



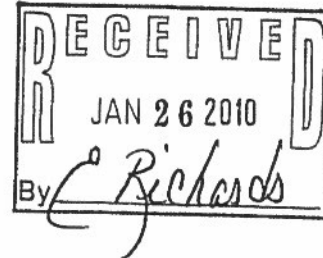
North Carolina Department of Environment and Natural Resources  
Division of Water Quality

Beverly Eaves Perdue  
Governor

Coleen H. Sullins  
Director

Dee Freeman  
Secretary

January 21, 2010



Mr. Barry Gullet, P.E., Deputy Director  
Charlotte Mecklenburg Utilities  
5100 Brookshire Blvd.  
Charlotte, North Carolina 28216

Subject: Speculative Effluent Limits  
Proposed CMU-Mount Holly Regional WWTP  
Mecklenburg County

Dear Mr. Gullett:

This letter is in response to your request for revised speculative effluent limits for the proposed Charlotte Mecklenburg Utilities and City of Mount Holly Regional Wastewater Treatment Facility at the wasteflows of 17 MGD and 25 MGD. The revised speculative limits should now include the nutrient loading from the Clariant WWTP facility. CMU has indicated that the Clariant facility will be going offline and connecting to the proposed Long Creek Regional WWTP. It should be understood that these speculative limits are only applicable if the wastewater from the City of Mount Holly is included in the proposed project. There is no capacity in Lake Wylie for a Charlotte Mecklenburg Utilities discharge facility on its own, based on the EPA approved 1996 Lake Wylie TMDL allocation.

Receiving Stream. Lake Wylie has a stream classification of WS-IV CA. Waters with this designation are a source of drinking water supply, culinary or food processing purposes in addition to the standard uses for waters with a C classification. It is also designated as a critical area (CA) which means the area adjacent to a water supply intake or reservoir where risk associated with pollution is greater than from the remaining portions of the watershed. North Carolina regulation 15A NCAC 2B .0202 (20) provides a more thorough definition of critical area. In addition, it is recommended that 15A NCAC 2B .0216 also be reviewed in its entirety for the water quality standards that are applicable to WS-IV CA streams.

Speculative Limits. The speculative limits were developed based on Division staff recommendation and consideration of the Lake Wylie TMDL allocation. Based on available information, speculative effluent limits for the proposed discharges of 17 and 25 MGD to Lake Wylie are presented in Tables 1 and 2. A complete evaluation of these limits and monitoring frequencies and monitoring requirements for metals and other toxicants will be addressed upon receipt of a formal NPDES permit application.

**TABLE 1. Speculative Limits for CMU- Mount Holly WWTP, Proposed flows of 17.0 MGD**

Effluent Characteristic	Effluent Limitations		
	Monthly Average	Weekly Average	Daily Maximum
Flow	17.0 MGD		
BOD5, Summer	4 mg/L	6.0 mg/L	
BOD5, Winter	8 mg/L	12 mg/L	
TSS	30 mg/L	45 mg/L	
NH3 as N	1.0 mg/L	3.0 mg/L	
Dissolved Oxygen (minimum)	7.0 mg/L		
TRC			17 ug/l
Fecal coliform (geometric mean)	200/100 ml	400/100 ml	
Total Phosphorus	90 lbs/day (equivalent to 0.63 mg/l)		
Total Nitrogen	618.5 lbs/day (equivalent to 4.36 mg/l)		
Chronic Toxicity Pass/Fail (Quarterly test)	90%		

**TABLE 2. Speculative Limits for CMU- Mount Holly WWTP, Proposed flows of 25.0 MGD**

Effluent Characteristic	Effluent Limitations		
	Monthly Average	Weekly Average	Daily Maximum
Flow	25.0 MGD		
BOD5, Summer	4 mg/L	6.0 mg/L	
BOD5, Winter	8 mg/L	12 mg/L	
TSS	30 mg/L	45 mg/L	
NH3 as N	1.0 mg/L	3.0 mg/L	
Dissolved Oxygen (minimum)	7.0 mg/L		
TRC			17 ug/l
Fecal coliform (geometric mean)	200/100 ml	400/100 ml	
Total Phosphorus	90 lbs/day (equivalent to 0.43 mg/l)		
Total Nitrogen	618.5 lbs/day (equivalent to 2.97 mg/l)		
Chronic Toxicity Pass/Fail (Quarterly test)	90%		

Monitoring in Lake Wylie will also be required to ensure that the water quality model predictions were accurate, and to ensure the discharge does not create adverse conditions in the Lake in the future. CMU and Mount Holly will be required to monitor upstream and downstream of the outfall. The following parameters should be included in sampling: dissolved oxygen, temperature, conductivity, pH, total


phosphorus, total nitrogen and chlorophyll a. Instream monitoring will be required three times per week during the months of June, July, August and September and once per week during the rest of the year.

Engineering Alternatives Analysis (EAA). Please note that the Division cannot guarantee that an NPDES permit for discharge of 17.0 MGD with expansion up to 25.0 MGD will be issued with these speculative limits. Final decisions can only be made after the Division receives and evaluates a formal permit application for the proposed discharge. In accordance with the North Carolina General Statutes, the practicable wastewater treatment and disposal alternative with the least adverse impact on the environment is required to be implemented. Therefore, as a component of all NPDES permit applications for new or expanding flow, a detailed engineering alternatives analysis (EAA) must be prepared. The EAA must justify requested flows, and provide an analysis of potential wastewater treatment alternatives. Alternatives to a surface water discharge, such as a spray/drip irrigation, wastewater reuse, or inflow/infiltration are considered to be environmentally preferable. A copy of the EAA requirements is attached to this letter. Permit applications for new or expanding flow will be returned if all EAA requirements are not adequately addressed.

State Environmental Policy Act (SEPA) EA/EIS Requirements. A SEPA EA/EIS document must be prepared for all projects that: 1) need a permit; 2) use public money or affect public lands; and 3) might have a potential to significantly impact the environment. For new wastewater discharges, significant impact is defined as a proposed discharge of >500,000 gpd and producing an instream waste concentration of > 33% based on summer 7Q10 streamflow conditions. For existing discharges, significant impact is defined as an expansion of > 500,000 gpd additional flow. Since CMU- Mount Holly's facility is proposing a discharge of >500,000 gpd flow with an instream waste concentration > 33%, the CMU- Mount Holly's facility must prepare a SEPA document that evaluates the potential for impacting the quality of the environment. The NPDES Unit will not accept an NPDES permit application for the proposed discharge until the Division has approved the SEPA document and sent a Finding of No Significant Impact (FONSI) to the State Clearinghouse for review and comment. A SEPA Environmental Assessment (EA) should contain a clear justification for the proposed project. If the SEPA EA demonstrates that the project may result in a significant adverse effect on the quality of the environment, you must then prepare a SEPA EIS (Environmental Impact Statement). Since your proposed discharge is subject to SEPA, the EAA requirements discussed above will need to be folded into the SEPA document. The SEPA process will be delayed if all EAA requirements are not adequately addressed. If you have any questions regarding SEPA EA/EIS requirements, please contact Hannah Stallings with the DWQ Planning Branch at (919) 807-6434.

Should you have any questions about these speculative limits or NPDES permitting requirements, please feel free to contact Jackie Nowell at (919) 807- 6386.

Respectfully,



Tom Belnick

Supervisor, Western NPDES Program

cc: Brent M. Reuss/ Black & Veatch 8520 Cliff Cameron Drive Suite 210 Charlotte, N.C. 28269  
US Fish and Wildlife Service, Ecological Services, PO Box 33726, Raleigh, NC 27636-3726 Attn: Sara Myers  
NC WRC, Inland Fisheries, 1721 Mail Service Center, Raleigh, NC, 27699-1721 Attn: Fred Harris  
Jeff Debessonnet/SCDHEC 2600 Bull Street Columbia, S.C. 29201  
Mooresville Regional Office/Surface Water Protection  
Pam Behm/Modeling TMDL Unit  
Hannah Stallings/Planning Section  
Central Files  
NPDES Permit File

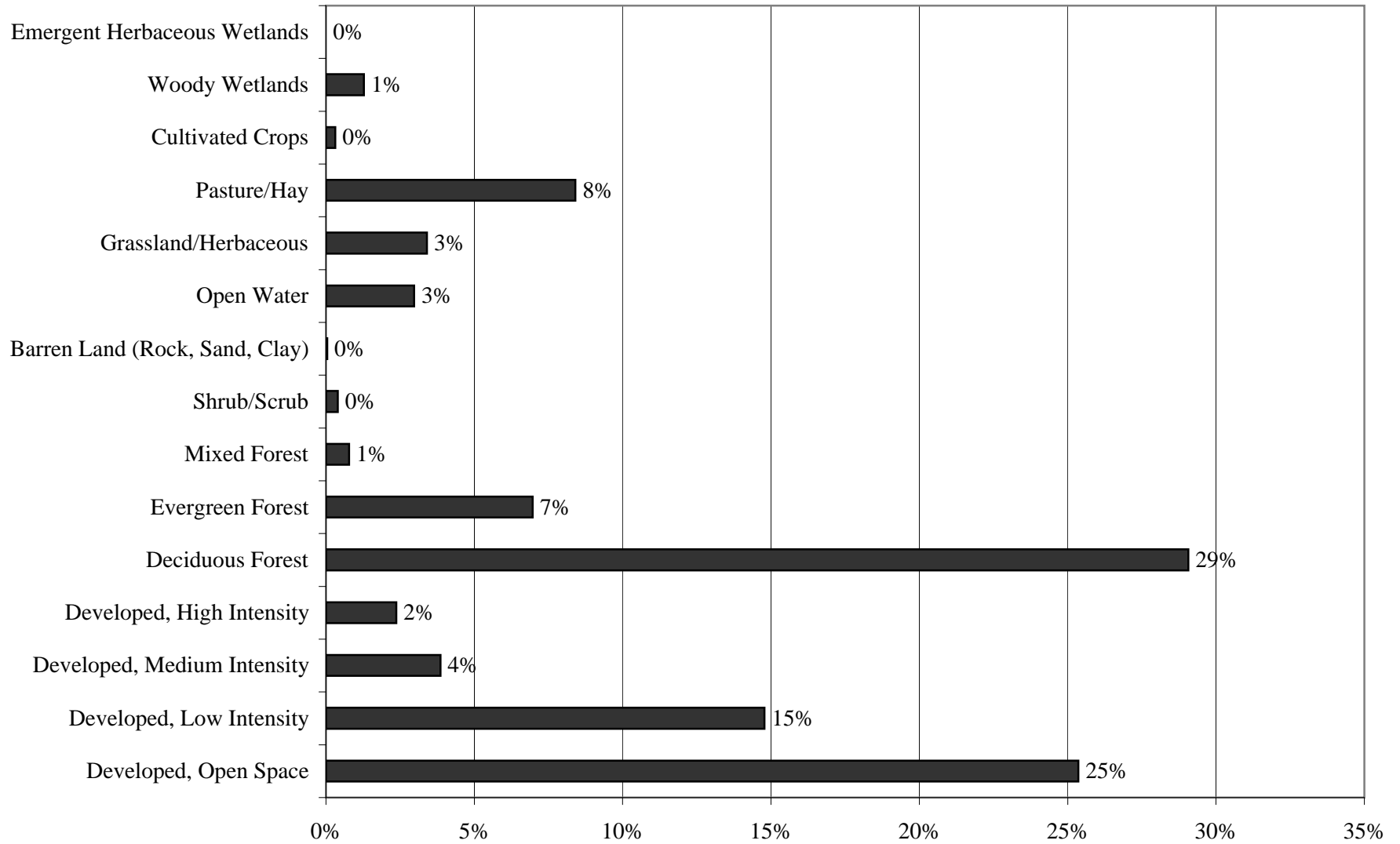


Figure 5.2b 2001 NLCD Land Cover Classes - Percent of Service Area

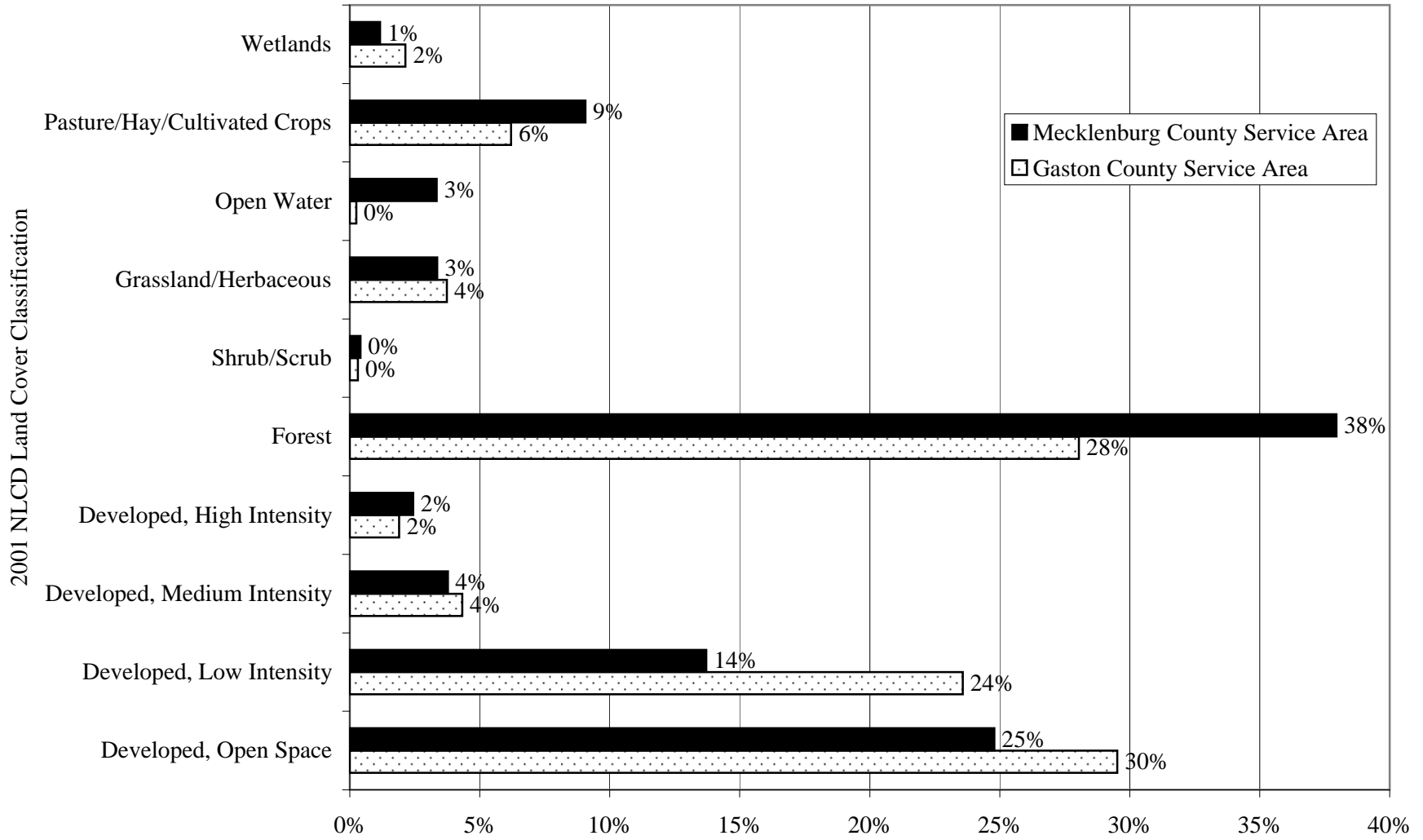


Figure 5.2c Land Cover - Percent of Service Area within County

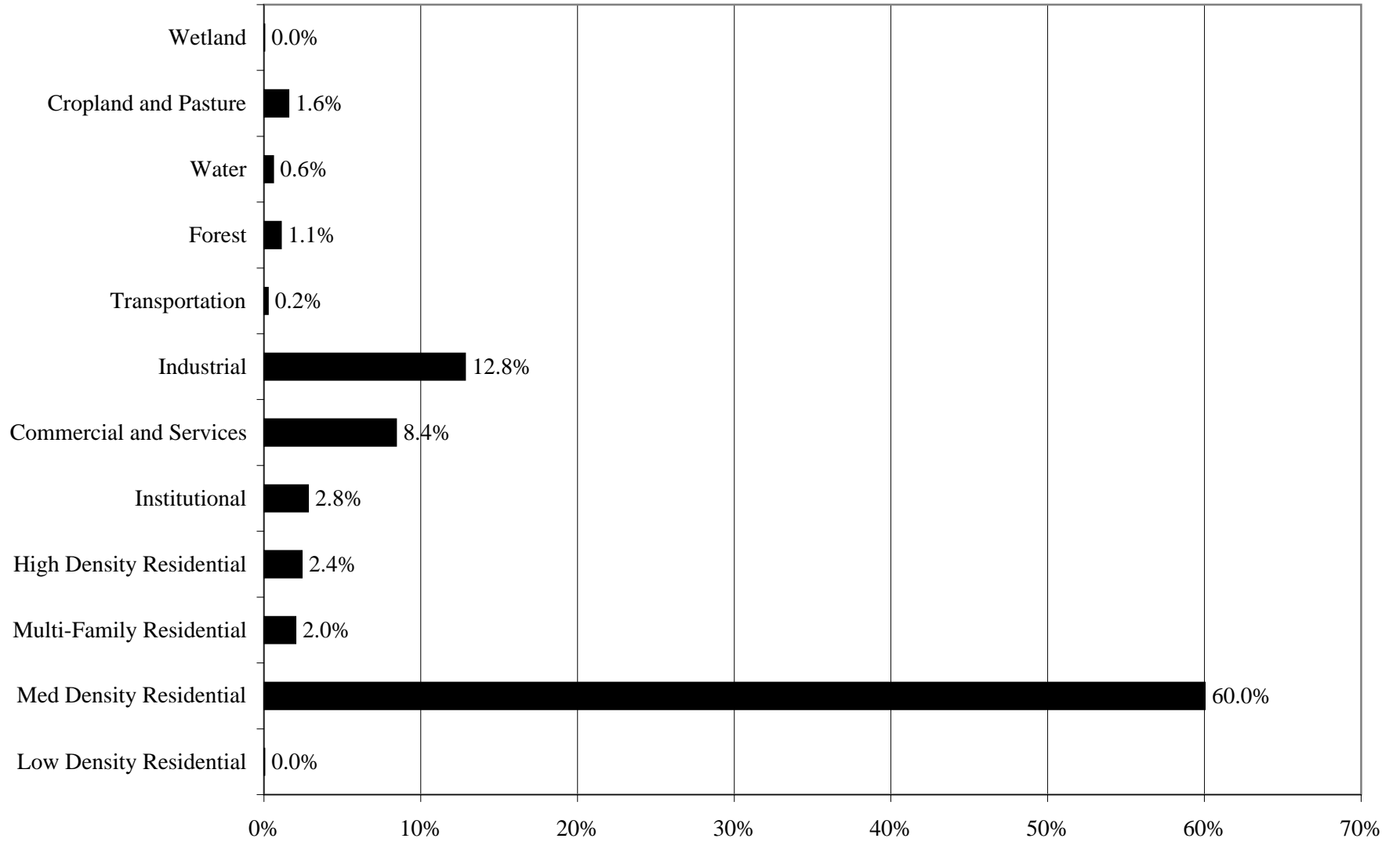


Figure 5.2f Land Use - Percent of Service Area

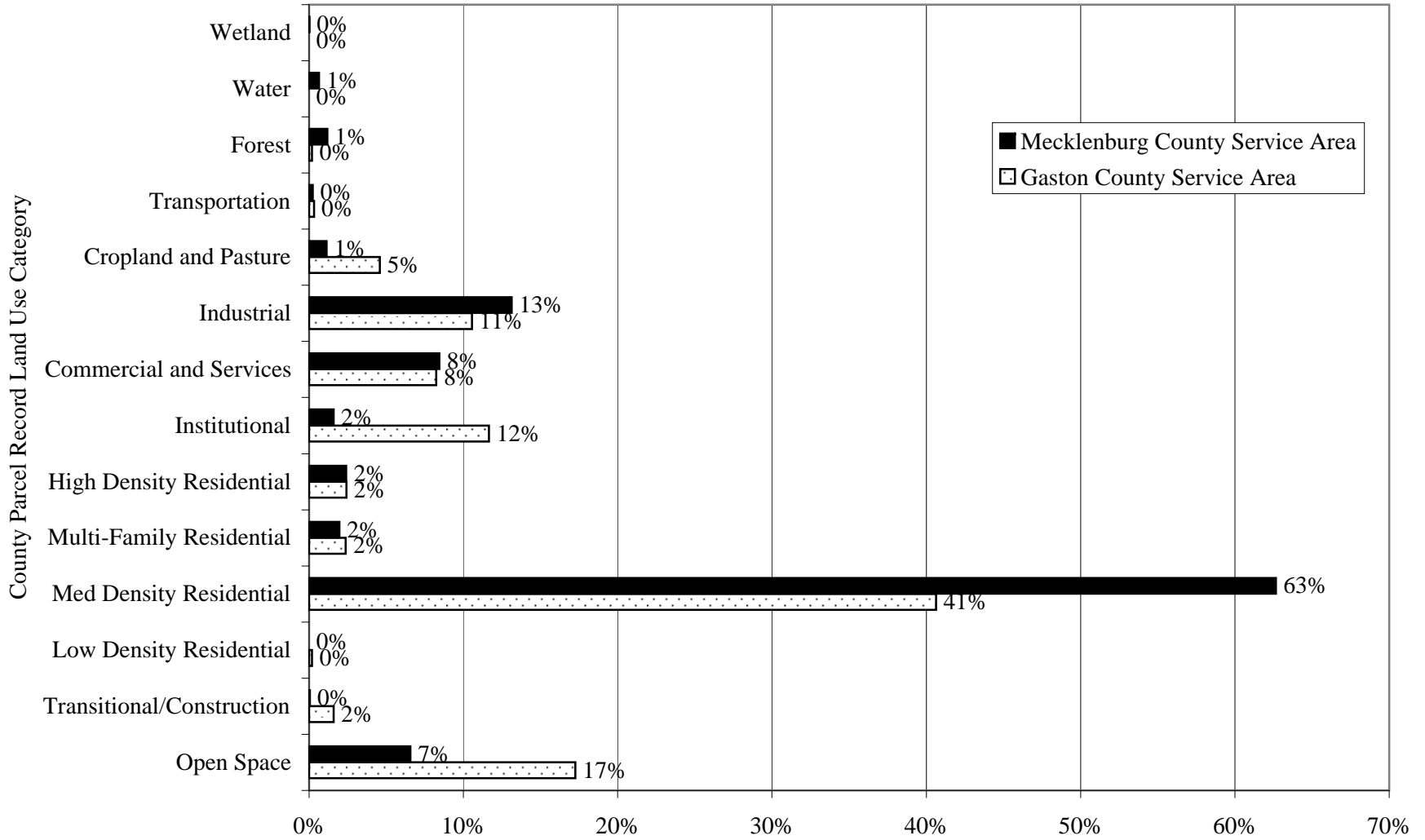
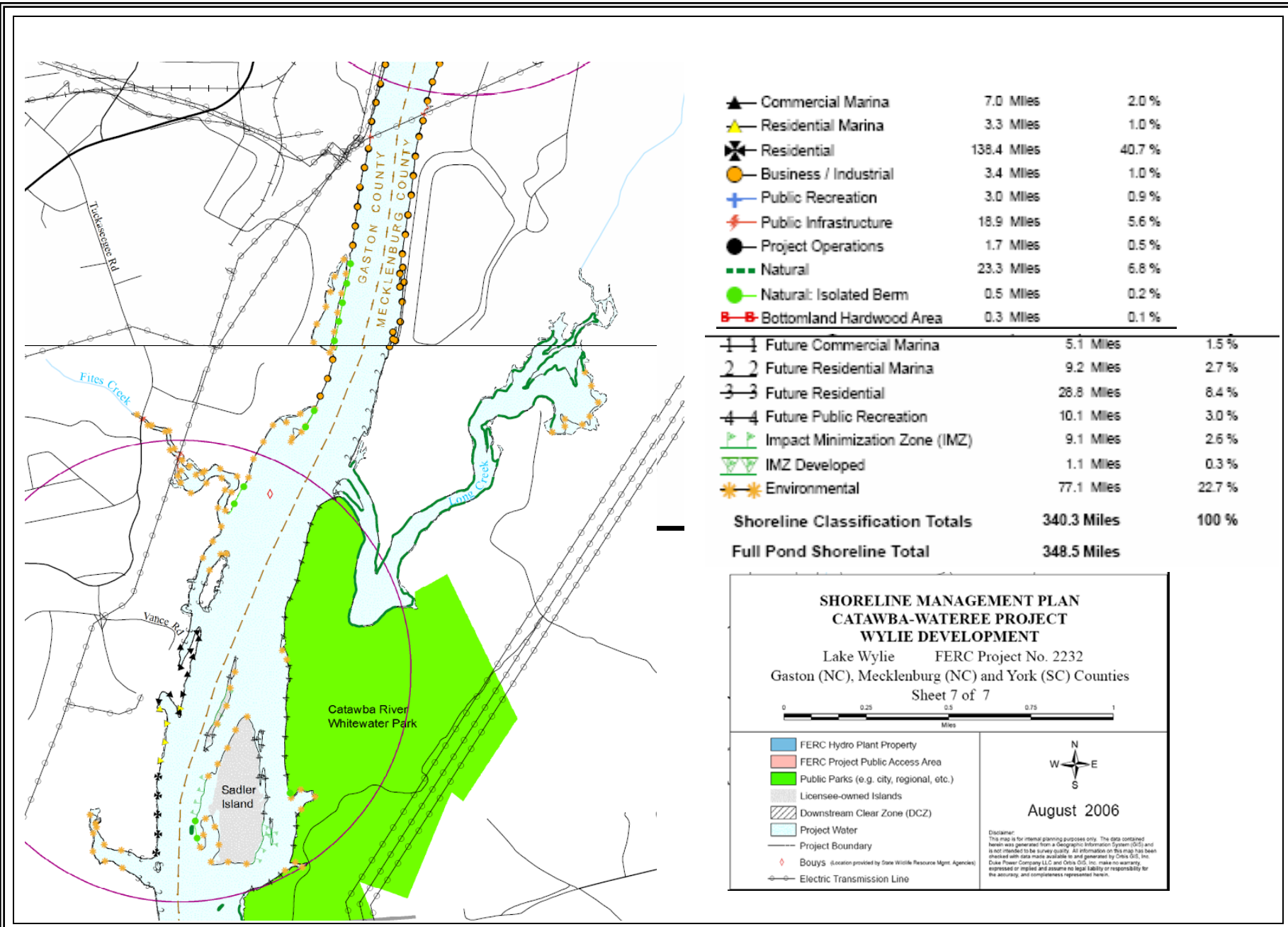


Figure 5.2g Land Use - Percent of Service Area within County



▲ Commercial Marina	7.0 Miles	2.0 %
▲ Residential Marina	3.3 Miles	1.0 %
⊠ Residential	138.4 Miles	40.7 %
● Business / Industrial	3.4 Miles	1.0 %
⊕ Public Recreation	3.0 Miles	0.9 %
⚡ Public Infrastructure	18.9 Miles	5.6 %
● Project Operations	1.7 Miles	0.5 %
■ Natural	23.3 Miles	6.8 %
● Natural: Isolated Berm	0.5 Miles	0.2 %
■ Bottomland Hardwood Area	0.3 Miles	0.1 %
<hr/>		
1-1 Future Commercial Marina	5.1 Miles	1.5 %
2-2 Future Residential Marina	9.2 Miles	2.7 %
3-3 Future Residential	28.8 Miles	8.4 %
4-4 Future Public Recreation	10.1 Miles	3.0 %
🚩 Impact Minimization Zone (IMZ)	9.1 Miles	2.6 %
🚩 IMZ Developed	1.1 Miles	0.3 %
⚡ Environmental	77.1 Miles	22.7 %
<b>Shoreline Classification Totals</b>	<b>340.3 Miles</b>	<b>100 %</b>
<b>Full Pond Shoreline Total</b>	<b>348.5 Miles</b>	

**SHORELINE MANAGEMENT PLAN  
CATAWBA-WATEREE PROJECT  
WYLIE DEVELOPMENT**

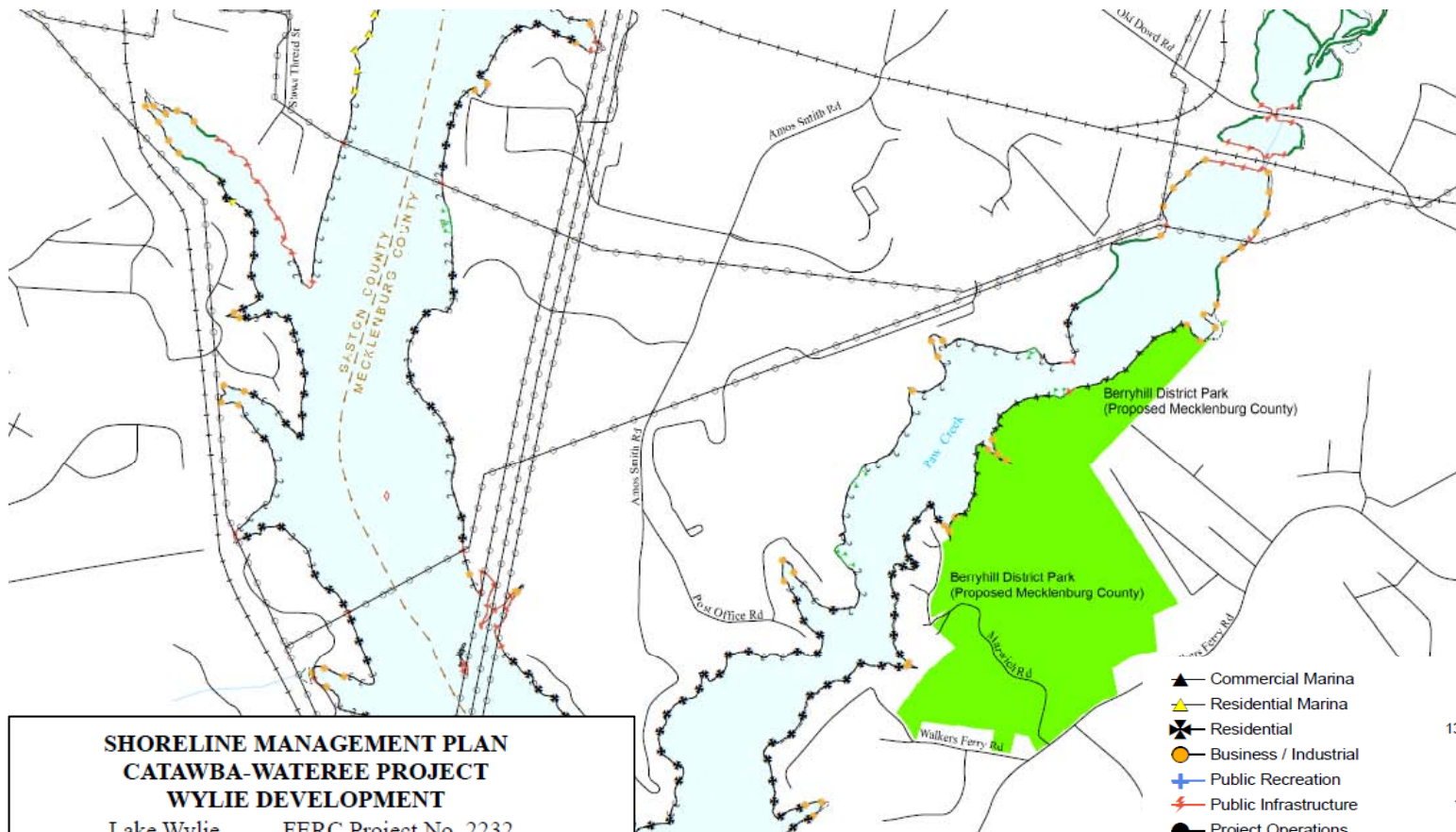
Lake Wylie    FERC Project No. 2232  
Gaston (NC), Mecklenburg (NC) and York (SC) Counties  
Sheet 7 of 7

0    0.25    0.5    0.75    1  
Miles

■ FERC Hydro Plant Property	N W — E S
■ FERC Project Public Access Area	
■ Public Parks (e.g. city, regional, etc.)	<b>August 2006</b>
■ Licensee-owned Islands	
▨ Downstream Clear Zone (DCZ)	Disclaimer: This map is for internal planning purposes only. The data contained herein was generated from a Geographic Information System (GIS) and is not intended to be survey quality. All information on this map has been checked with data made available to and generated by Duke Energy, Inc., Duke Power Company LLC and Orlow GIS, Inc. make no warranty, expressed or implied and assume no legal liability or responsibility for the accuracy and completeness represented herein.
■ Project Water	
— Project Boundary	
◇ Bouys (Location provided by State Wildlife Resource Mgmt. Agencies)	
— Electric Transmission Line	

CMU-Mount Holly WWTP EIS  
Figure 6.1c – Duke SMP Classification

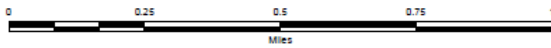




**SHORELINE MANAGEMENT PLAN  
CATAWBA-WATEREE PROJECT  
WYLIE DEVELOPMENT**

Lake Wylie FERC Project No. 2232  
Gaston (NC), Mecklenburg (NC) and York (SC) Counties

Sheet 5 of 7



- FERC Hydro Plant Property
- FERC Project Public Access Area
- Public Parks (e.g. city, regional, etc.)
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August 2006

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**CMU-Mount Holly WWTP EIS  
Figure 6.1d– Duke SMP Classification**

