

Issues for Council Discussion

June 5, 2008

Carbonate Rock Program Changes

- The Carbonate Rock Program was amended to reflect changes made to the respective GPOs
 - Clarified that karst is not strictly a surface condition
 - Noted the functions and values that karst provides
 - Added new objectives for when specific karst features are identified:
 - Prohibit new uses that would constitute unacceptable risk
 - Prioritize upgrades or remedial actions for existing high risk land uses and facilities

Lake Management Program Changes

- Text was added to note the distinction in management objectives between developed lake areas in the Lake Community Sub-Zone and undeveloped lake areas
- New standards were added in response to public comments:
 - Permit and encourage the control and removal of algae and invasive aquatic weeds in the Lake Community Sub-Zone
 - Where shorelines have already been hardscaped, encourage the creation of vegetated filter strip along the shoreline
 - Require that septic systems and cesspools on small lots in close proximity to lakes be replaced and upgraded wherever feasible and cost-effective
 - Where existing density of septic systems is known to be a significant contributor of lake pollutants, community wastewater treatments shall be utilized, where feasible, environmentally acceptable and cost-effective but not to provide additional development capacity except for exempt lots

Land Preservation and Stewardship Program Changes

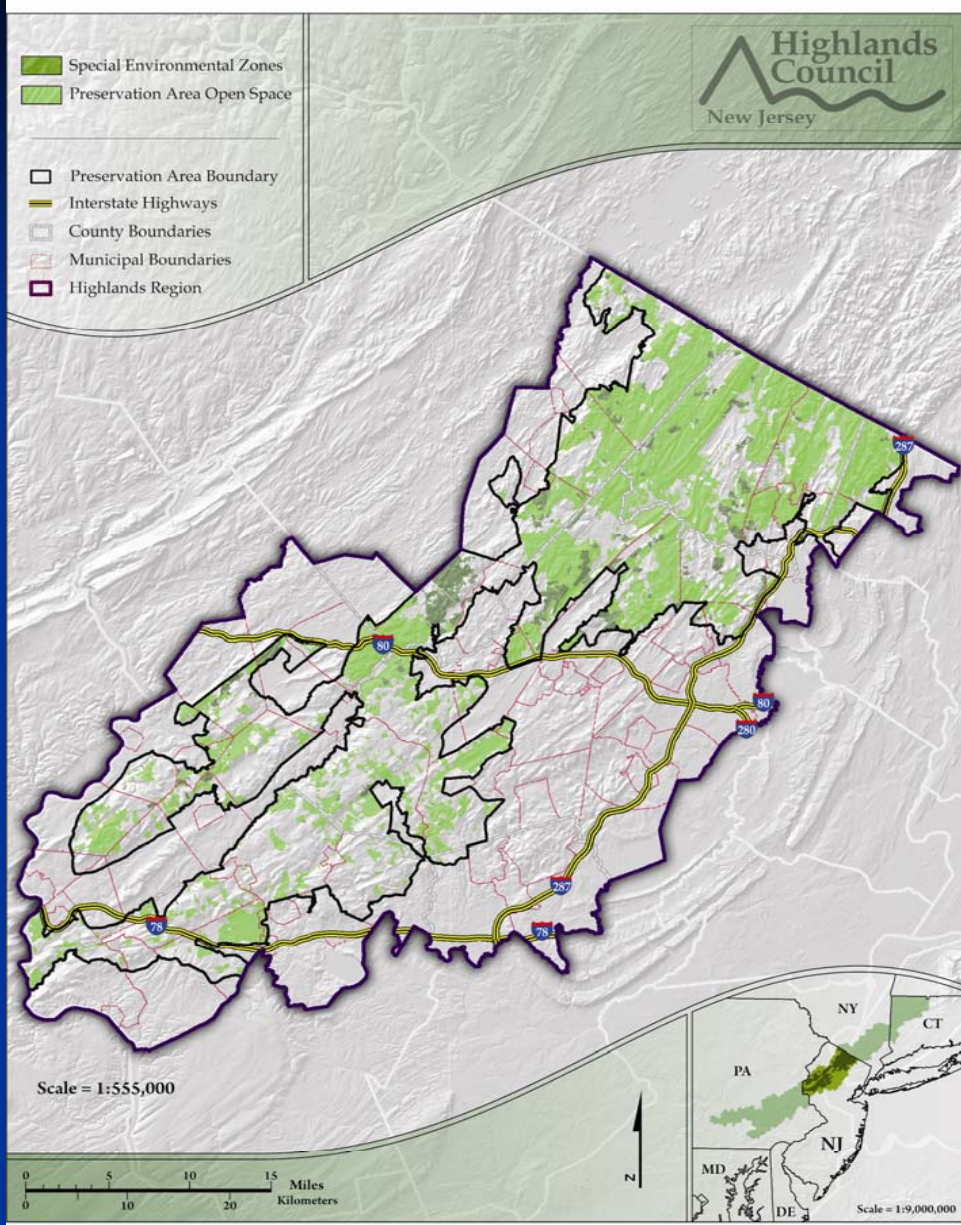
- The Land Preservation and Stewardship Program was updated to reflect changes made to the respective GPOs. Cross-reference to the Historic, Cultural, Archaeological and Scenic Program was added.
 - *Establishment of New/ Alternative/ Innovative Land Preservation Programs* was amended to include a representative list of programs and options to be examined by the Highlands Council for appropriateness in the Highlands Region
 - *Establishment of Dedicated Sources of Funding* was amended to include a more extensive list of possible future dedicated funding sources for land preservation and stewardship
 - *Establishment of Land Preservation Priorities* was amended to include the Special Environmental Zone in accordance with the Highlands Act, section 12a

Special Environmental Zone

The following is a summary of the environmentally sensitive lands in the Preservation Area:

- Preservation Area (total lands) 414,965 acres
- Preserved Land (existing) 188,469 acres (45%)
- Conservation Priority Area 114,114 acres (27%)
 - Conservation Priority List 63,153 acres
 - Special Environmental Zone 19,000 acres

SPECIAL ENVIRONMENTAL ZONES



Wastewater System Maintenance Program Changes

- Clarified septic system maintenance program
 - public information is required for all septic systems,
 - mandatory inspection and maintenance is required for septic systems with the highest potential for pollution problems.
- Upgrading septic systems – added language in response to public comments, clarifying that the use of community systems should not create harmful effects, such as loss of water availability.

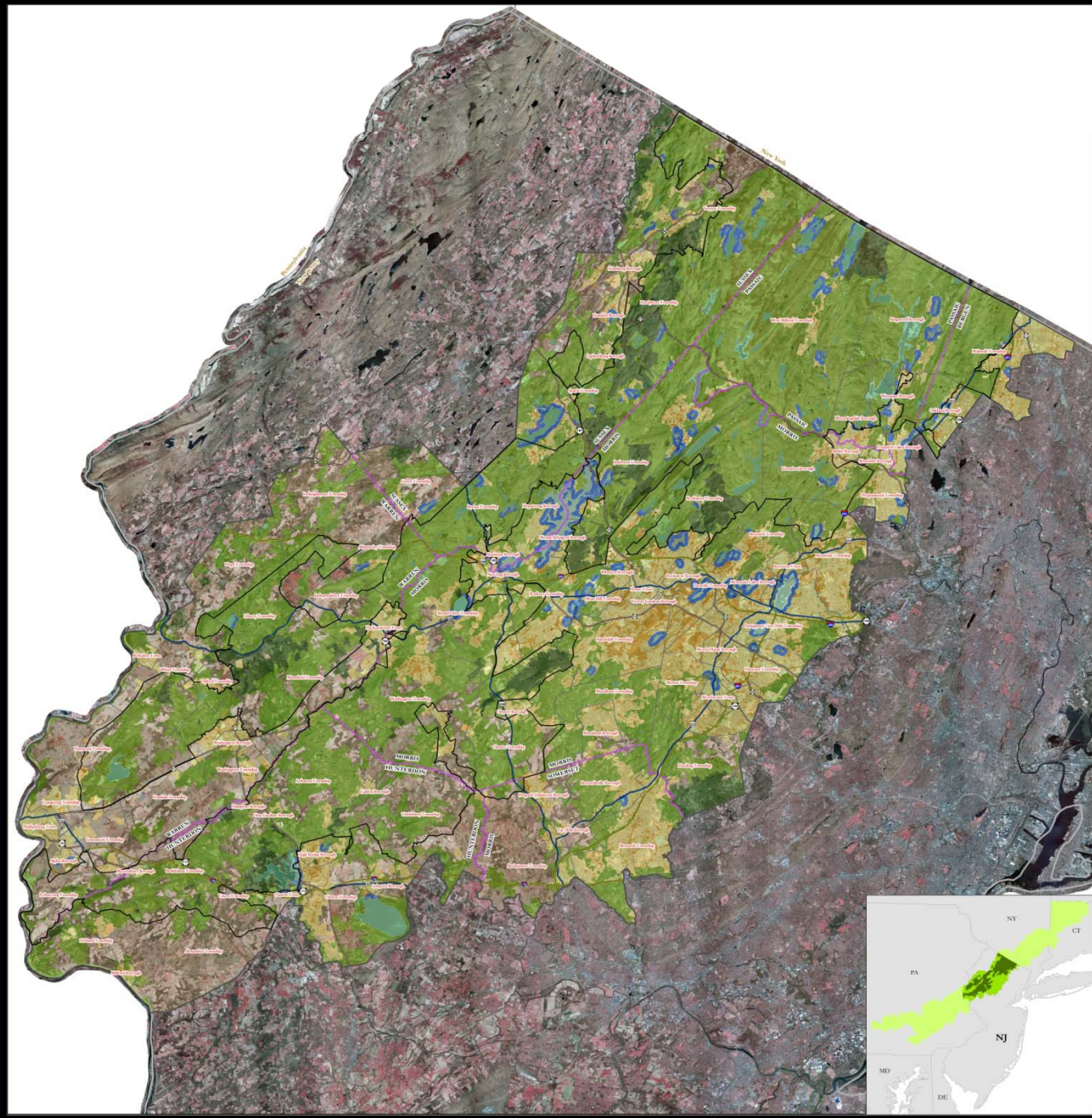
Land Use Capability Zone Map

- ❖ Council staff is proposing to update the Land Use Capability Zone map, in response to public comments regarding preserved State and Federal lands.
- ❖ Proposal includes a new Wildlife Management Sub-Zone which includes the following:
 - Federal Wildlife Refuges
 - State Wildlife Management Areas
- ❖ Protection Zone policies would apply in the Wildlife Management Sub-Zone

Land Use Capability Zone Map

The new Wildlife Management Sub-Zone includes the following lands:

- Federal Wildlife Refuges (7,000 acres) including the Great Swamp National Wildlife Refuge and Wallkill River National Wildlife Refuge
- State Wildlife Management Areas (34,000 acres) larger areas include Berkshire Valley, Black River, Clinton, Hamburg Mountain, Pequest, Rockaway River, Sparta Mountain, Wanaque, and Wildcat Ridge.



Smart Growth and Community Design Handbook Program Changes

- Combined “Smart Growth Manual” and “Community Development Design Guidebook” into one Handbook
- Renamed “Smart Growth and Community Design Handbook”

Highlands TDR Program Changes

- Language added to clarify which parcels in what zones may be eligible to submit an application for an HDC determination
- Non-Residential Allocation Method added to program
 - Method considers the size of parcel, zoning and land use regulations applicable to the parcel as of November 2005, and the underlying land values of different types of non-residential development to determine allocation of HDCs
- Revised section concerning Receiving Zone eligibility to be consistent with revised GPOs and to state that municipalities outside of Highlands Region and non-conforming municipalities must receive plan endorsement in accordance with State Planning Commission guidelines before a Receiving Zone may be established
- Added a new section regarding the Receiving Zone designation process, which indicates that establishing a Receiving Zone is voluntary and triggered only by municipal action and must be approved by the Council as consistent with the resource protections of the RMP and have infrastructure capacity.

Highlands Act and Build Out

Section 11(a) of the Highlands Act does not require a build out analysis but mandates that the Regional Master Plan include:

- “a resource assessment which 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...”
- “a smart growth component ... based on the resource assessment ... which assesses ... opportunities for appropriate development, redevelopment, and economic growth...”

A Build Out Model

Provides estimates of the ultimate ability of a land area to support new development based on:

- ❑ Existing land and development conditions
- ❑ Regulatory constraints and opportunities
- ❑ Various assumptions regarding the relationship of available land and existing development to infrastructure and environmental resources

Uses spatial and technical data to examine potential development scenarios and the resultant houses, residents, non-residential development and jobs that may occur if full build out of lands occurred.

A model is a management tool, not a prediction

Highlands Regional Model

- ❑ The Highlands Build Out Model is GIS-based, estimates the full build out of developable land, and is based upon RMP policies of environmental constraints, water availability, and wastewater utility capacity.
- ❑ Lands potentially available for development are based on undeveloped or underdeveloped parcels as of 2007, excluding any preserved lands, and municipal zoning as of 2005.
- ❑ Report does not evaluate the build out impacts of potential Highlands Act exemptions, redevelopment areas or TDR receiving zones. Will be evaluated through local Plan Conformance.
- ❑ Highlands Region developable lands used in the build out model are approximately 230,000 acres, representing 123,000 acres in the Planning Area and 106,000 in the Preservation Area.

Model Scenarios

- ❑ The voluntary nature of the Highlands Act, for the Planning Area, triggered the need to develop multiple build out scenarios.
- ❑ Model includes three primary scenarios including:
 - 1) Development analysis assuming no Highlands Act (*Without Highlands Act*)
 - 2) Assuming implementation of the RMP in the Preservation Area only (*Preservation Area Conformance*)
 - 3) Assuming full implementation of the RMP in both the Planning and Preservation Areas (*100% RMP Conformance*)

Model Scenarios

- ❑ ***Without Highlands Act*** - build out using municipal zoning and NJDEP's rules for septic system density (2 mg/L). When the local zoning required a larger lot size (lower density) than the WQMP Rule required, the zoning lot size was applied.
- ❑ ***Preservation Area Conformance*** - build out assuming full conformance in the Preservation Area and no conformance in the Planning Area. The Planning Area build out is the same as the *Without Highlands Act* scenario.
- ❑ ***100% RMP Conformance*** - build out assuming full conformance for all 88 Highlands municipalities. This scenario estimates Plan Conformance throughout the Highlands Region, but does not include additional discretionary growth that might result from local decisions using available infrastructure capacity.

Table 1 - Highlands Build out Scenarios

| Build out Scenario | Without Highlands Act | Preservation Area Conformance | 100% RMP Conformance |
|--------------------------|--|---|---|
| Preservation Area | Assumes no Act (based on NJDEP's 2 mg/L nitrate target and "gross density" in septic system areas) | Assumes 100% Conformance (based on full implementation of the Regional Master Plan and NJDEP's Highlands Act rules - N.J.A.C. 7:38) | Assumes 100% Conformance (based on full implementation of the Regional Master Plan and NJDEP's Highlands Act rules - N.J.A.C. 7:38) |
| Planning Area | Assumes no Act (based on NJDEP's 2 mg/L nitrate target and "gross density" in septic system areas) | Assumes 0% Conformance (based on NJDEP's 2 mg/L nitrate target and "gross density" in septic system areas) | Assumes 100% Conformance (based on full implementation of the Regional Master Plan) |

Table 2 - Summary of Highlands Build out –
 (Planning Area/**Preservation Area**)

| <u>Build Out Scenario</u> | <u>Developable Lands (acres)</u> | <u>New Dwelling Units or Houses</u> | <u>New Non-residential (million sq. ft.)</u> | <u>Wastewater Utility Constraint</u> | <u>Water Availability Constraint</u> |
|-------------------------------|---------------------------------------|-------------------------------------|--|--------------------------------------|--------------------------------------|
| Existing Conditions | 230,000 | 296,500 | | | |
| Without Highlands Act | | 47,600 (26,000/ 21,600) | 108.1 (85.8/ 22.3) | 15% of 3.5 MGD | 27% of 6.0 MGD |
| Preservation Area Conformance | 230,000 (123,000/ 106,000) | 28,800 (26,000/ 2,800) | 86.0 (85.8/ 0.006) | 16 % of 3.1 MGD | 16% of 3.9 MGD |
| 100% RMP Conformance | | 12,300 (9,500/ 2,800) | 19.1 (19.1/ 0.006) | 11% of 1.1 MGD | 2% of 1.4 MGD |

Table 3 - Summary of Highlands Build out – Environmental Impact Land Based Results

| <u>Build Out Scenario</u> | <u>Additional Impervious Surface (Acres)</u> | <u>Additional Water Demand (MGD)</u> | <u>Additional Wastewater from sewer and septic systems (MGD)</u> |
|-------------------------------|--|--------------------------------------|--|
| Existing Conditions | 58,800 | n/a | n/a |
| Without Highlands Act | 7,300 (5,100/2,200) | 20.5 (12.4/8.1) | 18.3 (11.2/7.1) |
| Preservation Area Conformance | 5,300 (5,100/200) | 13.3 (12.4/0.9) | 12.0 (11.2/0.8) |
| 100% RMP Conformance | 2,300 (2,100/200) | 4.8 (3.9/0.9) | 4.1 (3.3/0.8) |

Wastewater Capacity

- The wastewater capacity for the Highlands Domestic Sewerage Facilities (HDSF) was examined for each scenario. There are 42 HDSF's in the Highlands Region.
- Of the 42 facilities, 8 currently have no permitted capacity available and these 8 facilities are considered unable to serve additional capacity demands in the three scenarios.
- The *Without Highlands Act* and the *Preservation Area Conformance* scenarios both indicate that 3 additional HDSF's (11 total) would exceed available capacity (Rockaway Valley Regional Sewer Authority, Warren County-Belvidere, and Morristown).
- The *100% RMP Conformance* scenario indicates that 2 additional HDSF's (10 total) would exceed available capacity (Rockaway Valley and Morristown).

Wastewater Capacity

- Region-wide wastewater utility capacity is approximately 15.3 MGD
- Projected build out needs under *Without Highlands Act* scenario are approximately 3.5 million gallons per day (MGD) (23%)
- The *100% RMP Conformance* scenario projected demand at approximately 1.1 MGD (7%). The remaining capacity would be available to address failing septic systems, additional redevelopment, TDR receiving zones and cluster development adjacent to infrastructure, if sufficient water supply and net water availability exist in those areas.

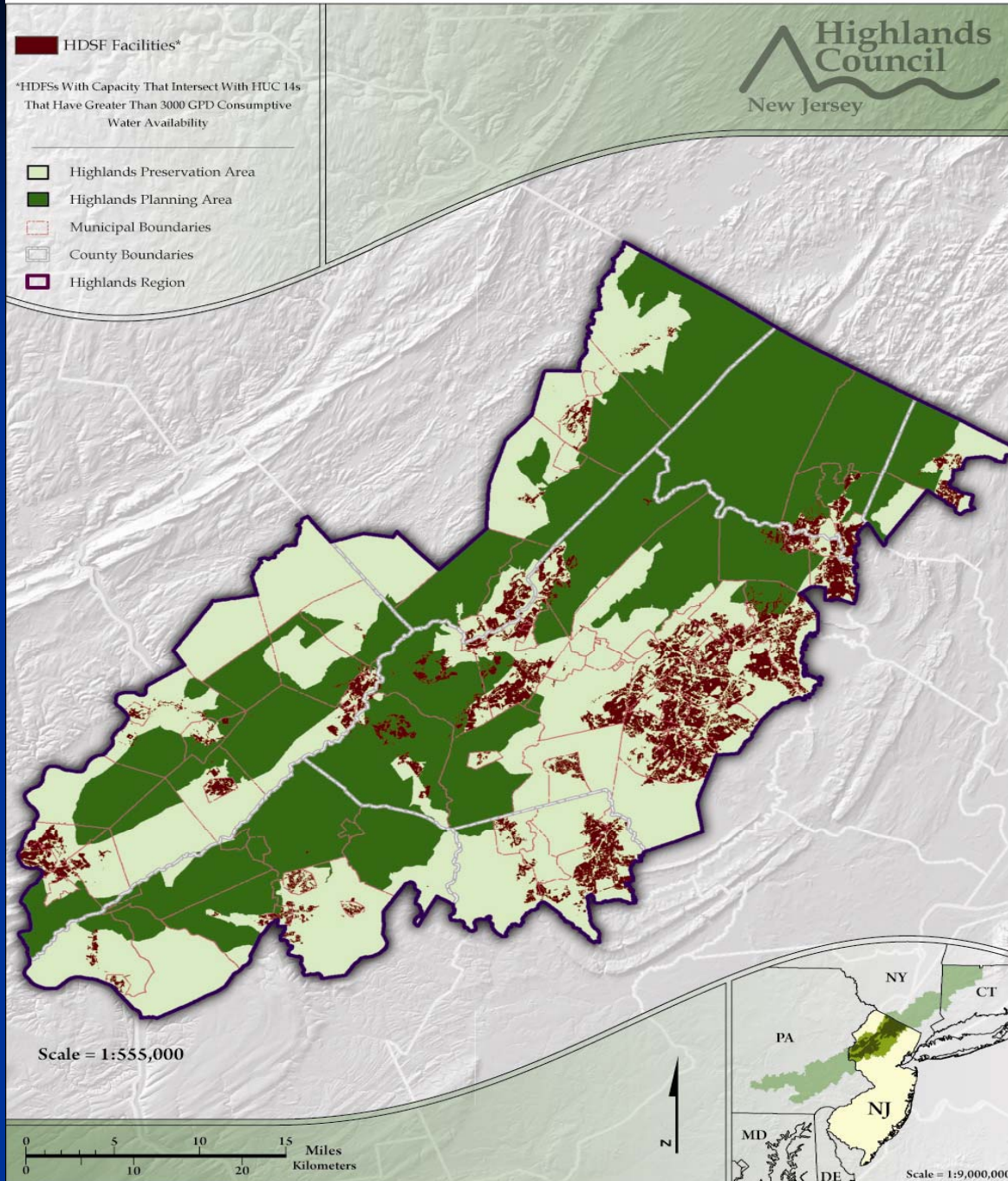
Water Capacity

- All scenarios would generate water demands that exceed net or conditional water availability in a number of subwatersheds. Water availability will be a constraint on achieving full build out.
- Constraints indicated by the model are a scenario based on limiting assumptions that may be modified.
- The *100% RMP Conformance* scenario indicates 5 subwatersheds with insufficient net or conditional water availability.
- The *Without Highlands Act* scenario indicates 71 subwatersheds with insufficient net or conditional water availability.
- Land based development in such subwatersheds may only reach full build out if municipalities demonstrate through the Water Use and Conservation Management Plans and best management practices that the conditions for water availability have been met.

Sustainable Capacity

- The water availability and wastewater analysis for the *100% RMP Conformance* scenario were mapped to visualize potential growth opportunities.
- The *100% RMP Conformance* figure shows areas that have both Highlands wastewater facilities with capacity after build out and some water availability
- This figure depicts the existing area served for 32 Highlands wastewater facilities (HDSF) that would have remaining sewerage capacity and are located within any of the 121 HUC 14 subwatersheds that would have at least 3,000 gpd of consumptive water available.

**100% RMP CONFORMANCE SCENARIO LAND-BASED BUILDOUT:
SUSTAINABLE CAPACITY MAP**



Discretionary Growth

- Highlands Act: “a smart growth component...(based on the resource assessment) which assesses: “opportunities for appropriate development, redevelopment, and economic growth...”
- The RMP includes a discretionary policy to allow municipalities additional growth after an examination of infrastructure capacity and resource protection. Model starts with *100% RMP Conformance* scenario.
- Evaluates build out capacity of the approved sewer service area in the Planning Area Existing Community Zone, using existing zoning but at a minimum of 2 dwelling units per acre and a target floor area ratio of 0.84.
- Most significant result: approximately 111,000 additional jobs on only 1,400 impervious surface acres representing 3 times the current jobs per acre density as compared to *Without the Highlands Act* growth patterns.
- Less impervious cover than the trend of “sprawl;” however there will be constraints for water availability and wastewater capacity.

Key findings

- The build out results for developable lands indicate that without the Highlands Act, 15% of the projected wastewater utility demand (3.5 MGD) and 27% of the water demand (6.0 MGD) cannot be supported by the relevant utilities or subwatersheds, and would further limit growth potential in some areas.
- Even with 100% RMP Conformance, the build out projections indicate that 11% of wastewater utility demand (1.1 MGD) and 2% of water demand (1.4 MGD) cannot be supported by the relevant utilities or subwatersheds.
- At 100% RMP Conformance, build out represents approximately an additional 2,300 acres of impervious surface area in the Region as compared to 7,300 acres without the Highlands Act or a 68% reduction.
- Much of the undeveloped land zoned for commercial and industrial use is in environmentally constrained areas, outside of existing water and sewer service areas.
- Based on current population and infrastructure conditions, the development of many of these commercial and industrial lands is highly unlikely and does not reflect smart growth principles.

Next Steps

- The refinement of this model happens through local build out analysis
- Council staff will provide the GIS model to municipalities as the basis for the local build out
- Council will provide grants and technical assistance in support of local build out
- We recognize that the local model will include updated information through the RMP Update Process

Redevelopment Procedures

Procedures for Highlands Redevelopment Area designation will be posted to Highlands website after the June 12th meeting.

Recommendation for Council deliberation:

- In February 2008, the Council released a draft method for mapping impervious surface based on the definition of the Highlands Act
- Comments received raised questions about the technical method or suggested refinements.
- Based on the review of these comments and further discussions with NJDEP Divisions of Land Use Regulation and Watershed Management, Council staff recommends that the Redevelopment Area Designation Procedure be modified to delete the default method and require a case-by-case analysis of impervious surface.

Nitrate Targets for WQMP Consistency

- White paper in response to Council request
- Supports consistency determinations regarding sewer extensions using full RMP
- Supports consistency determinations using full RMP regarding all WQMP amendments in Preservation Area and in Planning Area conforming municipalities

Issue

Appropriate nitrate target for WQMP consistency determinations in nonconforming Planning Area municipalities. Range of choice from minimum of DEP WQMP rules to RMP thresholds

WQMP Approach

- Counties develop Wastewater Management Plans (WMPs) for all municipalities
- Municipalities may opt out of WMP process:
 - They lose all proposed sewer service areas (if any)
 - NJDEP will not process any WQMP amendments
 - Projects that require NJDEP permits may proceed only if they generate less than 2,000 gallons per day of wastewater (approximately 5 homes)
- Nitrate target for septic systems is 2 mg/L using average ground water recharge, by watershed this results in average lot sizes between 4 to 7 acres per single family house
- Over 40% of Highlands current zoning, including already developed lands, is more stringent than the NJDEP so an even higher percentage of zoning for undeveloped lands may meet NJDEP requirements. Estimate is 50%

RMP Requirements

- Voluntary in Planning Area: Highlands Act
- Nitrate targets are 2 mg/L in Existing Community Zone, 1.87 mg/L in Conservation Zone, and 0.72 mg/L in Protection Zone. Uses drought recharge on subwatershed basis resulting in lot sizes of 9.4, 10, and 26.1 acres per single family house
- No municipalities have zoning that meets Protection Zone requirements; a few have zoning that meets targets for the other Zones, with the most restrictive zoning requiring 10-12 acres per unit on average
- RMP policies would result in roughly 30 percent of the WQMP septic system yields in Planning Area
- WQMP rules and existing zoning would result in approx 20,600 new septics if no Planning Area lands conformed
- RMP policies would result in approx 6,200 new septics

Staff Recommendation

Council staff stands by its original recommendation in order to foster comprehensive planning by conforming municipalities

Section 10 c of the Act (RMP Planning Area Goals)

- (9) encourage, consistent with the State Development and Redevelopment Plan and smart growth strategies and principles, appropriate patterns of compatible residential, commercial, and industrial development, redevelopment, and economic growth, in or adjacent to areas already utilized for such purposes, and discourage piecemeal, scattered, and inappropriate development, in order to accommodate local and regional growth and economic development in an orderly way while protecting the Highlands environment from the individual and cumulative adverse impacts thereof;
- The nitrate targets established in the RMP are designed not only to protect and enhance the existing water quality in the Highlands subwatersheds, but also to ensure that the yield of additional septic systems are properly planned and distributed to avoid sprawling development patterns and to guide the growth into appropriate areas.
 - While nonconforming municipalities should be strongly encouraged to utilize the Highlands Council's more detailed nitrate analysis and more protective nitrate targets in developing a WMP, a municipality's decision to meet the NJDEP's requirements should be supported by the Council through consistency determinations.