highlands Council Alternate Method for Identifying Upland Forest Areas in the Highlands*.

Forest Integrity – An expression of the application of landscape metrics to evaluate the effects of forest fragmentation across the Highlands landscape thereby recognizing the ability of Highlands forests to provide essential ecosystem functions.

Forest Management Plan – A site specific plan which prescribes needed land treatment and related conservation and natural resource management measures deemed to be practical and reasonable for the conservation and protection of forest productivity and the control and prevention of nonpoint source pollution.

Forest Patch - A forest patch represents a contiguous tract of forest bordered by either altered land or a road.

Forest Protection and Restoration Plan – A planning document developed at the municipal or county level that identifies forested areas appropriate for management and restoration, including strategies for implementation at the local or regional level.

Forest Resource Area- A Forest Resource Area includes high ecological integrity forest areas including those forested areas that express one or more of the following forest integrity indicators – a contiguous forest patch of equal to or greater than 500 acres in size, an area consisting of 250+ acres of Core forest greater than 300 feet from an altered edge, or areas that account for 45% or greater of mean total forest cover.

Forest Stewardship Plan – A management plan developed to address forest age class diversity for the Highlands to improve the resistance of forests to a catastrophic canopy loss; thereby contributing toward the prevention of water quality impairment from nutrient release and sedimentation.

Hydrologic Unit Code – Hydrologic Unit Code (HUC) means an area within which water drains to a particular receiving surface-water body, which is identified by a specific digit number, or “hydrologic unit code.” The HUC codes were developed by the U.S. Geological Survey. *N.J.A.C. 7:38-1.4.*

HUC14 - An area within which water drains to a particular receiving surface-water body, which is identified by a fourteen-digit number, or “hydrologic unit code.” In New Jersey, a HUC14 correlates to a subwatershed. *N.J.A.C. 7:38-1.4.*

Low Impact Development (LID) Best Management Practices – Low Impact Development is an environmentally sensitive approach to storm water management that emphasizes conservation and the use of existing natural site features integrated with distributed, small scale storm water controls to more closely mimic natural hydrologic patterns in residential, commercial and industrial settings. Low Impact Development (LID) best management practices involve comprehensive land planning and engineering design to maintain and enhance the hydrologic regime of urban lands and development within watersheds. Low Impact Development (LID) standards and best management practices are supported by the New Jersey Stormwater Management Rules, N.J.A.C. 7:8 and the “New Jersey Stormwater Best Management Practices Manual” developed by the New Jersey Department of Environmental Protection, in coordination with the New Jersey Department of Agriculture, the New Jersey Department of Community Affairs, the New Jersey Department of Transportation, municipal engineers, county engineers, consulting firms, contractors, and environmental organizations.

Proportion of Total Forest - Proportion of total forest cover within a 3km radius.

Resource Management System Plan - A site specific conservation system plan that (1) prescribes needed land treatment and related conservation and natural resource management measures, including forest management practices, for the conservation, protection, and development of natural resources, the maintenance and enhancement of agricultural or horticultural productivity, and the control and prevention of nonpoint source pollution, and (2) establishes criteria for resources sustainability of soil, water, air, plants, and animals.

Specially Planned Area - Previously developed lands that provide opportunities for redevelopment, including infill and adaptive reuse, based on limited resource constraints due to past development patterns. Within the Preservation Area a Specially Planned Area is limited to an area or site that contains at least 70% impervious area or is a Brownfield site determined to be Specially Planned Area by the Highlands Council and NJDEP.

