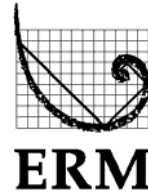


Memorandum

To: John Nelson
From: Ben Sussman
CC: Clive Graham
Date: August 30, 2007
Subject: Deep Creek Lake Influence Area, Preliminary Land Use Concepts

**Environmental
Resources
Management**
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This memo describes future land use scenarios for the Deep Creek Master Plan chapter of the 2008 Garrett County Comprehensive Plan. These scenarios will be presented to the Planning Commission on September 5th, in order to obtain guidance on a preferred scenario to be included in the 2008 Comprehensive Plan.

The need to develop scenarios is our finding that the ultimate development capacity of the Deep Creek Lake Influence Area (the Deep Creek Watershed, plus the Wisp Resort and nearby areas) exceeds the ultimate capacity of the Influence Area's transportation and sewer systems, and could stress the lake's water quality. These findings are described below.

Projections and Development Capacity

The Plan's projections and the Development Capacity Analysis, prepared by the Maryland Department of Planning (MDP) in late 2006 for the Influence Area are summarized in Table 1. Projected Units are the Comprehensive Plan's official statement about the number of units that are *expected* to be built by 2030. Development Capacity is the total number of units that could be built over the very long term (beyond 2030) in the Influence Area, based on zoning and subdivision density, as well as limiting factors such as steep slopes, wetlands, and public land ownership.

Table 1: Summary of Projections and Capacity

Existing Residential Units	Projected Units (in addition to Existing)	Development Capacity (in addition to Existing)
5,683	4,050	24,160

A member of the Environmental Resources Management Group

Transportation System

Based on transportation modeling conducted for the Comprehensive Plan, projected units could be accommodated with minor upgrades to the transportation network in the Influence Area (particularly in the McHenry area). However, the Development Capacity of the Influence Area would completely overwhelm existing road systems, and opportunities for new or expanded roads are either limited, or are undesirable from a community character standpoint.

Sewer

Table 2 summarizes sewer demand and treatment capacity in the Influence Area, which is served by the Deep Creek Lake Wastewater Treatment Plant (WWTP). Whereas nearly all projected growth could be accommodated at the existing WWTP, slightly less than one half of the Development Capacity could be accommodated, even if the WWTP were fully expanded.

Table 2: Summary of Sewer Capacity

	Projected Units All data in ERU*	Development Capacity
Current Sewer Capacity Available for Future Development	8,380	8,380
Total <u>projected</u> new sewer demand ¹	9,147	25,512
Net sewer deficit, 2030	(767)	(17,132)
Maximum new capacity from WWTP expansion	6,476	6,476
Net available capacity (deficit) after expansion and septic conversion²	4,595	(10,656)

* Equivalent Residential Unit (ERU) = 262.5 gallons per day

1. Assumes that 25% of Development Capacity would occur outside of sewer service areas. Table 2 also includes non-residential development and some conversion from septic to sewer, for units already on septic within the future sewer service area.
2. Assumes additional septic conversion (beyond the amount assumed in Footnote 1).

Water Quality

The Deep Creek Lake Water Quality Study (completed by ERM in 2007 as part of the Comprehensive Plan) evaluated the water quality impacts on Deep Creek Lake from projected development and development capacity. The Water Quality Study concluded that, while “plans for [projected development] need not be driven primarily by concerns over water

quality impacts...caution and prudence dictate obtaining additional field observations and performing additional analyses before significant development proceeds [i.e., Development Capacity].”

Conclusion

Based on the findings discussed above, the Deep Creek Master Plan chapter of the Comprehensive Plan should recommend a Future Land Use plan that reduces development capacity to a level that is ultimately sustainable for transportation, sewer, and the Lake’s water quality. The sewer calculations suggest that development capacity should be reduced from 24,160 to approximately 13,000 new residential units throughout the Influence Area. Accordingly, land use changes will need to focus on the more rural areas of the Influence Area, where sewer service is not available (specifically, the areas that currently have LR or RD land classifications). ERM has developed four scenarios designed to approach this goal. Those scenarios are described below.

Scenario 1 (Figure 1)

All RD land is reclassified as R, with development densities of one unit per acre.¹ Densities in LR are changed, from one unit per acre, to one unit per two acres. All other zoning districts are unchanged.

MDP’s Development Capacity Analysis evaluated this scenario and found that it would reduce overall residential development capacity in the Influence Area by approximately 9,500 units.

Scenario 2 (Figure 2)

All RD land is reclassified as R, with development densities of one unit per acre. LR is split into:

- LR1: All areas currently designated LR that fall within the future sewer service area to be proposed in this Comprehensive Plan

¹ RD areas have a maximum zoned density of 2.2 units per acre. However, due to the extensive presence of wetlands and other unsuitable areas, the development capacity of RD areas is actually closer to one unit per acre—the same as in R. Re-designating RD to R is important to preserve rural character, but does not impact development capacity.

(including the southern end of the Lake). Development density in LR1 is unchanged from current LR (one unit per acre).

- LR2: All other areas currently designated LR. Development density in LR2 is reduced to from one unit per acre to one unit per three acres.

All other zoning districts are unchanged.

Based on ERM calculations (which approximate, but do not necessarily duplicate those used in the MDP Development Capacity Analysis), this would reduce overall residential development capacity in the Influence Area by approximately 7,800 units.

Scenario 3 (See Figure 3)

- All RD land is reclassified as R or AR.
- Significant amounts of LR are reclassified as AR (parts of the Glades and the southwestern portion of the Influence Area) and RR (Deep Creek Lake State Park, the Rock Lodge Trust property, and surrounding areas). Development in these areas is assumed to occur at one unit per 3 acres (the same as outside the Influence Area).
- Remaining LR areas retain existing development density (one unit per acre). All other zoning districts are unchanged.

Based on ERM calculations, this would reduce overall residential development capacity in the Influence Area by approximately 5,600 units.

Scenario 4 (See Figure 4)

A hybrid of Scenarios 2 and 3.

- RD land is reclassified as R or AR.
- Significant amounts of LR land are reclassified as AR or RR (with the same provisions as described in Scenario 3).
- Remaining LR land is split into LR1 and LR2 districts. LR 1 is the same as in Scenario 2. LR 2 has a density of one unit per two acres (different from Scenario 2).

All other zoning districts are unchanged.

Based on ERM calculations, this would reduce overall residential development in the Influence Area by approximately 7,800 units.

Table 3: Scenario Summary

Scenario	Description	Capacity Reduction	Pros	Cons
1	<ul style="list-style-type: none"> • RD becomes R • LR density changed to 1 unit per 2 acres. 	9,500	<ul style="list-style-type: none"> • Largest reduction in development capacity. 	<ul style="list-style-type: none"> • Density of 1 unit per 2 acres is generally considered low (inefficient) for areas with sewer service.
2	<ul style="list-style-type: none"> • RD becomes R • LR split into: <ul style="list-style-type: none"> ○ LR1 (same as LR); ○ LR2 (1 unit per 3 acres) 	7,800	<ul style="list-style-type: none"> • Clearly defines “rural” (LR2) and “developed” (LR1) areas. • Maintains LR designation, as distinct from AR, RR, and R. 	<ul style="list-style-type: none"> • Density of 1 unit per 3 acres may be perceived by property owners as too significant a reduction. • Reduces development capacity relative to long-term sewer deficit, but may not be enough to offset impacts to transportation, sewer, and water quality..
3	Some portions of LR are re-designated as AR or RR, with densities of 1 unit per 3 acres.	5,600	<ul style="list-style-type: none"> • Preserves rural character, scenic views, agriculture, and forest resources (per changes to be recommended in the Comprehensive Plan). • Ties the rural portions of the Influence Area more closely to the rural areas in the County. 	<ul style="list-style-type: none"> • Smallest reduction in development capacity.
4	Combination of Scenarios 1, 2, and 3: <ul style="list-style-type: none"> • LR split into LR1 and LR2 (LR2 becomes 1 unit per 2 acres) • Some areas re-designated as AR or RR (1 unit per 3 acres) 	7,800	<ul style="list-style-type: none"> • Clearly defines “rural” (LR2) and “developed” (LR1) areas. • Preserves rural character, scenic views, agriculture, and forest resources (per changes to be recommended in the Comprehensive Plan). • Ties the rural portions of the Influence Area more closely to the rural areas in the County. • More fine-grained approach for reconsideration in future land use plans. 	<ul style="list-style-type: none"> • Reduces development capacity relative to long-term sewer deficit, but may not be enough to offset impacts to transportation, sewer, and water quality..

Figure 1: Scenario 1

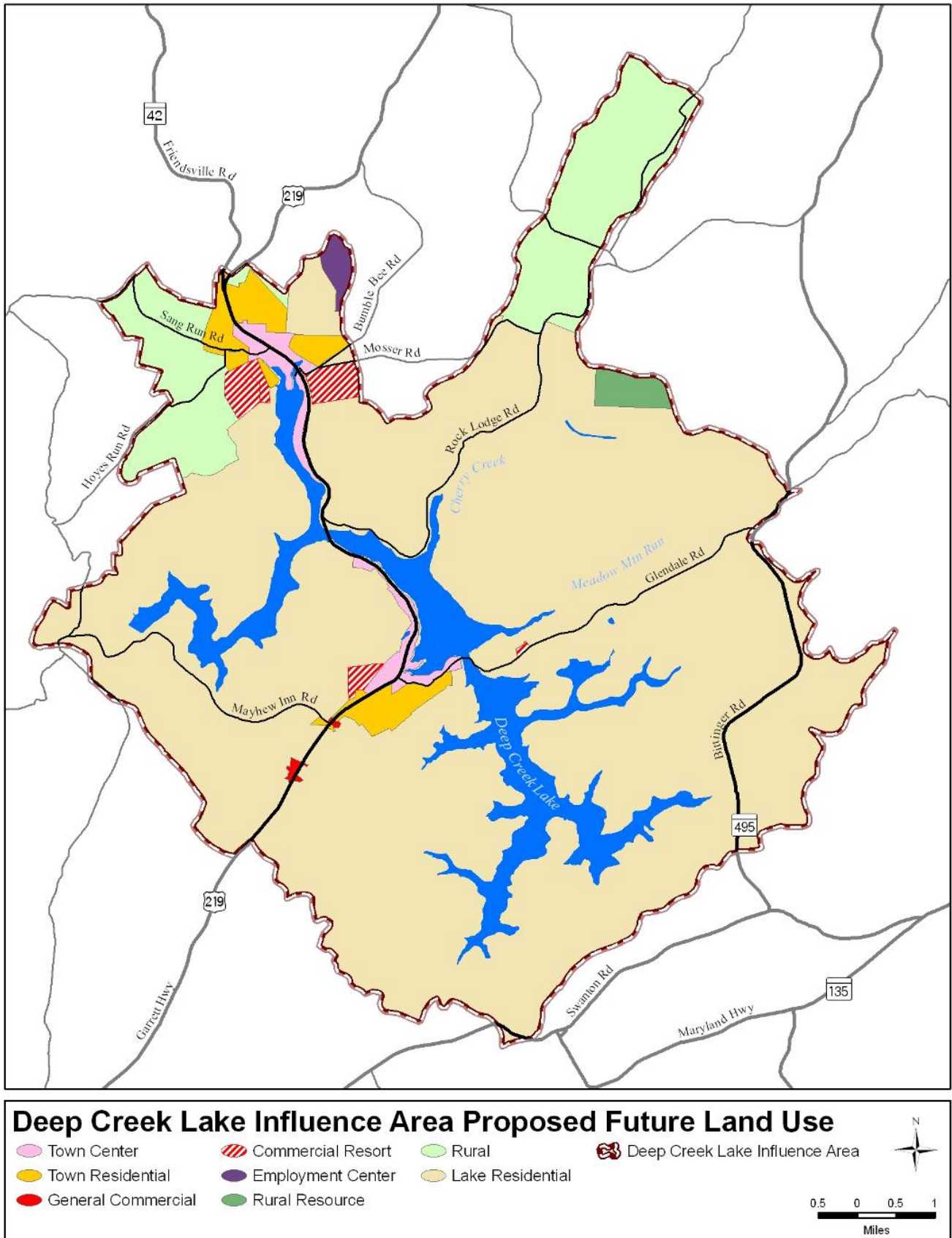
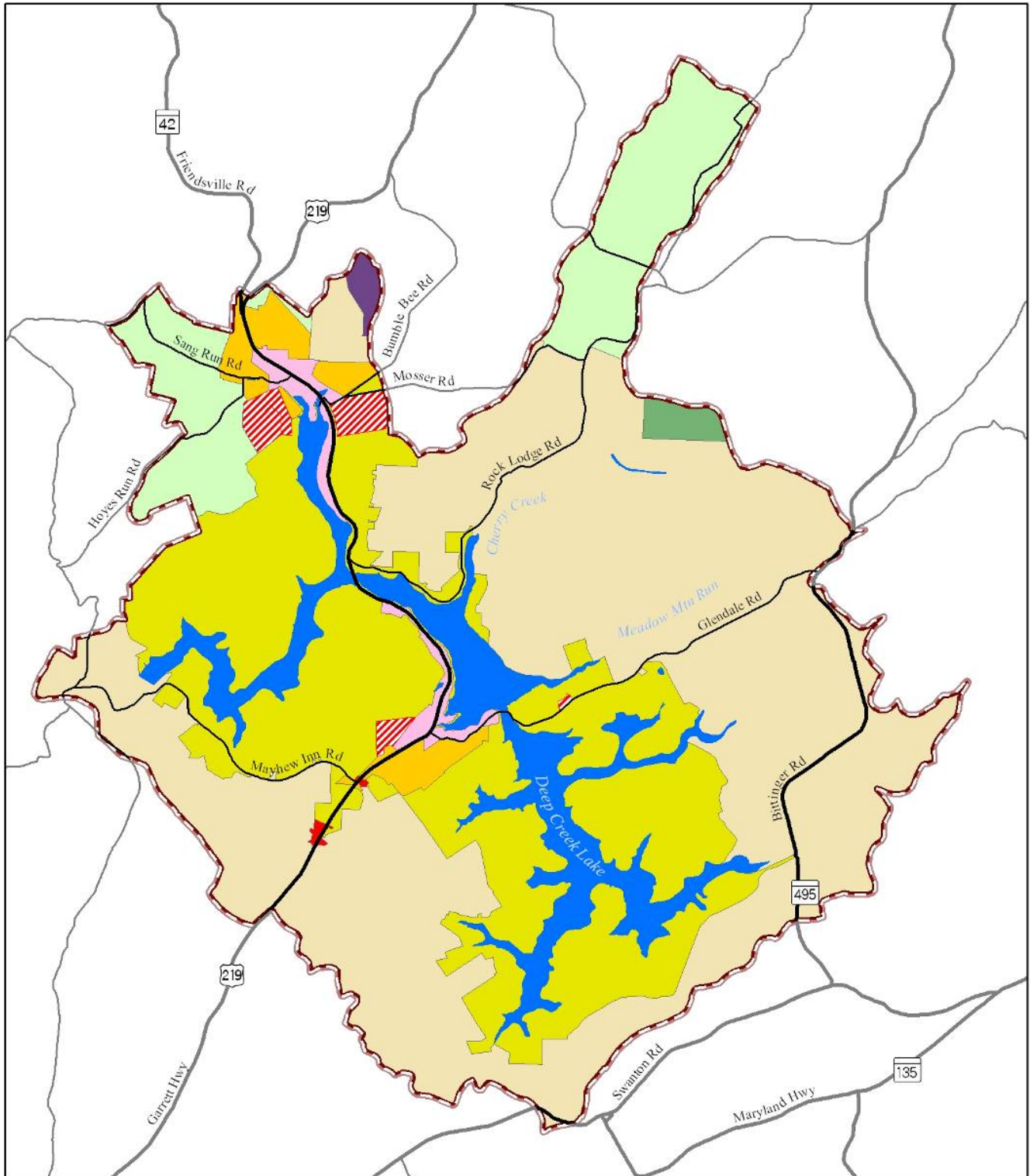


Figure 2: Scenario 2



Deep Creek Lake Influence Area Proposed Future Land Use

- | | | | |
|--------------------|-------------------|-------|--------------------------------|
| Town Center | Commercial Resort | Rural | Deep Creek Lake Influence Area |
| Town Residential | Employment Center | LR1 | |
| General Commercial | Rural Resource | LR2 | |

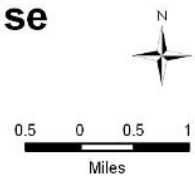


Figure 3: Scenario 3

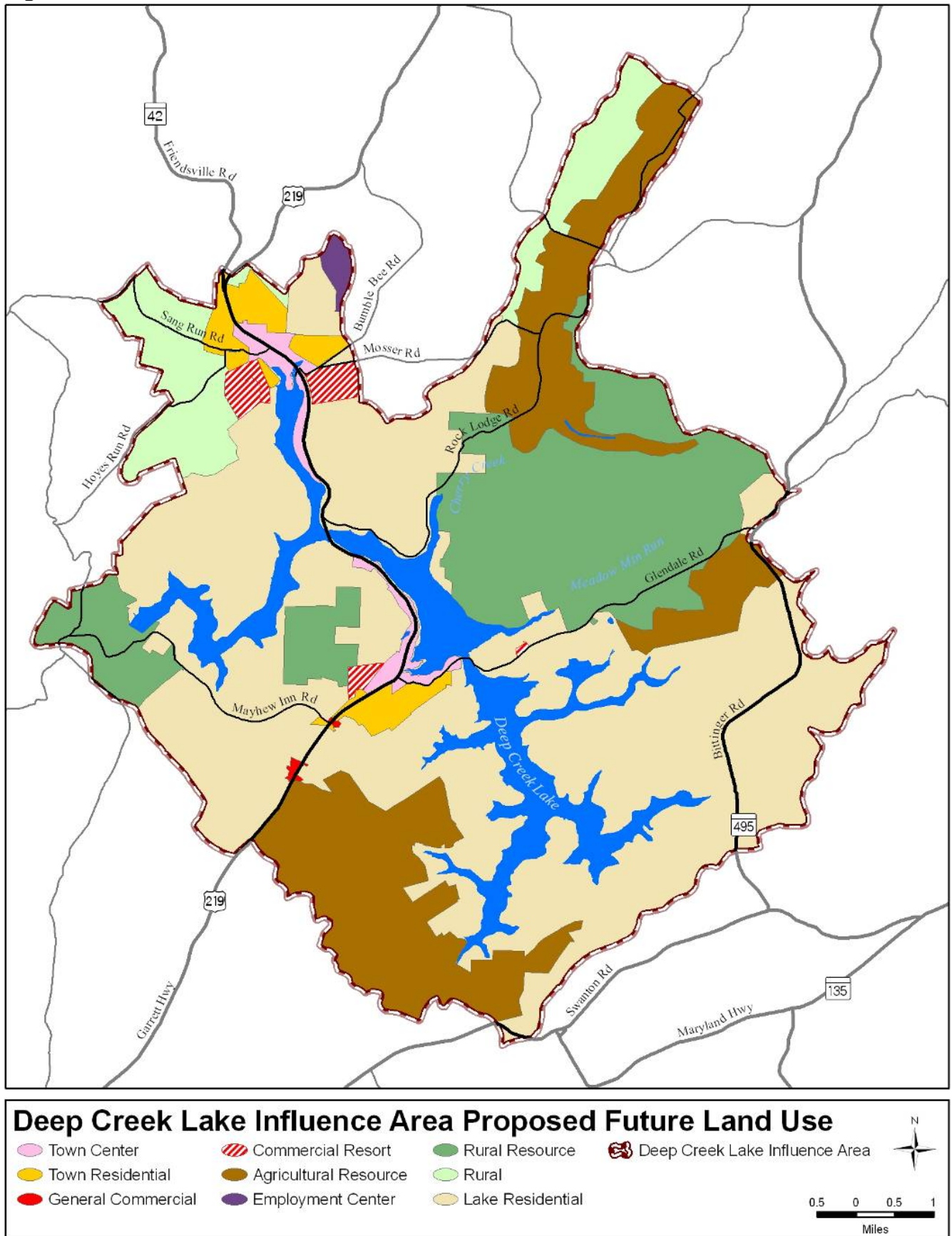
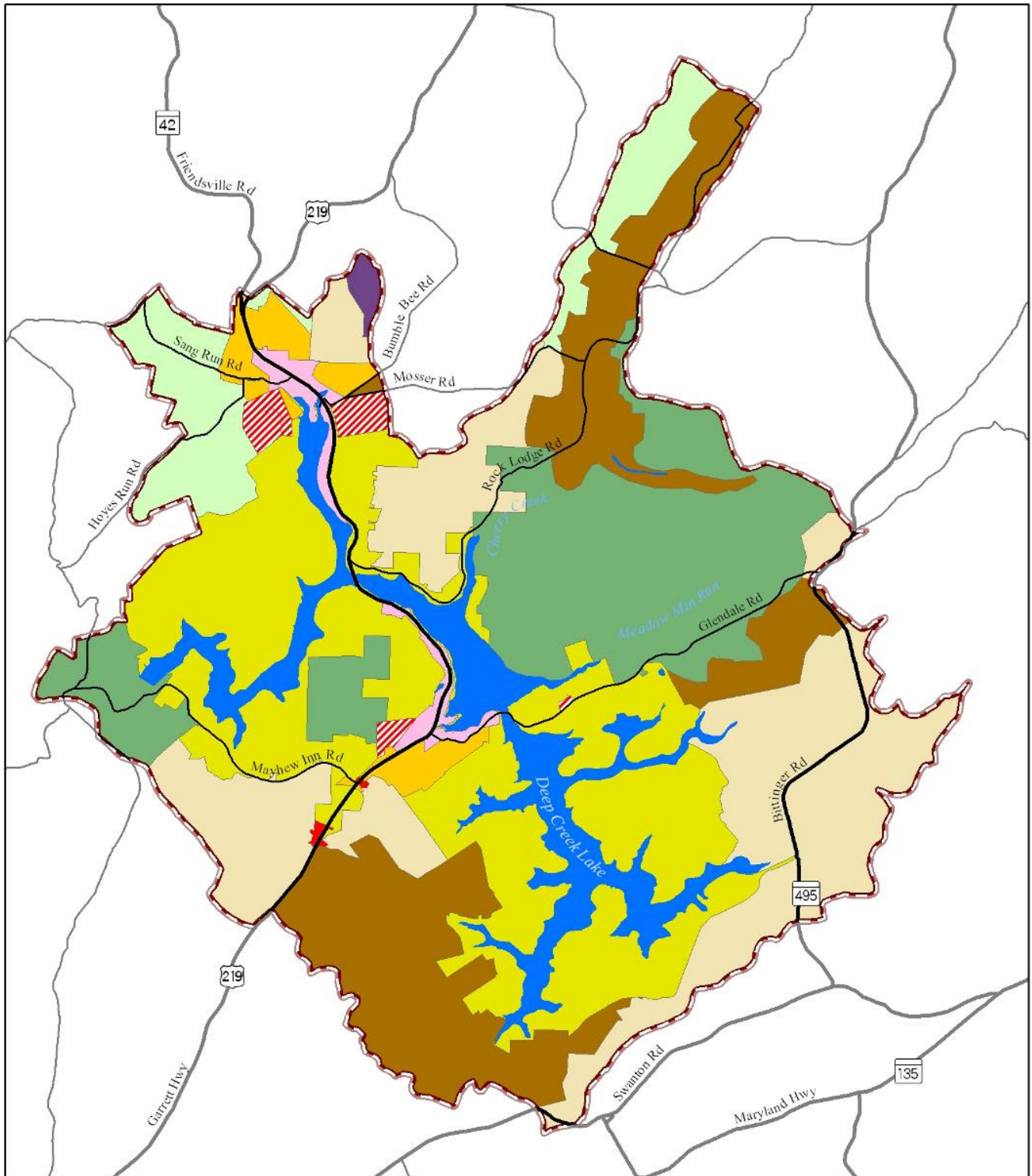


Figure 4: Scenario 4



Deep Creek Lake Influence Area Proposed Future Land Use

- Town Center
- Town Residential
- General Commercial
- Commercial Resort
- Employment Center
- Agricultural Resource
- Rural Resource
- Rural
- LR1
- LR2
- Deep Creek Lake Influence Area

