

Highlands Initial Assessment Report

*Borough of Ringwood
Passaic County, New Jersey*



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Prepared by the Ringwood Borough Planning Board

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Introduction

Ringwood Borough, situated in the heart of the Highlands Region, is entirely within the Highlands Preservation Area. The geology, expansive forest resources, abundant water resources and other environmental features, epitomize the Highlands core. The Borough values these resources and understands the regional impact land use activity has within and beyond Ringwood. Over the past 5 years, the Borough has strived to develop new planning strategies that protect these natural resources while allowing for appropriate growth within the Borough. Ringwood has developed a Natural Resource Inventory (NRI) and Conservation Plan (2007), an Open Space and Recreation Plan (2004), a Housing and Fair Share Element (2005), a Reexamination Report (2006), and a Land Use Plan (2007). At the same time that many of these documents were being prepared, the Highlands Water Protection and Planning Act, was signed into law and the Highlands Regional Master Plan (RMP) was being developed. The Borough laid out a vision for future land use and development locally, and incorporated regional planning objectives as seen in the Highlands where possible. It was due to this foresight that many of the objectives in the Ringwood planning documents are consistent with the overall objectives of the Highlands RMP.

While the Borough's planning documents mimic the overall objectives of the Highland RMP, regulatory provisions to accompany these objectives have not been developed to their full capacity. The adoption of the Highlands RMP now requires the Borough to more fully assess and develop strategies that will be appropriate for Ringwood and allow the Borough to come into conformance with the Highlands RMP.

The purpose of this Initial Assessment is to identify areas of consistency as well as areas that will require full development of regulatory and planning documents. In reviewing the RMP and comparing its policies with the Borough's planning documents, several major concerns related to plan conformance have surfaced. In general, major issues relate to time constraints, financial resources and technical assistance. The goals and objectives outlined in the RMP will require the development, or amendments to, existing Borough regulations, for which Ringwood will require financial and technical assistance (See [Table 1](#)). Examples of the type and extent of documentation required for Highlands Conformance include:

- Land Use Capability Analysis
- Limiting Factor Analysis
- Build Out analysis
- Water Use Conservation and Management Plan
- Ground Water Recharge and Mitigation Plan
- Wellhead Protection Plan
- Wastewater Management Plan
- Septic System Management Plan
- Stormwater Management Plan
- Any applicable resource protection regulations
 - Open water and riparian areas

- Ground water recharge
- Wellhead protection (amended)
- Stormwater
- Steep Slopes
- Forest Areas
- Open Space monitoring
- Critical habitat
- Lake Management
- Low impact development
- Historic and cultural protection

The Highlands Council has begun the process of outlining the steps necessary to receive basic plan conformance by the December 8, 2009 deadline. While these steps will not achieve full plan conformance, they will ensure municipalities will meet their required deadline and be consistent with the major Goals of the Highlands RMP. The Highlands Council has released a series of 7 modules, all of which are being prepared by the Council for municipal adoption. These include:

1. Current Municipal Conditions and Build-Out Analysis Module
2. Land Use and Resource Capacity Analysis Module
3. Housing Element & Fair Share Plan Module
4. Highlands Environmental Resource Inventory Module
5. Highlands Master Plan Element Module
6. Highlands Regulations Module
7. Municipal Self Assessment, Implementation Plan & Petition Module

The Council's goal is to prepare each module, release each one to the municipalities, complete a municipal level review and revisions process and then have each municipality adopt each module. At this time only Module 1 has been released and is currently in the process of review. If correctly implemented, the Council's ability to write and distribute each module will lessen the financial and time constraint burden on participating Municipalities. However, until each module is reviewed, the type and extent of required revisions to local plans and ordinances will not be clear. The Council is providing an initial \$50,000 grant to complete the seven-module 2009 work program and has the ability to offer up to \$100,000 per municipality if deemed necessary.

Other issues that may be of concern through Plan Conformance are the goals and policies for the Existing Community Zones. The goals and policies in these areas appear to promote voluntary development and redevelopment opportunities. Of course the scale of potential development is based on environmental constraints, which should be carefully weighed and analyzed by the Borough since the Existing Community Zones in the Borough are located in the residential areas surrounding the Lake Communities. In addition, areas which may be able to support new development and redevelopment are located in the existing commercial zones in the Borough, which are currently overlaid with the Protection Zone. These are items that will need to be addressed more fully as Plan Conformance continues.

Ringwood Borough Existing Planning Program

The Borough has recently prepared several new or updated planning documents. These include a Natural Resource Inventory (NRI) and Conservation Plan (2007), an Open Space and Recreation Plan (2004), a Land Use Plan (2007), a Reexamination Report (2006), and a Housing and Fair Share Element (2005). During the time these documents were in preparation, the Highlands Regional Master Plan (RMP) was also being developed. This allowed the Borough to include some of the more prominent issues concerning the Highlands and development to be addressed in the Borough's Master Plan. The following section is a review of each document and an analysis of consistency with the Highlands RMP.

2007 Land Use Plan

Since the Ringwood Borough Land Use Plan was developed while the Highlands Regional Master Plan was underway, the Borough was able to incorporate some of the major issues and policies of the Highlands Regional Plan into the Borough Land Use Plan. The Borough's main goals and objectives outlined in the Land Use Plan include natural resource protection and enhancement, water availability, preserving and protecting historic and cultural sites, providing for economic development and redevelopment and appropriate development standards that safeguard natural resources.

The Borough developed a vision statement to guide future land use policy, which states:

“The Borough of Ringwood, being mindful of its semi-rural character and historic settlements, and recognizing the natural constraints that limit the location, type and intensity of development, envisions a safe, healthy, and pleasing environment for all of its residents.

Accordingly, the Borough of Ringwood commits to:

- Maintaining the prevailing character and unique sense of place of its neighborhood communities;
- Fostering the arts and culture;
- Creating improved vehicular traffic flow, and new pedestrian walkways and bicycle paths that will improve non-vehicular access between neighborhoods, schools and commercial centers;
- Ensuring complete remediation and restoration of environmentally compromised sites;
- Becoming a role model and providing leadership to achieve sustainable economic development, including green technologies;
- Revitalizing our commercial areas;
- Continuing to seek environmentally suitable uses for the industrially zoned area with a view to stabilizing our tax base;
- Assuring that a variety of housing opportunities, including affordable housing, exists in the Borough for new families and senior citizens that are financially accessible to low and/or moderate income households;

- Providing diverse recreational opportunities;
- Encouraging an informed citizenry;
- Being stewards of the pristine waters, drinking supply for millions of New Jersey residents, and other environmentally sensitive habitat found within its borders; and
- Protecting, preserving and restoring its natural resource assets and seeing to it that responsible state agencies fulfill their mandate to the parks and resources under their jurisdiction.”

The Land Use Plan furthers this vision through a series of goals, objective and strategies that will allow Ringwood to prosper in a manner that will not detract from the character and resources that are treasured in the Borough. These include land development strategies that target maintaining community character and preservation of natural resources, strategies for redevelopment opportunities, ecotourism, and heritage tourism.

2007 Conservation Plan

The Conservation Plan Element was prepared and adopted in 2007, after work on the Natural Resource Inventory was complete. The Conservation Plan’s prevailing premise is Sustainability. Recommendations were classified as:

- Energy and Air Quality
- Forest Resources and Native Vegetation
- Groundwater
- Scenic Resources
- Steep Slopes
- Stream Corridors
- Surface Water
- Threatened and Endangered Plant and Animal Species
- Wetlands

Strategies and recommendations for protection and conservation of these resources have the ultimate goal of creating and maintaining sustainable land use pattern.

2005 Natural Resources Inventory (NRI)

The Ringwood Borough Natural Resource Inventory (NRI) was prepared in 2005 as a precursor to the Conservation Plan. The NRI highlighted the Borough’s unique setting in the heart of the Highlands Preservation Area where a diverse history and unique natural features highlight the Borough’s abundance of scenic and environmental qualities. Included in the NRI are the identification and analysis of:

- Climate
- Land Use/Land Cover
- Soils

- Surface water and subwatersheds
- Groundwater recharge
- Brownfields
- Wellhead protection areas
- Wetlands
- Floodplains
- Steep Slope, topography and ridgelines
- Critical habitat as identified by the NJ Landscapes Data
- Geology

The analysis of these features helped to identify areas of special concern.

2006 Reexamination Report

The 2006 Reexamination Report highlighted the need for the Borough to update and amend the Land Use Plan element to more fully encompass the goals of the Borough and the Highlands Act. The Reexamination reviewed the various planning documents to date and summarized the various state planning documents that were adopted or proposed since the last Land Use Plan was adopted, including the draft Highlands Regional Master Plan. The recommendations in the Reexamination report were subsequently adopted through the Land Use Plan.

2004 Open Space and Recreation Plan

The Ringwood Borough Recreation and Open Space Plan highlighted the need for additional conservation and protection measures in the Borough. The Open Space and Recreation Plan identified the need to continue preservation efforts to ensure that key areas, with significant resource values, were protected from future development. Such key resources include forested areas, areas which contribute to clean water and recharge areas and critical habitat, to name a few. The goal of the Plan highlighted identifying and prioritizing such sites for future preservation efforts.

Comparison of Highlands RMP and Ringwood Borough Planning Program

The following sections reflect the overall goals of the Highlands Regional Master Plan and how they relate to the existing planning program in Ringwood Borough and each goal will highlight any major issues the Borough sees in terms of Plan Conformance or implementation.

Natural Resources

The natural resources analysis in the Highlands RMP is exhaustive and covers a wide variety of environmental constraints and ecological systems. The RMP highlighted:

- Forest Resources
- Open Waters and Riparian Areas
- Steep Slopes
- Critical Habitat
- Land Preservation and Stewardship
- Carbonate Rock (Karst) Topography
- Lake Management

RMP policies to address these fundamental resources acknowledge the ecological system of land and water resources vital to the overall health of the Highlands Region. While the goals and policies outlined in the RMP for natural resources are divided into the discrete pieces as identified above, the sum of all the parts results in a blanket of protection for overall environmental health.

Ringwood has long supported, and continues to support protection of critical resources. Beginning with the NRI and Conservation Plan, through the Reexamination Report and Land Use Plan, the Borough's main focus has been to protect these resources and acknowledges that waters found in the Borough provide safe clean drinking water for millions of New Jersey residents. The following sections offer a brief overview of the Borough's current planning objectives in relation to the Highlands RMP.

Forest Resources

The Highlands RMP goals for forest resources are to protect and enhance current forest areas and align forest regulations throughout the Region. As seen on the [Forest Resource Areas Map](#), the entire Borough, outside of existing residential areas, is designated as a High Value Forest Resource Area. The emphasis on forest resource protection will be one of the greatest factors for Plan Conformance. The Borough has already taken strides to manage forested areas, and the Land Use and Conservation Plans both speak to the need to preserve and protect contiguous forested areas. In addition, the Borough has established the "Regulation and Control of the Removal of Trees (Chapter XXIV in the LDO). The purpose of this ordinance is to protect and preserve the forests and neighborhood trees from indiscriminate destruction, disturbance and/or removal. This protection is intended to protect streams and lakes caused by tree loss and to provide water quality protection. The ordinance outlines the number of trees that may be removed from any site in a given year as well as the number of trees to remain on each site and a tree replacement schedule to replace any trees removed. Commercial logging is permitted only in accordance with an approved Forest Management Plan.

One of the most significant policies that affect the RMP for the Borough is Objective 1A2c which prohibits deforestation of lands within the Forest Resource Area except where authorized by the Highlands Act or for agricultural purposes where approved.

This objective would result in providing very little development potential outside of exempted activities. Ringwood would most likely need to investigate a Redevelopment Designation in order to have any attributable non-residential development that would create a substantial tax ratable for the Borough.

Other issues the Borough will encounter during Plan Conformance are technical and financial in nature. The policies and objectives outlined in the Forest Resource section require the preparation and adoption of ordinances which conform to the Highlands Council standards as well as inventories of forested areas and implementation of resource management programs. The Borough will look to the Highlands Council for technical support in preparing any inventories and maps of the forested areas, as well as assistance in the preparation of any regulatory measures the Council will seek for Plan Conformance. In addition, funds will be needed for assistance in preparing and adopting any required regulatory measures.

Open Waters and Riparian Areas

The goals and policies for open water and riparian areas in the RMP relate to the protection, restoration and enhancement of water resource areas. Water quantity and quality protection is further detailed in section 2 of the RMP goals and objectives, and this section seeks to develop regulatory measures for the protection of riparian areas and areas surrounding open water. The RMP requires a 300' buffer of all Highlands Open Waters where development is prohibited.

There are many riparian and open waters in the Borough, as seen on the [Riparian Areas Map](#). The Borough has been active in seeking protection of water and riparian areas, as is stated in the Land Use Plan, Reexamination Report, Conservation Plan, NRI and OSRP. The Borough has been able to prepare inventories of riparian areas and open water using consultant GIS capabilities, however, the Borough will need technical assistance from the Highlands Council to ensure that data sets are provided and updated by the Council and that the mapping provided is in the context that the Highlands Council seeks. In addition, there are Riparian areas that encompass existing residential developments. The Borough will seek guidance from the Council on how any proposed regulatory measures will impact local residents in these areas.

Steep Slopes

Ringwood contains steeply sloping areas throughout the Borough as witnessed in the [Steep Slope Protection Areas Map](#). The goals and policies in the RMP for Steep Slope include inventories of slopes in and out of riparian areas as well as the creation of regulatory measures that target specific classifications of sloped areas.

The Borough currently has a steep slope ordinance for two zoning districts, the R-80V and R-40V. The ordinance limits disturbance based on the total amount of disturbance and if sites are located within a public water area or if the site is supplied by private water. The Borough will need to update this ordinance with new steep slope provisions conforming to the Highlands RMP. The Borough will look to the Highlands Council for technical assistance and guidance in the preparation of a revised steep slope ordinance.

Critical Habitat

Critical habitat is abundant in Ringwood as seen on the [Critical Wildlife Habitat Map](#). The goals and policies in the critical habitat section of the RMP relate to the protection and enhancement of habitat areas and regulatory measures to protect such resources. The Borough has included goal statements in various planning documents regarding the need to safeguard critical habitat areas.

The Borough will require technical and financial assistance to achieve the policies outlined in the RMP regarding critical habitat. The goals require an inventory and mapping of critical area, regulatory measures for the protection of habitat and the preparation of a “Habitat Conservation and Management Plan”. In order to meet these requirements, the Borough will need technical and financial assistance to prepare the items needed for conformance.

Land Preservation and Stewardship

Located in the heart of the Highlands, Ringwood Borough is unique in the State, and retains a rural, undeveloped character that is treasured by residents and visitors alike. This rural character is due in part to the fact that the Borough contains over 65% of preserved lands (as seen in the [Preserved Lands Map](#)). The preserved land is owned by the North Jersey District Water Supply Commission (NJDWSC) and the State of New Jersey. Other contributors to preserved land in the Borough are Passaic County and non-profit organizations.

The Borough has prepared an Open Space and Recreation Plan (OSRP) and continues to strive for the preservation of critical environmental areas. The OSRP identifies funding strategies for the preservation and maintenance of preserved lands as well as short and long term goals for land stewardship and ownership in the Borough.

The Borough will seek guidance from the Highlands Council to amend any needed areas of the OSRP as well as implement any regulatory measures regarding land stewardship. Another item in the goals and policies regarding land preservation relates to funding. The RMP identifies a policy to create a dedicated source of revenue for land preservation through a surcharge on public water supply system rates. While Ringwood has supported revenue streams that generate funds from water users outside of the Highlands to offset the cost of Highlands regulations, the nature and extent of this tax is unclear. The Borough will seek assistance and clarification from the Council on this subject.

Carbonate Rock (Karst) Topography

The Borough’s bedrock is primarily gneiss in nature and does not contain Carbonate (limestone) bedrock. The Borough will seek interpretation from the Highlands Council if any portion of these goals and policies will need to be addressed in order for Plan Conformance.

Lake Management

The Lake Management areas, as outlined in the RMP, are intended to protect lake ecosystems from further damage and to restore and enhance lakes that have been degraded. The Borough, in the 2007 Land Use Plan and in comments to the Highlands Council, has identified the need to create and regulate Lake Community Areas. The Borough has many lakes greater than 10 acres (as identified on the [Lake Management Areas Map](#)), and many of these lakes saw development in the 1920's when bungalows were built for vacation homes. These homes have been subsequently expanded and/or converted to year round residences. Management of these areas, while difficult, is necessary to the overall health of the water resources in the Borough.

The Borough will seek technical and financial assistance from the Highlands Council in regard to developing effective regulatory strategies and a Shoreland Protection and Water Quality Management Tier Plan. In addition, monitoring systems will need to be implemented to ensure measures are adequately meeting regulations.

Water Resources and Water Utilities

The primary goal of the Highlands Act is to protect essential water supplies for both human use and to maintain and support the natural ecology.. The goals, policies and objectives outlined in the RMP relate to determining the amount of growth capacity in the Highlands Region versus the availability of water supplies. These water supplies, not only need to be monitored for quantity but also for quality. Quality and quantity of water rely heavily on the natural ecosystems ability to filter and promote recharge. The protection of aquatic ecosystems, such as streams and water bodies, is integral to achieving these goals.

Water Resource Availability

The first set of goals and policies relating to water resources is intended to protect water supplies for human use and ensure enough high quality water for current and potential users. The primary policies relate to protecting, restoring and enhancing water resources through monitoring water availability.

The Borough is in a water deficit area (as seen on the [Net Water Availability by HUC 14 Map](#)). Ringwood has identified, through various planning documents, the need to ensure that any new development can demonstrate water availability without creating a detriment to water supplies overall. In order to satisfy these objectives, the Borough will need technical assistance to determine net availability within the Borough and its HUC 14s as well as methods to assess and monitor water availability.

Another major component of Plan Conformance will be the development of the Water Use and Conservation Management Plan, which the RMP states will be required for all conforming municipalities. This plan will require coordination with a variety of stakeholders, NJDEP and servicing utilities. While it is not entirely clear how exhaustive this Plan will be, the Borough will need technical and financial assistance from the Council to achieve this provision.

Protection of Water Resources Quantity

The RMP promotes the monitoring and assessment of ground water recharge and net water availability in the Borough and by HUC 14 watershed. The Borough has several areas of prime groundwater recharge areas (as identified on the [Prime Groundwater Recharge Area Map](#)). These areas are particularly important given their location outside of existing developed areas. Prime recharge areas that remain undeveloped increase their likelihood of maintaining their recharge levels. Any loss to these areas would reduce overall recharge in the Borough and the watershed.

The policies and objectives outlined in this section relate primarily to monitoring and assessing water availability and groundwater recharge. The Borough will seek Highlands Council technical assistance to achieve plan conformance on these items, as well as seek any input on regulatory measures related to groundwater recharge and water availability.

Water Quality

Water quality in the Highlands Region is important in providing safe drinking water to millions of New Jersey residents. The goals and policies in this section relate to providing protection to surface and groundwater sources, providing restoration and enhancement of water supply areas and providing for enhanced protection of wellhead protection areas. The Borough has identified land use goals and policies to limit development in critical areas and protect water supplies. The Land Use Plan seeks to establish development densities and intensities at levels that do not exceed the capacity of natural systems. In addition, the Borough has several Wellhead Protection Areas (see the [Wellhead Protection Areas Map](#)). In response to this the Borough enacted a wellhead protection ordinance. Both of these items will have to be reviewed and amended to conform to the Highland RMP, and the Borough will need Highlands Council technical assistance in formulating consistent regulatory provisions for the protection of water quality.

Sustainable Development and Water Resources

The goals and policies in this section of the RMP attempt to ensure that future development and growth do not occur in inappropriate areas that will create a detriment to any water resources. The policies prohibit any expansion of infrastructure into areas not suited for additional growth and rather channel new growth into areas that can support such increases. The Borough has encouraged this type of activity throughout the planning process and has stated that, given the geologic constraints and natural systems, new infrastructure is an undesirable goal.

Many of the policies in this section require development review standards and land development ordinance provisions, as well as, inventories of existing systems and capacity levels. In order to comply with this section, the Borough will need to review any associated mapping and make RMP updates where necessary. In addition, the Borough will seek Highlands Council technical assistance for Plan Conformance.

Agricultural Resources

The Highlands RMP seeks to preserve and protect agriculture in the Highlands Region in areas that are suited for such activities. Ringwood Borough is virtually devoid of an active agriculture industry and there are less than 45 acres classified as agricultural in the 2002 Land Use/Land Cover in the Borough. These are non-contiguous areas, and it is unclear the extent of farm practices on site. The rocky terrain of the Borough and steep slope topography does not lend itself easily to typical farming practices. In addition, according to the Highlands RMP, the Borough does not contain any Agricultural Protection Areas nor does it contain any Conservation Zone Areas. To this end, the Borough will seek Highlands Council input on waiving any of the requirements for agricultural protection and enhancement for Highlands Conformance.

Historic Cultural, Archaeological and Scenic Resources

The Highlands RMP identifies the value of historic sites, cultural resources and scenic vistas. The RMP encourages the preservation and conservation of such resources. Ringwood Borough agrees that these resources are valuable to the quality of life for residents and the region. The Borough has inventoried historic sites as part of the Open Space and Recreation Plan and also has an active Open Space, Conservation, Recreation, Farmland and Historical Preservation Advisory Committee which works with local preservation groups.

The Borough will need to work with the Highlands Council to develop any specific regulations required by the RMP regarding the preservation and conservation of historic sites and areas.

Transportation

The goals and objectives of the RMP for transportation networks encourage multi-model systems that provide for safe and adequate travel that will not result in a detriment to the Highlands region, its environment or the communities within.

The Borough's Land Use Plan goals and objectives regarding transportation conform to the Highlands RMP. The Borough contains local and County roads that are rural in nature, and the local goals are to maintain the rural character of the Borough and not create new transportation networks that may have a negative impact on the environment or the local character. The Borough has recently revived interest in revisiting the Circulation Element of the Master Plan. An up-to-date circulation plan, in conformance with the Regional RMP, will also require the Borough to work with local, regional and County transportation partners to review and implement any needed regulations regarding transportation networks.

Future Land Use

The goals and objectives of the Highlands RMP for future land use center on maintaining an updated Land Use Capability Map, providing smart growth initiatives and discouraging inappropriate growth. In addition, the Future Land Use section seeks to provide regional development opportunities where possible and without detriment to natural resources.

The goals and objectives in this section are similar to those already identified in Ringwood's 2007 Land Use Plan. The Borough has previously asserted the need to guide development in an appropriate manner, so that an economic base would continue while maintaining the environmental resources in the Borough. There are, however, some concerns over the language in the Highlands RMP relating to the Existing Community Zones. The RMP provides several policy objectives that encourage the Existing Community Zones to attempt to provide regional development opportunities. The Borough has identified potential redevelopment areas in the Borough through the MP3 grant from the Highlands Council. These identified sites are focused on existing developed commercial areas, where use of already disturbed sites and undeveloped sites adjacent to developed areas could serve as an economic base and town commons area. However, on the Land Use Capability Map these areas are identified as Protection Zones. Conversely the areas identified as Existing Community are more densely developed residential neighborhoods around the various lakes in the Borough with veins of the Environmentally Constrained Subzone running throughout. These areas are not appropriate for future development.

The Borough will need to work with the Highlands Council to determine appropriate areas for redevelopment as well as areas where any new development is not appropriate.

Landowner Equity

The Highlands RMP highlights several goals and policies to address land owner equity issues for areas where land development potential has been reduced. The RMP seeks to offset these effects through Transfer of Development Rights, Highlands Development Credit opportunities and introducing innovative design guidelines to allow for development with minimal impacts to the environment. Offsetting the cost of the Highlands RMP is key to the economic viability of the region for the short and long term, and many of the items in this section will require the Highlands Council to cooperate with appropriate State agencies. The Borough encourages any offsetting measures and will work with the Council to achieve the long term goals.

As identified in this section, TDR receiving opportunities are voluntary and generally are appropriate for the Borough, although the Borough may be an appropriate sending district, allowing credits to flow to more appropriate development areas.

Sustainable Economic Development

The Borough has long understood the balance between the natural resources and the need for economic development for the overall health of Ringwood. Ringwood has undertaken several initiatives to promote economic development while preserving natural resources. One of these initiatives is a Highlands MP3 study that promotes ecotourism and heritage tourism as a means to take advantage of the natural beauty and historic resources in the Borough. In addition, the Borough examined a potential redevelopment zone in a second MP3 report. The Borough seeks to use redevelopment and appropriately placed new development to increase the tax base of the Borough while ensuring protection of environmental resources.

The RMP requires the preparation and adoption of an Economic Plan Element that will provide strategies for achieving sustainable economic development consistent with the Highlands Plan. The Borough will require financial and technical support in this regard.

Air Quality

Air quality is an ever increasing concern, both locally and globally. The Highlands RMP encourages the reduction of air pollution through alternative modes of transportation and the promotion of renewable energy sources.

The Borough concurs with this overall goal. The Borough encourages innovative design and energy conservation techniques for the long term health of the ecosystem. However, the Borough will require technical assistance for any required monitoring and reporting necessary to achieve air quality standards. In addition, the Borough will coordinate with the Highlands Council on any regulatory practices involved in land development to encourage air quality mitigation and alternative energy implantation.

Local Participation

The Highlands RMP relies on local participation and continual updates for the overall long term viability of the Plan. The Borough encourages an open and transparent process and will coordinate with the Highlands Council to ensure proper public participation and the participation of local government.

RMP Updates and Adjustments

The Highlands Act provides the opportunity for RMP Updates and adjustments to the Land Use Capability Maps (LUCM) and other RMP maps, recognizing that the RMP was prepared on a regional level and that new or updated information on a local level can result in a change to the LUCM series. Map Adjustments allow for more policy driven changes to the LUCM series in light of local needs and smart growth initiatives.

Ringwood Borough's MP3 redevelopment study, undertaken to assess the realistic opportunities for redevelopment in the Borough, reviewed four potential non-residential areas for redevelopment suitability. The study identified the General Business, Light Industrial, Community Commercial and General Shopping Districts based on the existing development and the predominate non-residential and commercial uses of the districts (see [Potential RMP Update Areas](#)). The Borough seeks to identify potential redevelopment sites that will contribute to smart growth initiatives identified in the most recent Land Use Plan, Ecotourism MP3 report and the Redevelopment MP3 report. These smart growth initiatives can provide for a diverse economic base that will contribute to the overall health of the Borough in the long run. While each of the proposed redevelopment areas provide a different set of opportunities, all may be beneficial to the long term planning goals of the Borough.

Currently, the all the identified potential redevelopment areas, except for the General Shopping District, are located in the Protection Area, which may make the type of

redevelopment needed in the District difficult. The Borough should explore the possibility of changing the designations to something more appropriate to the potential use of the areas or creating redevelopment areas.

Major issues/Problems in Achieving Plan Conformance

The major issues or problems related to plan conformance at this time are financial resources and technical assistance. Given the 7 module methodology the Highlands Council is now undertaking these issues may be resolved. However, the goals and objectives outlined in the RMP will require extensive amendments to existing regulations adopted by the Borough. While the Borough has identified many of the major policy objectives through their own through recent planning, the variety of development and regulatory measures that Ringwood will need to adopt will be extensive. For example, the Borough's recent Land Use Plan, has identified the need to increase minimum lot sizes and better account for local carrying capacity, water availability, geology and infrastructure. At this time, the Highlands Council has begun Module 1 and Module 2 which will result in an identification of developable lands and septic systems yields. The Borough will need to evaluate the results of these modules to determine the impact on local zoning standards. It will be likely that the minimum lot size and density standards will be greatly impacted given the Borough's location as a 100% Preservation Area Municipality. .

Other major obstacles to plan conformance are the required technical documents and plans to be prepared and adopted by municipalities. These include:

- Land Use Capability Analysis
- Limiting Factor Analysis
- Build Out analysis
- Water Use Conservation and Management Plan
- Ground Water Recharge and Mitigation Plan
- Wellhead Protection Plan
- Wastewater Management Plan
- Septic System Management Plan
- Stormwater Management Plan
- Any applicable resource protection regulations
 - Open water and riparian areas
 - Ground water recharge
 - Wellhead protection (amended)
 - Stormwater
 - Steep Slopes
 - Forest Areas
 - Open Space monitoring
 - Critical habitat
 - Lake Management
 - Low impact development
 - Historic and cultural protection

Many of these items will be completely new documents for the Borough, which will require time and technical and financial resources to prepare. It is assumed that the Highlands Council will provide a variety of model ordinances, documents and planning chapters that will reduce the time and expense of preparing these documents. Until these documents are available for review and comments, a timeframe or budget for the preparation, review and adoption of any given planning or regulatory document is difficult to forecast. Given the 9 to 15 month compliance timeline, the Borough will seek to communicate and partner with the Highlands Council in achieving conditional and full Plan conformance.

Table 1: Ringwood Borough Plan Conformance Overview Checklist

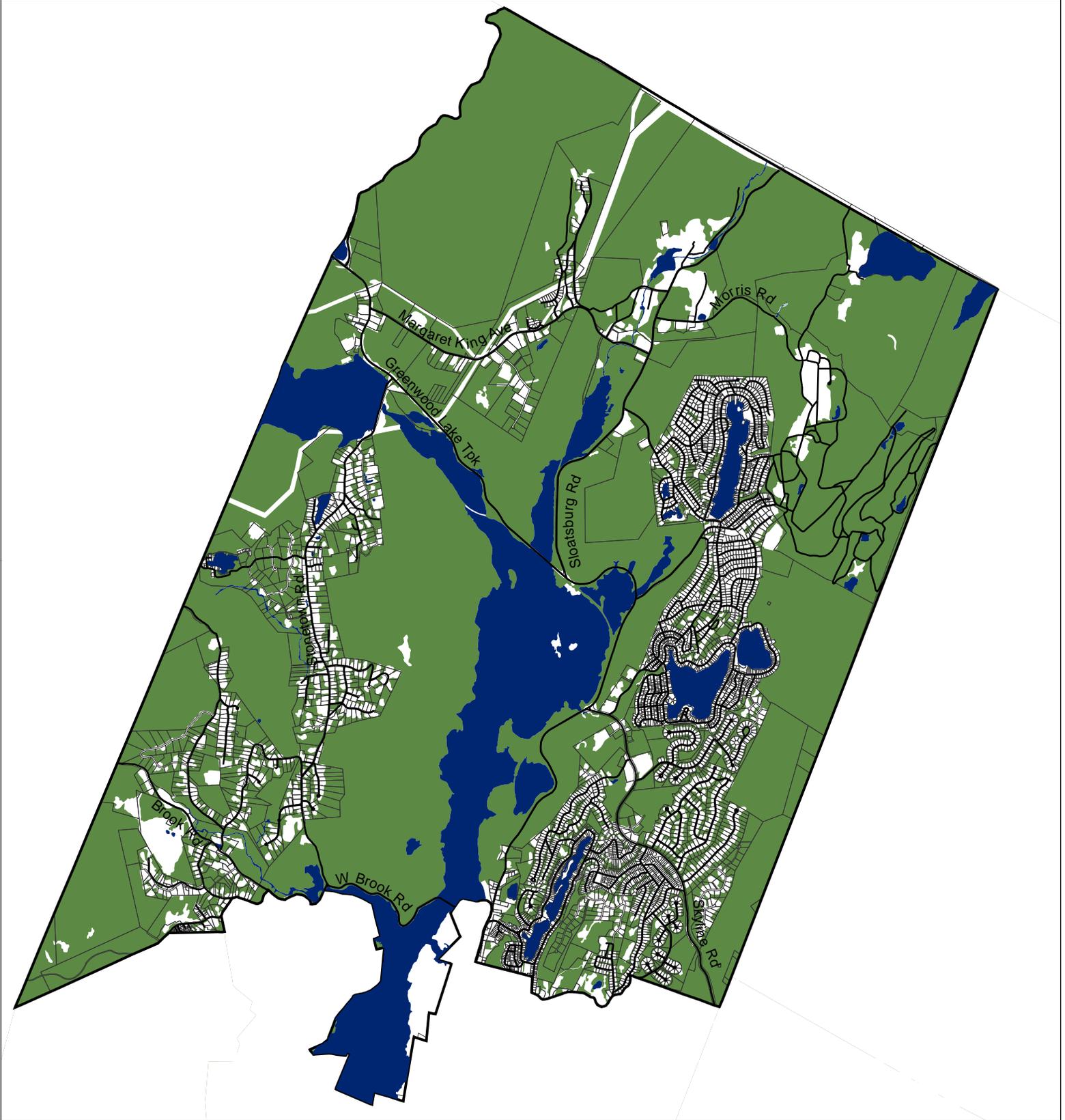
| Submission Item | Conforms to Highlands RMP | Comments |
|---|---------------------------|--|
| 1. Environmental Resource Inventory | Partial | Prepared and Adopted in 2004 - Will need to be updated per Highlands Conformance |
| 2. Municipal Master Plan | | |
| a. Statement of Policies, Goals & Objectives | Partial | |
| b. Land Use Plan Element | Partial | |
| i. Up-to-Date Developed Land Inventory | No | Will need to prepare up to date inventory |
| c. Housing Plan Element | Partial | Prepared in 2005 - being revised per COAH amendments |
| d. Conservation Plan Element | Partial | Prepared in 2007 |
| e. Utility Service Plan Element | No | |
| f. Circulation Plan Element | No | |
| g. Recreation and Open Space Plan Element | Partial | |
| i. Up-to-Date Open Space Inventory | Partial | Will need to verify OS inventory is up to date |
| h. Agriculture Retention/Farmland Preservation Plan Element (if applicable) | N/A | |
| i. Up-to-Date Preserved Farmland Inventory | N/A | |
| i. Community Facilities Plan Element | No | |
| j. Sustainable Economic Development Plan Element | No | |
| k. Historic and Cultural Preservation Plan Element (if applicable) | No | |
| l. Development Transfer Plan (if applicable) | N/A | |
| m. Statement of Relationship to other plans, Highlands RMP and SDRP | Partial | Will need to update per Highlands Adopted RMP |
| 3. Master Plan Reexamination Reports | Partial | Prepared and adopted in 2006 |
| 4. Zoning/Land Use Ordinances & Development Regulations | | |
| a. Water Use & Wastewater Treatment Provisions Included | No | |
| b. Development Application Checklist Ordinance Included | Yes | Adopted Highlands Checklist |
| 5. Zoning Map and Schedule of Requirements | Partial | |
| 6. Official Map | Partial | |
| 7. Redevelopment and/or Rehabilitation Plans (Adopted or Proposed) | Partial | MP3 Report on Redevelopment Areas, turn into a Plan Document |
| 8. Environmental/Infrastructure Capacity Analysis | | |
| a. Land Use Capability Analysis | No | |
| b. Limiting Factor Analysis | No | |
| c. Build-Out Analysis | Partial | Revise and update draft Build-Out analysis |
| 9. Management Plans | | |
| a. Water Use Conservation & Management Plan | No | |
| b. Ground Water Recharge Protection and Mitigation Plan | No | |
| c. Wellhead Protection Plan | No | |
| d. Wastewater Management Plan (County WMP may be used) | Partial | Verify if Passaic County is preparing Plan |
| e. Septic System Management/Maintenance Plan | No | |
| f. Stormwater Management Plan | No | |

Table 1: Ringwood Borough Plan Conformance Overview Checklist

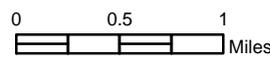
| 10. Resource Protection & Supporting Regulations/Plans | | | | | | |
|--|---------|--|--|---|---|--|
| a. Open Water and Riparian Areas | No | Goals address need to preserve and protect water and riparian areas | Stream corridor and riparian area management recommendations | Discussion and mapping of Riparian Areas | No municipal riparian and open water regulations | |
| b. Ground Water Recharge | No | Goals identified to protect groundwater through aquifer management, wellhead protection, and recharge areas | public education and groundwater health monitoring recommendations | Discussion and mapping of groundwater recharge | No municipal riparian and open water regulations | |
| c. Well Head Protection | Partial | Goals identified to protect groundwater through aquifer management, wellhead protection, and recharge areas | Recommends well head protection regulation | Discussion and mapping of well head areas | §39-1 Wellhead Protection ordinance | Need to verify conformance with RMP |
| d. Stormwater | Partial | | | | | Need to verify WMP Plan conformance with RMP |
| e. Steep Slopes | Partial | Goal to limit disturbance of steep slope areas, require protection of ridgelines, and retain scenic vistas | Recommendations to review and revise development related to intensity and slope disturbance. Recommendation to limit tree removal on steep slopes | Steep Slope and topography discussion and mapping | §40-4.8 steep slope regulation for R-20 and R-80 districts | Existing Steep Slope ordinance 40-4.8 in the R-40V Zone. Need to revise and make Borough Wide per RMP guidelines |
| f. Carbonate Rock | N/A | N/A | N/A | N/A | N/A | No Carbonate Rock Areas in Borough |
| g. Forest Areas | Partial | Goal to protect and preserve forest resources through maintenance of large contiguous tracts of forested areas. Future land use patterns should preserve large tracts of forest. | Forest recommendations include preservation of habitat areas and reductions in residential densities to promote the retention of forests | Discussion and analysis of forested areas | §4-6 - Environmental inventory requires detailed inventory of forest by class and type for major development. §24 - Regulation and control of the removal of trees" | Ch. 24 - Regulation and Control of the Removal of Trees - Need to verify conformance with RMP and other provisions |
| h. Agricultural/Right to Farm | N/A | N/A | N/A | N/A | N/A | No active agriculture present in Borough |
| i. Open Space Monitoring/Stewardship | No | Goal to exercise stewardship over lands and waters and ensure resources are available for the sustenance and enjoyment of future generations | Recommendations to inventory natural resources | | Rgualtions requires an EIS for new major development | |
| j. Critical Habitat | No | Goals identified to protect critical habitat areas and unique natural systems | Recommendations to inventory threatened and endangered species, design development that will not threaten habitat, preserve nodes of biodiversity. | Discussion and mapping of critical habitat | §37-4 requires inventory and detail wildlife habitat mapping | |
| k. Lake Management | No | Proposed Lake Community District in 2007 LUP | Does not Address Lake Management | Discussion on the need to protect character of existing lake communities and historic settlement patterns | No municipal regulations currently in place | |
| l. Low Impact Development | No | Goals include the need to provide for residential densities that do not exceed the capabilities and limitations of natural systems and available infrastructure | Does not address residential densities | Does not address residential densities | No municipal regulations currently in place | |
| m. Historic, Cultural, & Scenic | No | Goals address preserving historic and archaeological, social, cultural and economically significant sites and areas. Encourage restoration of significant sites | Inventory of scenic roads should be conducted | Preserve scenic and historic resources | No municipal regulations currently in place | |
| 11. Discretionary Items, List | | | | | | |

Highlands Regional Master Plan Forest Resource Areas

Borough of Ringwood
Passaic County, NJ
February 2009



- Legend**
- Forest Resource Area
 - Water



Data Sources: NJDEP and
New Jersey Highlands Council

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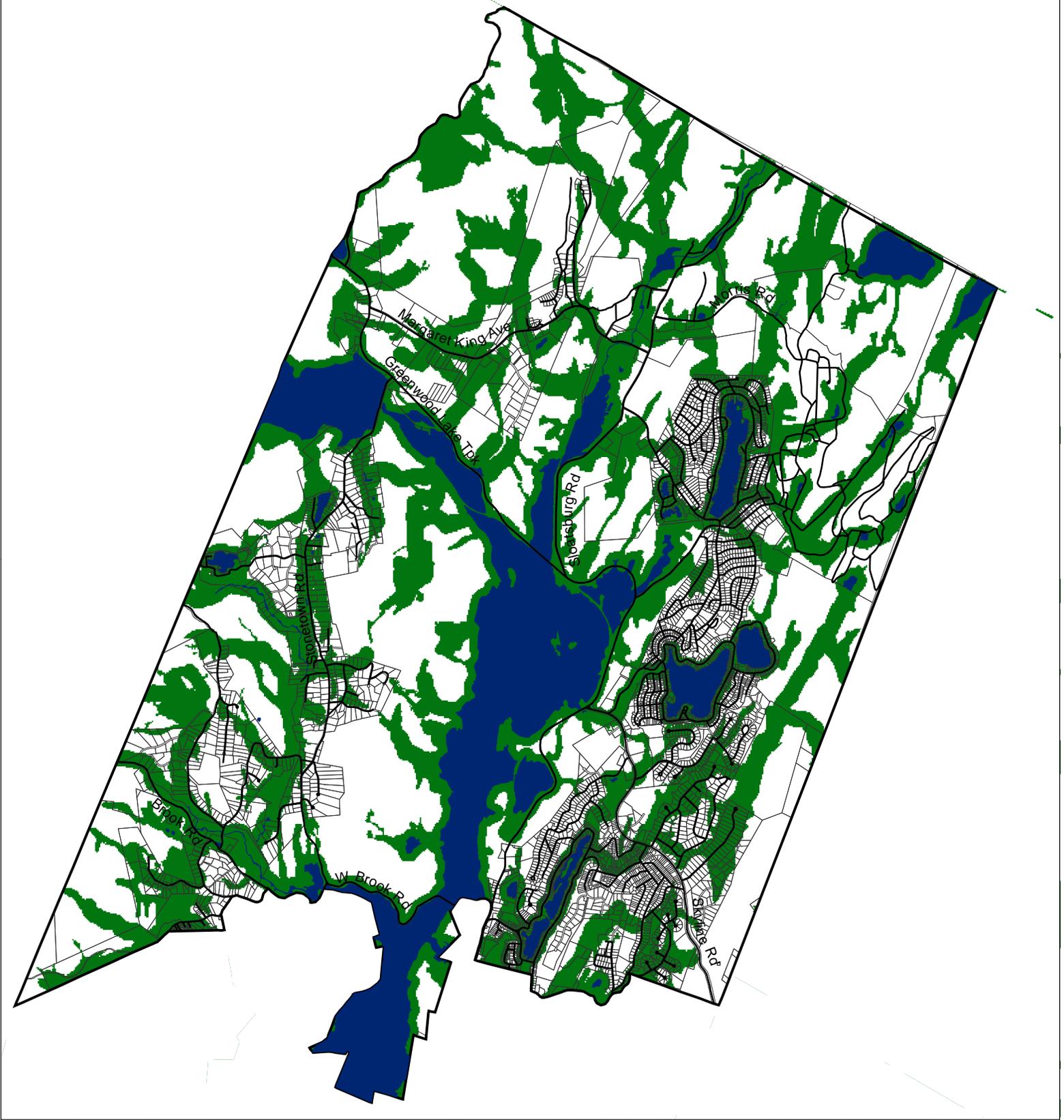
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Highlands Regional Master Plan

Riparian Areas

Borough of Ringwood
Passaic County, NJ

February 2009

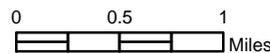


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Legend

-  Riparian Area
-  Water

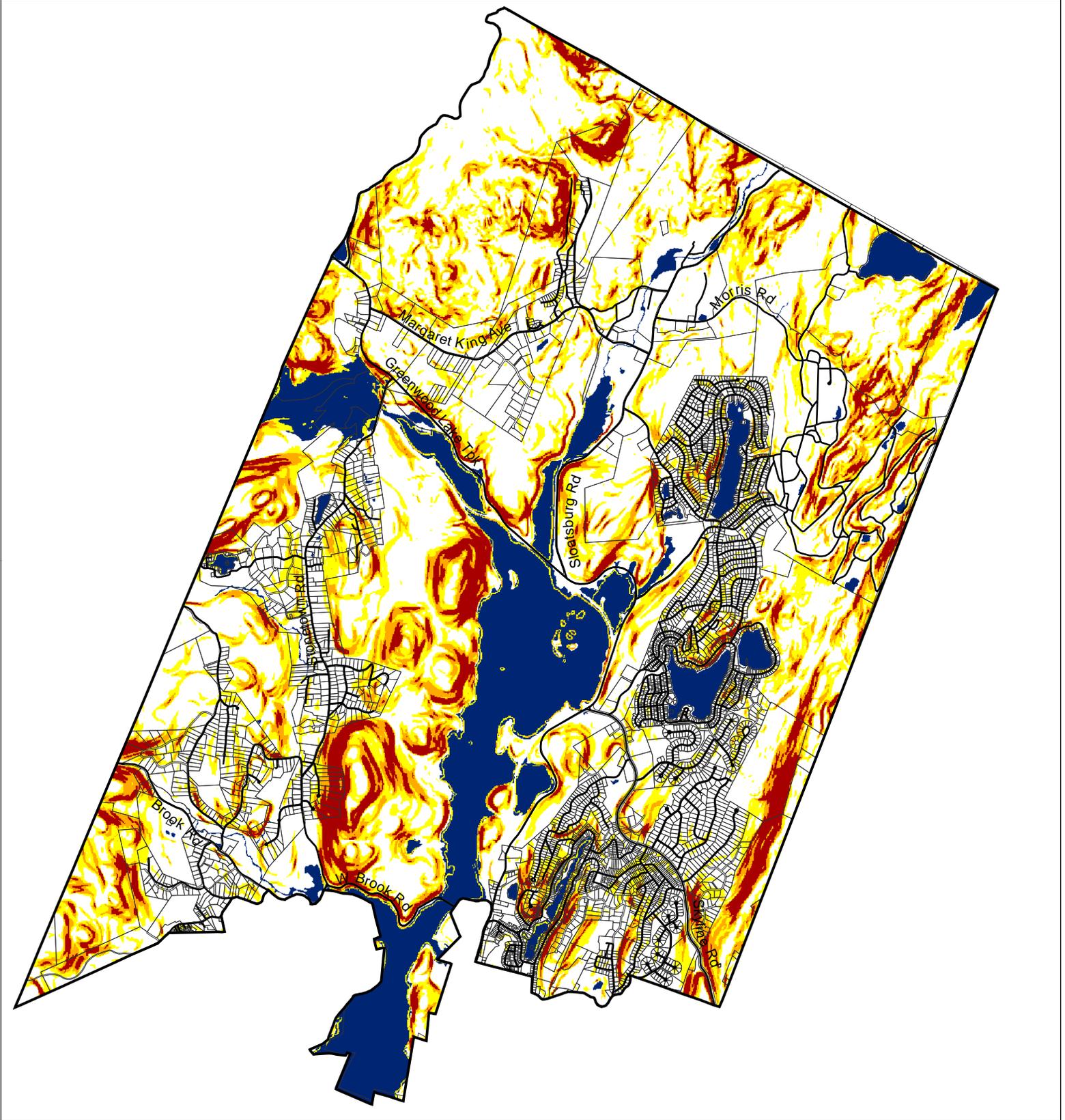


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Highlands Regional Master Plan Steep Slope Protection Areas

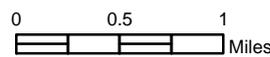
Borough of Ringwood
Passaic County, NJ

February 2009



Legend

-  Slopes less than 10%
-  Slopes 10% to 15%
-  Slopes 15% to 20%
-  Slopes greater than 20%
-  Water



Data Sources: NJDEP,
New Jersey Highlands Council

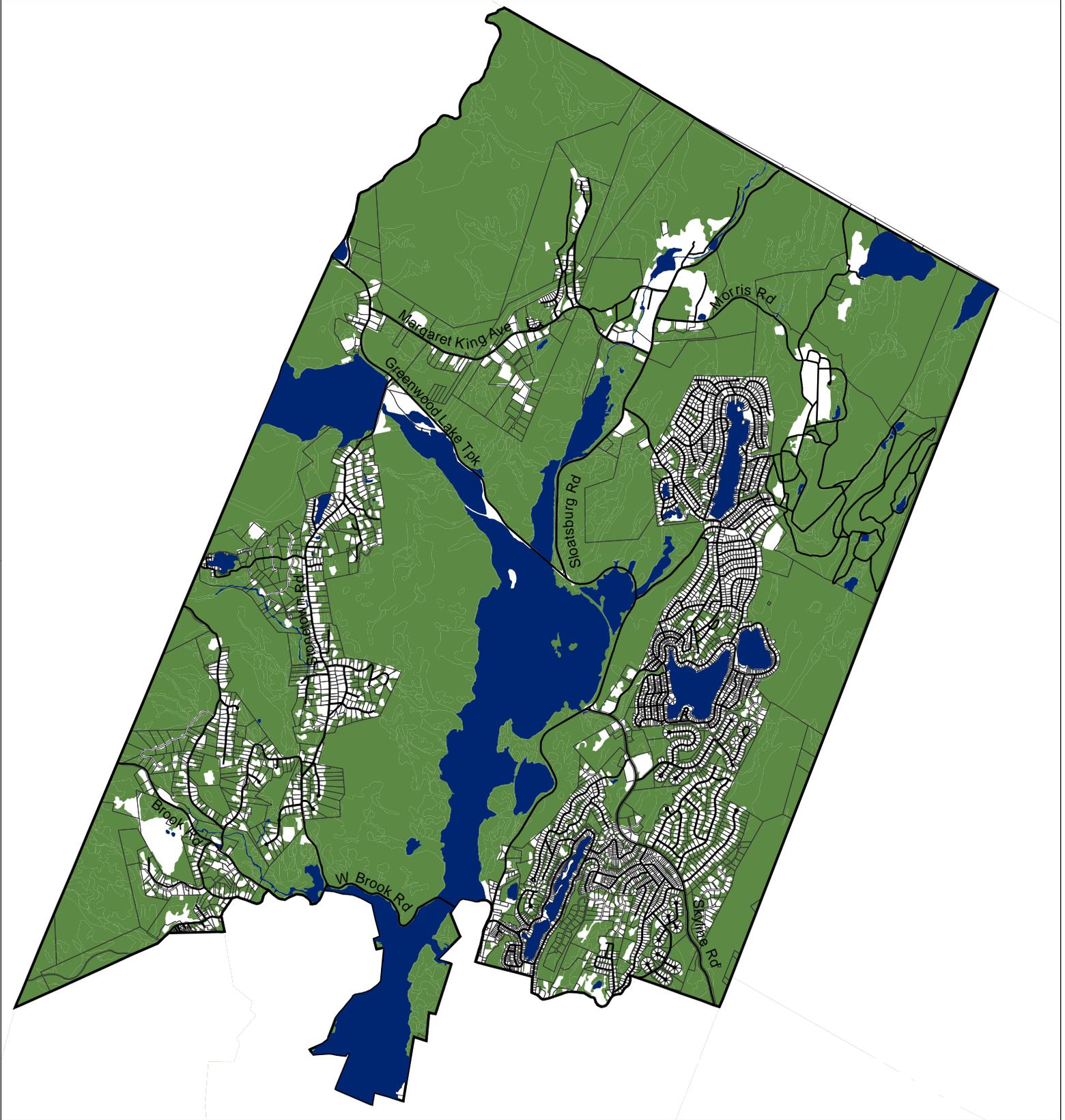
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Highlands Regional Master Plan Critical Wildlife Habitat

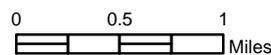
Borough of Ringwood
Passaic County, NJ

February 2009



Legend

-  Critical Wildlife Habitat
-  Water



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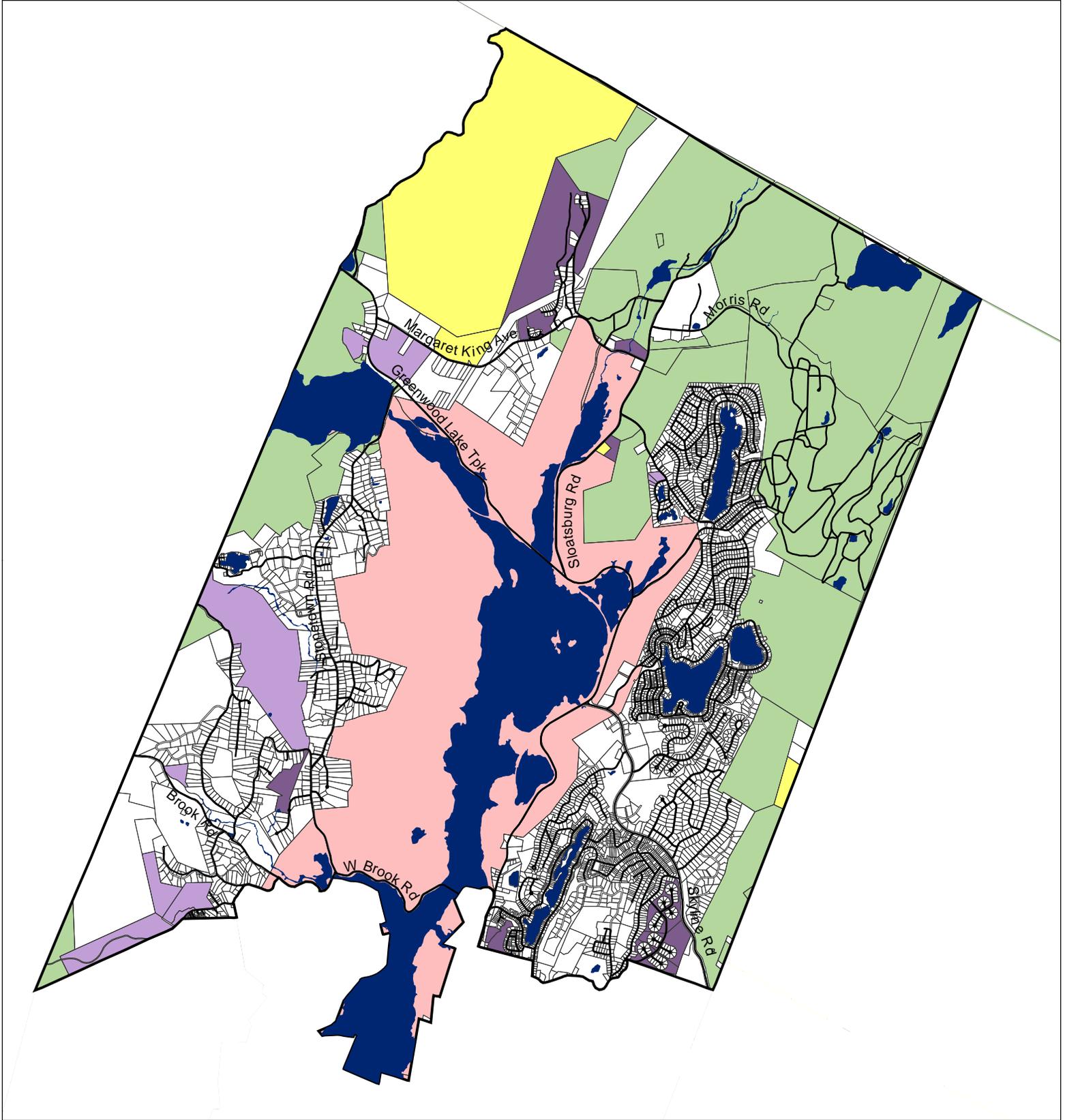
Highlands Regional Master Plan

Preserved Lands

Borough of Ringwood

Passaic County, NJ

February 2009

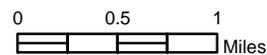


Legend

- Water Supply Watershed Lands
- State Open Space
- County Open Space
- Non-Profit/Private Open Space
- Preserved Farmland
- Water
- Municipal Open Space

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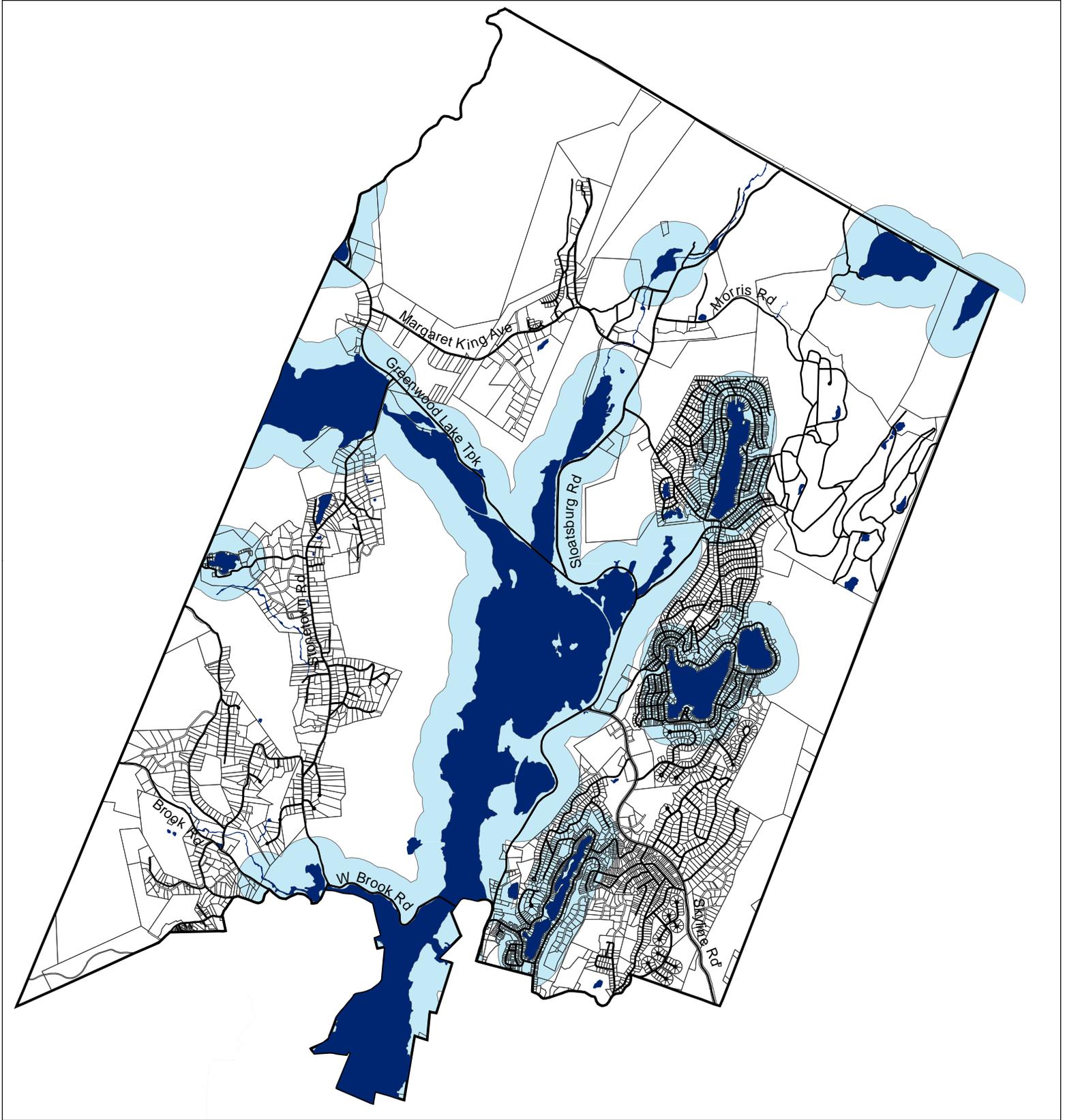


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Highlands Regional Master Plan Lake Management Areas

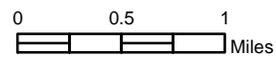
Borough of Ringwood
Passaic County, NJ

February 2009



Legend

-  LakeManagementAreas
-  Water



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Highlands Regional Master Plan Net Water Availability by HUC14

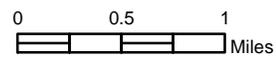
Borough of Ringwood
Passaic County, NJ

February 2009



Million Gallons Per Day (MGD)

-  -0.09 to -0.01
-  -0.99 to -0.10
-  -7.10 to -1.00



Data Sources: NJDEP and
New Jersey Highlands Council

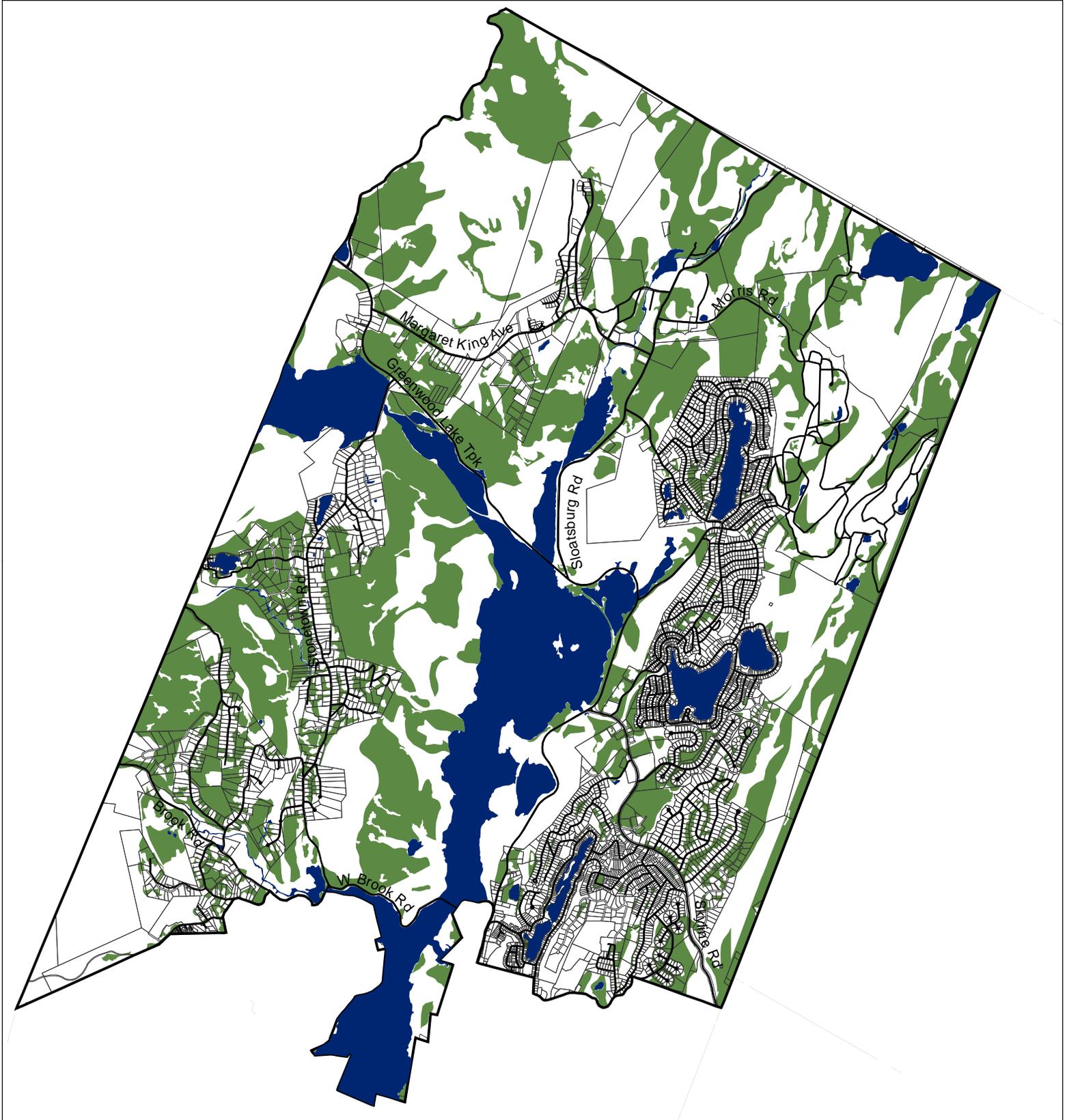
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Highlands Regional Master Plan Prime Groundwater Recharge Areas

Borough of Ringwood
Passaic County, NJ

February 2009

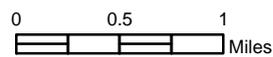


Legend

-  Prime Groundwater Recharge Area
-  Water

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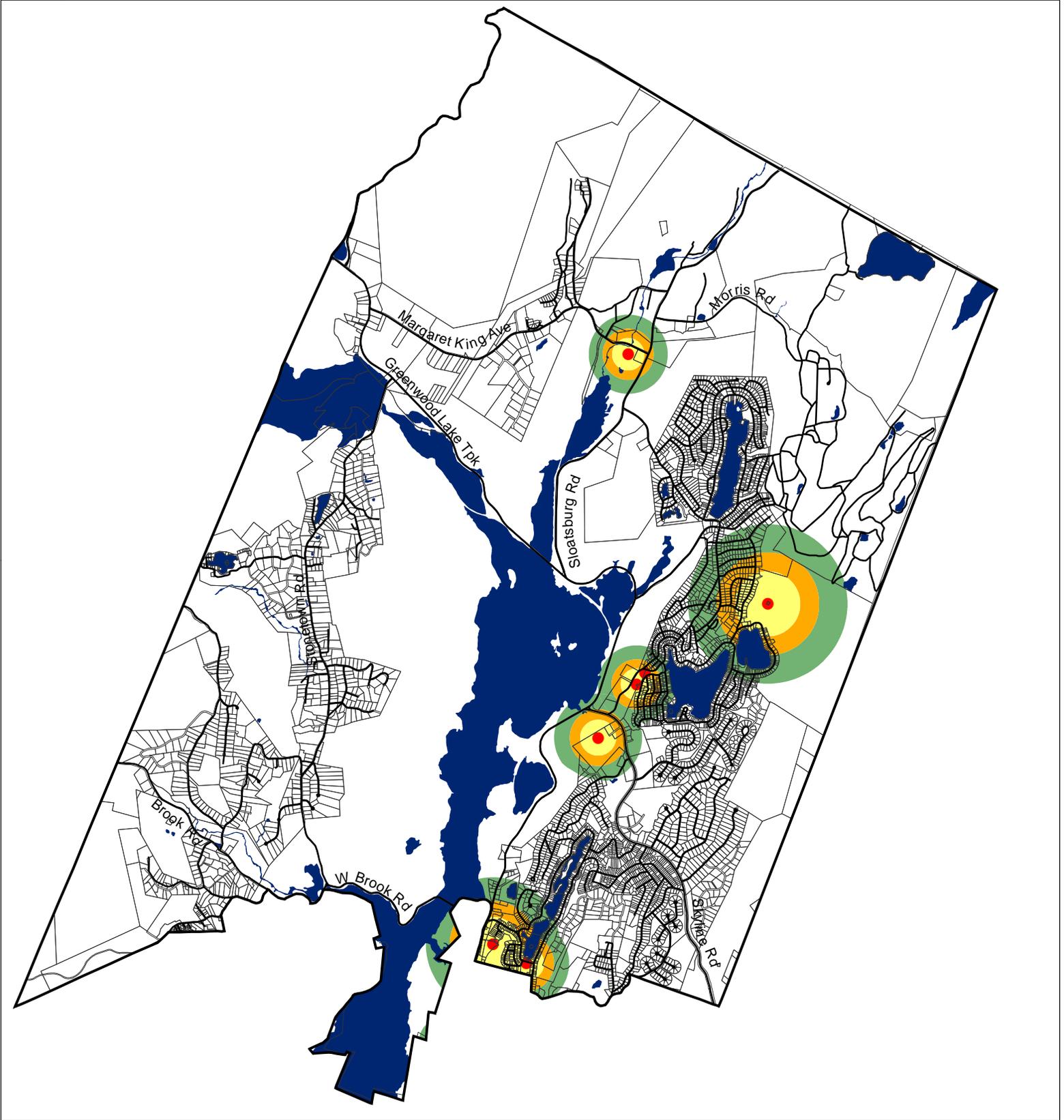


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Highlands Regional Master Plan Wellhead Protection Areas

Borough of Ringwood
Passaic County, NJ

February 2009

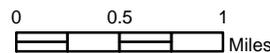


Wellhead Protection Areas

-  Public Community Well
-  2-Year Tier
-  5-Year Tier
-  12-Year Tier
-  Water

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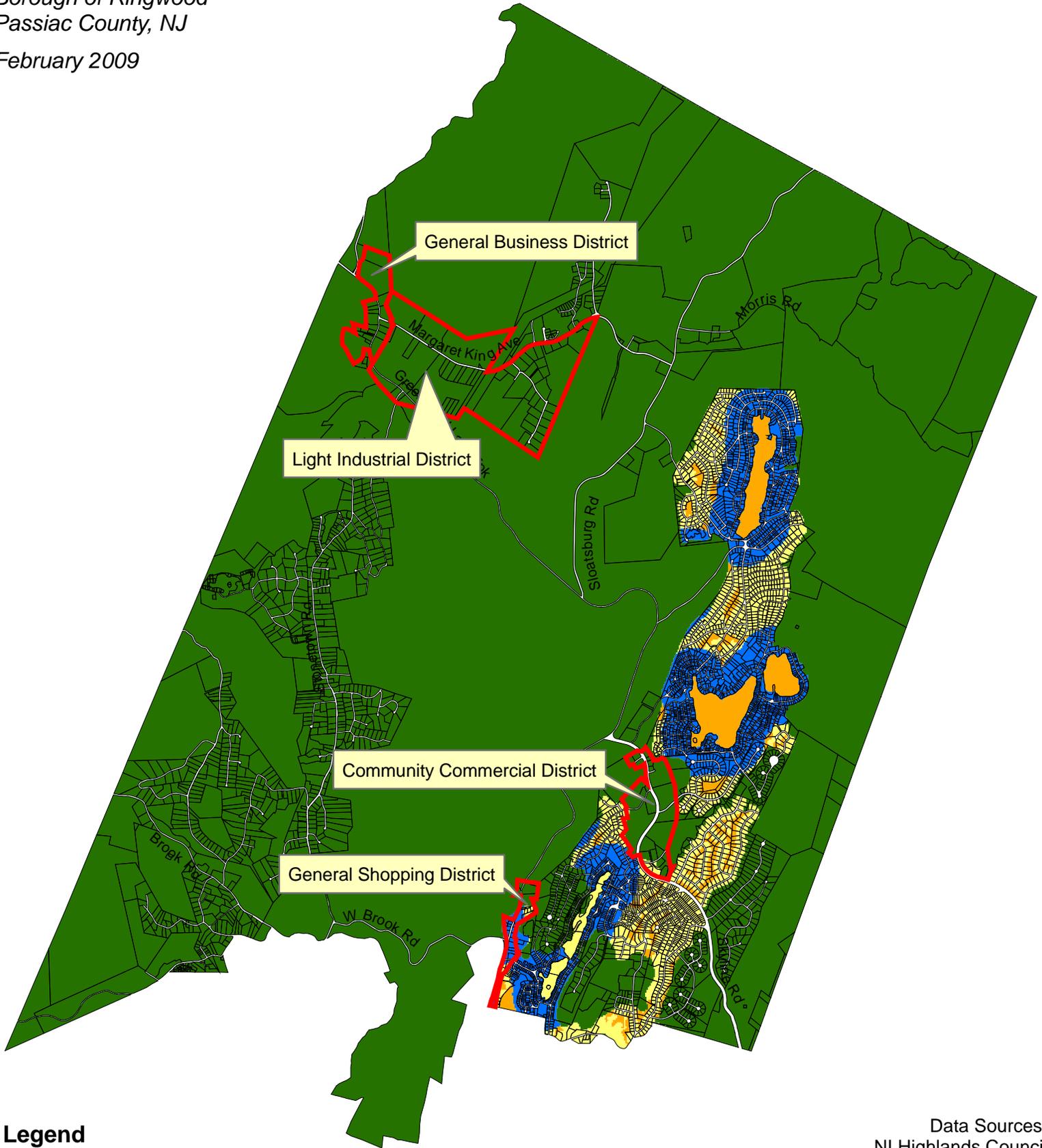
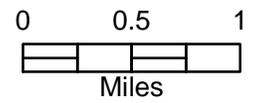


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Highlands Regional Master Plan Potential RMP Update Areas

Borough of Ringwood
Passiac County, NJ

February 2009



Legend

- Potential Redevelopment Areas
- Existing Community
- Existing Community - Environmentally Constrained
- Lake Community
- Protection Zone

Data Sources:
NI Highlands Council

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