

APPENDIX 3-A

USE SUPPORT RATINGS FOR ALL MONITORED WATERBODIES 2010 DRAFT

DRAFT 2010 IR CATEGORY	INTEGRATED REPORTING CATEGORIES FOR INDIVIDUAL ASSESSMENT UNIT/USE SUPPORT CATEGORY/PARAMETER ASSESSMENTS. A SINGLE AU CAN HAVE MULTIPLE ASSESSMENTS DEPENDING ON DATA AVAILABLE AND CLASSIFIED USES.
1	All designated uses are monitored and supporting
1b	Designated use was impaired, other management strategy in place and no standards violations for the parameter of interest (POI)
1nc	DWQ have made field determination that parameter in exceedance is due to natural conditions
1r	Assessed as supporting watershed is in restoration effort status
1t	No criteria exceeded but approved TMDL for parameter of interest
2	Some designated uses are monitored and supporting none are impaired Overall only
2b	Designated use was impaired other management strategy in place and no standards violations Overall only
2r	Assessed as supporting watershed is in restoration effort status overall only
2t	No criteria exceeded but approved TMDL for POI Overall only
3a	Instream/monitoring data are inconclusive (DI)
3b	No Data available for assessment
3c	No data or information to make assessment
3n1	Chlorophyll a exceeds TL value and SAC is met-draft
3n2	Chlorophyll a exceeds EL value and SAC is not met first priority for further monitoring-draft
3n3	Chlorophyll a exceeds threshold value and SAC is not met first second priority for further monitoring-draft
3n4	Chlorophyll a not available determine need to collect-draft
3t	No Data available for assessment -AU is in a watershed with an approved TMDL
4b	Designated use impaired other management strategy expected to address impairment
4c	Designated use impaired by something other than pollutant
4cr	Recreation use impaired no instream monitoring data or screening criteria exceeded
4cs	Shellfish harvesting impaired no instream monitoring data- no longer used
4ct	Designated use impaired but water is subject to approved TMDL or under TMDL development
4s	Impaired Aquatic Life with approved TMDL for Aquatic Life POI or category 5 listing
4t	Designated use impaired approved TMDL
5	Designated use impaired because of biological or ambient water quality standards violations and needing a TMDL
5r	Assessed as impaired watershed is in restoration effort status

All Waters in NC are in Category 5-303(d) List for Mercury due to statewide fish consumption advice for several fish species

AU_Number	AU_Name	AU_Description	LengthArea	AU_Units	Classification
IR Cat	Parameter	Reason for Rating	Use Category	Collection Year	303(d)year
⊙ 11-129-(10.5)	South Fork Catawba River	From Town of High Shoals water supply intake to a point 0.6 mile upstream of N.C. Hwy. 275		8.1 FW Miles	WS-IV
3a	Fecal Coliform (recreation)	Potential Standards Violation	Recreation	2008	
5	Turbidity	Standard Violation	Aquatic Life	2008	2010
1	Water Quality Standards Water Supply	No Criteria Exceeded	Water Supply	2008	
⊙ 11-129-(14.5)	South Fork Catawba River	From a point 0.6 mile upstream of N.C. Hwy. 275 to a point 0.4 mile upstream of Long Creek (Towns of Dallas, Gastonia & Ranlo water supply intakes)		2.5 FW Miles	WS-IV;CA
1	Fecal Coliform (recreation)	No Criteria Exceeded	Recreation	2008	
5	Turbidity	Standard Violation	Aquatic Life	2008	2010
1	Water Quality Standards Water Supply	No Criteria Exceeded	Water Supply	2008	
⊙ 11-129-(15.5)	South Fork Catawba River	From a point 0.4 mile upstream of Long Creek to Cramerton Dam and Lake Wylie at Upper Armstrong Bridge		18.1 FW Miles	WS-V
3a	Fecal Coliform (recreation)	Potential Standards Violation	Recreation	2008	
5	Low pH	Standard Violation	Aquatic Life	2008	2010
5	Turbidity	Standard Violation	Aquatic Life	2008	2008
1	Water Quality Standards Water Supply	No Criteria Exceeded	Water Supply		
Catawba River Basin			Catawba River Subbasin		03050103
Catawba River Basin			Sugar Creek Watershed		0305010301
⊙ 11-137-1	Irwin Creek	From source to Sugar Creek		11.8 FW Miles	C
5	Copper	Standard Violation	Aquatic Life	2006	2010
4s	Ecological/biological Integrity FishCom	Poor Bioclassification	Aquatic Life	2004	1998
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	2008
5	Lead	Standard Violation	Aquatic Life	2006	2008
1t	Low Dissolved Oxygen	No Criteria Exceeded	Aquatic Life	1996	
4t	Turbidity	Standard Violation	Aquatic Life	2008	2000
5	Zinc	Standard Violation	Aquatic Life	2006	2010

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AU_Number	AU_Name	AU_Description	LengthArea	AU_Units	Classification
IR Cat	Parameter	Reason for Rating	Use Category	Collection Year	303(d)year
⊙ 11-137-8a	Little Sugar Creek	From source to Archdale Rd		11.6 FW Miles	C
5	Copper	Standard Violation	Aquatic Life	2008	2008
4s	Ecological/biological Integrity Benthos	Poor Bioclassification	Aquatic Life	2008	2008
4s	Ecological/biological Integrity FishCom	Fair Bioclassification	Aquatic Life	2007	2010
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	1998
4t	Turbidity	Standard Violation	Aquatic Life	2008	2010
5	Water column Mercury	Standard Violation	Fish Consumption	2008	2010
⊙ 11-137-8b	Little Sugar Creek	From Archdale Rd to NC 51		5.5 FW Miles	C
5	Copper	Standard Violation	Aquatic Life	2006	2010
4s	Ecological/biological Integrity Benthos	Fair Bioclassification	Aquatic Life	2007	1998
4s	Ecological/biological Integrity FishCom	Fair Bioclassification	Aquatic Life	2007	2010
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	1998
⊙ 11-137-8c	Little Sugar Creek	From NC 51 to North Carolina-South Carolina State Line		3.0 FW Miles	C
4s	Ecological/biological Integrity Benthos	Poor Bioclassification	Aquatic Life	1983	2000
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	1998
1t	Low Dissolved Oxygen	No Criteria Exceeded	Aquatic Life	1996	
4t	Turbidity	Data Inconclusive	Aquatic Life		2000
⊙ 11-137-9a	McAlpine Creek (Waverly Lake)	From source to SR 3356, (Sardis Rd)		8.5 FW Miles	C
5	Ecological/biological Integrity Benthos	Fair Bioclassification	Aquatic Life	1987	1998
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	1998
1t	Low Dissolved Oxygen	No Criteria Exceeded	Aquatic Life	1996	
1t	Turbidity	No Criteria Exceeded	Aquatic Life	2008	1998
1	Water Quality Standards Aquatic Life	No Criteria Exceeded	Aquatic Life	2008	
⊙ 11-137-9b	McAlpine Creek (Waverly Lake)	From SR 3356 to NC 51		6.3 FW Miles	C
5	Ecological/biological Integrity Benthos	Fair Bioclassification	Aquatic Life	1987	1998
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	1998
1t	Low Dissolved Oxygen	No Criteria Exceeded	Aquatic Life	1996	
1t	Turbidity	No Criteria Exceeded	Aquatic Life	2008	1998
1	Water Quality Standards Aquatic Life	No Criteria Exceeded	Aquatic Life	2008	

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AU_Number	AU_Name	AU_Description	LengthArea	AU_Units	Classification
IR Cat	Parameter	Reason for Rating	Use Category	Collection Year	303(d)year

11-137-9c	McAlpine Creek (Waverly Lake)	From NC 51 to NC 521		4.6 FW Miles	C
5	Ecological/biological Integrity Benthos	Fair Bioclassification	Aquatic Life	2002	2000
5	Ecological/biological Integrity FishCom	Fair Bioclassification	Aquatic Life	2004	2000
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	1998
1t	Low Dissolved Oxygen	No Criteria Exceeded	Aquatic Life	1996	
1t	Turbidity	No Criteria Exceeded	Aquatic Life	2008	1998

11-137-9d	McAlpine Creek (Waverly Lake)	From NC 521 to North Carolina-South Carolina State Line		1.0 FW Miles	C
5	Ecological/biological Integrity Benthos	Fair Bioclassification	Aquatic Life	1992	1998
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2006	1998
1t	Low Dissolved Oxygen	No Criteria Exceeded	Aquatic Life	1996	
1t	Turbidity	No Criteria Exceeded	Aquatic Life	2008	
1	Water Quality Standards Aquatic Life	No Criteria Exceeded	Aquatic Life	2008	

11-137-7	McCullough Branch	From source to Sugar Creek		3.1 FW Miles	C
5	Ecological/biological Integrity Benthos	Poor Bioclassification	Aquatic Life	1990	1998

11-137-9-5	McMullen Creek	From source to McAlpine Creek		13.8 FW Miles	C
5	Ecological/biological Integrity Benthos	Poor Bioclassification	Aquatic Life	2008	2010
1	Ecological/biological Integrity FishCom	Good Bioclassification	Aquatic Life	2007	
1	Water Quality Standards Aquatic Life	No Criteria Exceeded	Aquatic Life	2008	

11-137a	Sugar Creek	From source to below WWTP, SR 1156, Mecklenburg		0.3 FW Miles	C
5	Ecological/biological Integrity Benthos	Poor Bioclassification	Aquatic Life	2002	1998

11-137b	Sugar Creek	From SR 1156 Mecklenburg to Hwy 51		10.9 FW Miles	C
5	Ecological/biological Integrity Benthos	Fair Bioclassification	Aquatic Life	2007	2000
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	2000
1t	Turbidity	No Criteria Exceeded	Aquatic Life	2008	2000

11-137c	Sugar Creek	From Hwy 51 NC/SC border		2.5 FW Miles	C
5	Copper	Standard Violation	Aquatic Life	2006	2010
4s	Ecological/biological Integrity Benthos	Fair Bioclassification	Aquatic Life	2002	1998
4t	Fecal Coliform (recreation)	Standard Violation	Recreation	2008	2000
1t	Turbidity	No Criteria Exceeded	Aquatic Life	2008	2000

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AU_Number	AU_Name	AU_Description	LengthArea	AU_Units	Classification
IR Cat	Parameter	Reason for Rating	Use Category	Collection Year	303(d)year
Catawba River Basin			Twelvemile Creek Watershed		0305010302
11-138-2	East Fork Twelvemile Creek	From source to Twelvemile Creek		13.6 FW Miles	C
1	Ecological/biological Integrity FishCom	Good Bioclassification	Aquatic Life	2007	
11-138-3	Sixmile Creek	From source to North Carolina-South Carolina State Line		8.8 FW Miles	C
5	Ecological/biological Integrity FishCom	Fair Bioclassification	Aquatic Life	2002	2006
11-138	Twelvemile Creek	From source to North Carolina-South Carolina State Line		3.0 FW Miles	C
5	Copper	Standard Violation	Aquatic Life	2006	2008
4s	Ecological/biological Integrity FishCom	Fair Bioclassification	Aquatic Life	2002	2010
3a	Fecal Coliform (recreation)	Potential Standards Violation	Recreation	2008	
5	Turbidity	Standard Violation	Aquatic Life	2008	2008
11-138-1	West Fork Twelvemile Creek	From source to Twelvemile Creek		12.9 FW Miles	C
1	Ecological/biological Integrity FishCom	Good Bioclassification	Aquatic Life	2007	
Catawba River Basin			Fishing Creek Reservoir-Catawba River Watershed		0305010306
11-139	Waxhaw Creek	From source to North Carolina-South Carolina State Line		16.3 FW Miles	C
1	Ecological/biological Integrity FishCom	Good Bioclassification	Aquatic Life	2007	

APPENDIX 3-B

BIOLOGICAL (BENTHIC & FISH) SAMPLE SITE SHEETS

FISH COMMUNITY SAMPLE

Waterbody	Location	Date	Station ID	Bioclassification
IRWIN CR	off US 521	07/15/04	CF23	Poor

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
MECKLENBURG	34	03050103	35.19777778	-80.90472222	11-137-1	Southern Outer Piedmont

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Average Depth (m)	Reference Site
C	30.7	595	7	0.3	No

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	5	95	0	0

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
None	---	---

Water Quality Parameters

Temperature (°C)	28.5
Dissolved Oxygen (mg/L)	9.7
Specific Conductance (µS/cm)	230
pH (s.u.)	8.2

Water Clarity	Clear
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Habitat Assessment Scores (max)

Channel Modification (5)	4
Instream Habitat (20)	15
Bottom Substrate (15)	6
Pool Variety (10)	4
Riffle Habitat (16)	12
Left Bank Stability (7)	5
Right Bank Stability (7)	5
Light Penetration (10)	7
Left Riparian Score (5)	5
Right Riparian Score (5)	5
Total Habitat Score (100)	68

Site Photograph



Substrate	Gravel, cobble, and sand
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Sample Date	Sample ID	Species Total	NCIBI	Bioclassification
07/15/04	2004-124	8	32	Poor

Most Abundant Species	Redbreast Sunfish	Exotic Species	Green Sunfish
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Species Change Since Last Cycle	N/A
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Data Analysis

Watershed -- tributary to Sugar Creek; drains the northwest portion of the City of Charlotte; site is on the property of the Charlotte Mecklenburg Utility District's Irwin Creek WWTP, but above its discharge. **Habitat** -- an open canopy; gravel runs; thick periphyton; no deadfalls or snags; urban debris in stream and along the banks. **2004** -- elevated conductivity due to urban runoff; elevated pH and dissolved oxygen due to afternoon periphytic photosynthesis; typical urban stream -- almost 60% of all the fish were the tolerant Redbreast Sunfish; total diversity lower than expected; fewest species of any fish community site in the basin, 2004 - 2007; darters, suckers, and intolerant species were absent; skewed trophic structure, more than 90% of all the fish were insectivores; Creek Chubsucker was represented only by young-of-year; data were also used as part of a NCSU Urban Fish Study. Similar to downstream site on Sugar Creek at SR 1156 which was also rated Poor in 1999.

BENTHIC MACROINVERTEBRATE SAMPLE

Waterbody	Location	Station ID	Date	Bioclassification
SUGAR CR	SR 1156	CB157	07/11/07	Fair

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
MECKLENBURG	34	3050103	351124	805451	0	Southern Outer Piedmont

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Stream Depth (m)
C	37	600	13	0.3

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	90	10	0	0

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
Irwin Creek WWTP	NC0024945	15.0

Water Quality Parameters

Temperature (°C)	25.9
Dissolved Oxygen (mg/L)	0
Specific Conductance (µS/cm)	294
pH (s.u.)	7.2
Water Clarity	slightly turbid

Site Photograph



Habitat Assessment Scores (max)

Channel Modification (5)	5
Instream Habitat (20)	12
Bottom Substrate (15)	8
Pool Variety (10)	10
Riffle Habitat (16)	12
Left Bank Stability (7)	6
Right Bank Stability (7)	6
Light Penetration (10)	3
Left Riparian Score (5)	4
Right Riparian Score (5)	4
Total Habitat Score (100)	70

Substrate	Mix of boulder, rubble, gravel and sand
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Sample Date	Sample ID	ST	EPT	BI	EPT BI	Bioclassification
07/11/07	10238	---	8	---	6.66	Fair
08/20/02	8929	---	5	---	7.00	Poor
08/21/97	7440	---	7	---	6.15	Fair
08/18/92	5982	45	4	7.97	7.03	Poor

Taxonomic Analysis

Minor shifts in the abundance and/or presence/absence of mayfly taxa have occurred between sampling events. *Baetis flavistriga* were Abundant in all four samples. *Baetis intercalaris* were not collected in 1992 or 1997 but were Common in 2002 and Abundant in 2007. *Pseudocloeon propinquum* had not been collected prior to 2007 and *Tricorythodes* had not been collected prior to 2002. *Maccaffertium modestum* were Common in 2007 but either absent or Rare in previous samples.

Data Analysis

This site is located in downtown Charlotte and below Irwin Creek WWTP. Although Sugar Creek has alternated between Poor and Fair bioclassifications the four times it has been sampled, there have been no major changes in water quality. The 1997 and 2007 samples were borderline Poor/Fair. For EPT samples taken in the Piedmont ecoregion, sites with less than six EPT taxa would receive a Poor rating.

BENTHIC MACROINVERTEBRATE SAMPLE

Waterbody	Location	Station ID	Date	Bioclassification
L SUGAR CR	NC 51	CB146	07/11/07	Fair

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
MECKLENBURG	34	3050103	350506	805256	0	Southern Outer Piedmont

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Stream Depth (m)
C	49	545	20	0.2

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	20	80	0	0

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
Sugar Creek WWTP	NC0024937	20.0

Water Quality Parameters

Temperature (°C)	30.4
Dissolved Oxygen (mg/L)	0
Specific Conductance (µS/cm)	338
pH (s.u.)	7.3

Water Clarity	slightly turbid
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Habitat Assessment Scores (max)

Channel Modification (5)	5
Instream Habitat (20)	10
Bottom Substrate (15)	6
Pool Variety (10)	6
Riffle Habitat (16)	4
Left Bank Stability (7)	3
Right Bank Stability (7)	3
Light Penetration (10)	2
Left Riparian Score (5)	2
Right Riparian Score (5)	2
Total Habitat Score (100)	43

Site Photograph



Substrate	Mostly sand with some boulder, rubble and gravel
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Sample Date	Sample ID	ST	EPT	BI	EPT BI	Bioclassification
07/11/07	10239	---	8	---	6.41	Fair
08/19/02	8925	---	6	---	6.71	Poor
08/21/97	7441	---	7	---	6.92	Fair
09/19/92	5983	43	3	8.11	6.37	Poor

Taxonomic Analysis

Taxa observed in 2007 indicated a gradual increase in mayfly taxa. Only one mayfly species was collected in 1992. Three mayfly taxa were collected in 1997. Four mayfly taxa were collected in 2002 and five mayfly taxa were collected in 2007. Mayfly taxa collected in 2007 that had not been previously collected include *Pseudocloeon propinquum*, *Maccaffertium modestum* and *Tricorythodes*.

Data Analysis

This site is located below Sugar Creek WWTP and its entire watershed is located within the city of Charlotte. The bioclassification rating has alternated between Poor and Fair since 1992. Although the site received Fair ratings in 1997 and 2007, the EPT taxa richness increased by one taxa in 1997 and by two taxa in 2007 to make it a borderline Fair/Poor rating.

FISH COMMUNITY SAMPLE

Waterbody	Location	Date	Station ID	Bioclassification
LITTLE SUGAR CR	NC 51	04/24/07	CF28	Fair

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
MECKLENBURG	34	03050103	35.085	-80.88277778	11-137-8b	Southern Outer Piedmont

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Average Depth (m)	Reference Site
C	49.2	540	13	0.4	No

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	0	80	0	20 (constructed wetland)

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
Charlotte Mecklenburg Utility District's Sugar Creek WWTP	0024937	20

Water Quality Parameters

Temperature (°C)	18.1
Dissolved Oxygen (mg/L)	6.9
Specific Conductance (µS/cm)	330
pH (s.u.)	6.9

Water Clarity	Clear
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Site Photograph



Habitat Assessment Scores (max)

Channel Modification (5)	3
Instream Habitat (20)	9
Bottom Substrate (15)	3
Pool Variety (10)	6
Riffle Habitat (16)	3
Left Bank Stability (7)	2
Right Bank Stability (7)	2
Light Penetration (10)	2
Left Riparian Score (5)	2
Right Riparian Score (5)	3
Total Habitat Score (100)	35

Substrate	Sand and some cobble
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Sample Date	Sample ID	Species Total	NCIBI	Bioclassification
04/24/07	2007-25	14	40	Fair
04/15/99	99-16	12	42	Good-Fair
06/30/97	97-65	12	40	Fair

Most Abundant Species	Redbreast Sunfish	Exotic Species	Green Sunfish
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Species Change Since Last Cycle	Gains -- Swallowtail Shiner, Brassy Jumprock, Margined Madtom, Warmouth, and Tessellated Darter. Losses -- Creek Chubsucker, White Catfish, and Largemouth Bass
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Data Analysis

Watershed -- tributary to Sugar Creek; drains southern Mecklenburg County, including the City of Charlotte metropolitan area. **Habitat** -- poor habitats; sandy, shallow runs with willow snags and rip/rap; urban debris and tires in the stream and along the banks; periphyton atop the rocks; slight sewage odor; black iron pipe across the stream created a riffle/plunge; artificial wetland constructed along the right shoreline. **2007** -- second highest conductivity at a fish community site in the basin in 2007; a very abundant, but tolerant community; diversity lower than expected for a streams of its size; all species gained in 2007 were collected for the first time from the site, but their numbers were 1-4 fish/species; Eastern Mosquitofish abundant in the shallow areas; intolerant species were absent. **1997 - 2007** -- conductivity has ranged from 330 to 552 µS/cm; 19 species known from the site; the tolerant Redbreast Sunfish has always been the dominant species; no intolerant species known from the site; total habitat scores have ranged from 30 to 35.

FISH COMMUNITY SAMPLE

Waterbody	Location	Date	Station ID	Bioclassification
MCALPINE CR	NC 51	07/16/04	CF39	Fair

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
MECKLENBURG	34	03050103	35.08527778	-80.83416667	11-137-9c	Southern Outer Piedmont

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Average Depth (m)	Reference Site
C	52.6	550	13 (variable)	0.2	No

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	80	20	0	0

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
None	---	---

Water Quality Parameters

Temperature (°C)	23.5
Dissolved Oxygen (mg/L)	5.3
Specific Conductance (µS/cm)	158
pH (s.u.)	6.3

Water Clarity	Slightly turbid
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Site Photograph



Habitat Assessment Scores (max)

Channel Modification (5)	4
Instream Habitat (20)	9
Bottom Substrate (15)	3
Pool Variety (10)	6
Riffle Habitat (16)	1
Left Bank Stability (7)	1
Right Bank Stability (7)	1
Light Penetration (10)	8
Left Riparian Score (5)	5
Right Riparian Score (5)	4
Total Habitat Score (100)	42

Substrate	Sand
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Sample Date	Sample ID	Species Total	NCIBI	Bioclassification
07/16/04	2004-125	13	36	Fair

Most Abundant Species	Redbreast Sunfish	Exotic Species	Green Sunfish
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Species Change Since Last Cycle	N/A
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Data Analysis

This is the first fish community sample collected at this site. **Watershed** -- tributary to Sugar Creek; drains the southeastern portion of the City of Charlotte metropolitan area. **Habitat** -- very shallow, sandy, braided runs; stick riffles; side undercuts and snags; severe bank erosion and deeply entrenched; urban debris in stream and along the banks. **2004** -- elevated conductivity; low diversity for a stream of its size, only one species of darter and sucker collected; Bluehead Chub and White Sucker represented only by young-of-year; intolerant species absent; almost 60% of all the fish were Redbreast Sunfish; percentage of tolerant fish (White Catfish, Flat Bullhead, Eastern Mosquitofish, Green Sunfish, and Redbreast Sunfish) was high; skewed trophic structure, 95% of all the fish were insectivores; data were also used as part of a NCSU Urban Fish Study.

FISH COMMUNITY SAMPLE

Waterbody	Location	Date	Station ID	Bioclassification
MCMULLEN CR	off NC 51	03/27/07	CF71	Good

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
MECKLENBURG	34	03050103	35.0789656	-80.8611333	11-137-9-5	Southern Outer Piedmont

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Average Depth (m)	Reference Site
C	13.9	540	5	0.4	No

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	85	15 (suburban)	0	0

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
None	---	---

Water Quality Parameters

Temperature (°C)	17.8
Dissolved Oxygen (mg/L)	7.8
Specific Conductance (µS/cm)	347
pH (s.u.)	6.1

Water Clarity	Clear
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Habitat Assessment Scores (max)

Channel Modification (5)	4
Instream Habitat (20)	11
Bottom Substrate (15)	3
Pool Variety (10)	6
Riffle Habitat (16)	0
Left Bank Stability (7)	3
Right Bank Stability (7)	3
Light Penetration (10)	10
Left Riparian Score (5)	4
Right Riparian Score (5)	5
Total Habitat Score (100)	49

Site Photograph



Substrate	Sand
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Sample Date	Sample ID	Species Total	NCIBI	Bioclassification
03/27/07	2007-01	14	50	Good

Most Abundant Species	Spottail Shiner	Exotic Species	Green Sunfish
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Species Change Since Last Cycle	N/A
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Data Analysis

This is the first fish community sample collected at this site. **Watershed** -- tributary to the Catawba River; drains the southeastern portion of the City of Charlotte metropolitan area. **Habitat** -- sandy runs; side snags; wide and shallow with sand bars; eroding banks; no riffles; wide and forested riparian zones in a bottomland forest; good canopy. **2007** -- very low flow; elevated specific conductance due to urban runoff (no WWTP in the watershed), the highest conductivity of any fish community site in the basin in 2007; only one species of darter (Tessellated Darter) present; intolerant species were absent; moderately elevated percentage of tolerant fish (White Sucker, White Catfish, Flat Bullhead, Eastern Mosquitofish, Redbreast Sunfish, and Green Sunfish); data were also used as part of the 2007 Probabilistic Monitoring Special Study.

FISH COMMUNITY SAMPLE

Waterbody	Location	Date	Station ID	Bioclassification
W FK TWELVEMILE CR	SR 1321	04/23/07	CF59	Good

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
UNION	38	03050103	34.957603	-80.751853	11-138-1	Carolina Slate Belt

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Average Depth (m)	Reference Site
C	22.3	495	9	0.4	No

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	75	0	20	5 (sewer right-of-way)

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
None	---	---

Water Quality Parameters

Temperature (°C)	17.7
Dissolved Oxygen (mg/L)	8.9
Specific Conductance (µS/cm)	112
pH (s.u.)	6.9

Water Clarity	Clear
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Habitat Assessment Scores (max)

Channel Modification (5)	4
Instream Habitat (20)	16
Bottom Substrate (15)	10
Pool Variety (10)	6
Riffle Habitat (16)	7
Left Bank Stability (7)	4
Right Bank Stability (7)	6
Light Penetration (10)	6
Left Riparian Score (5)	4
Right Riparian Score (5)	4
Total Habitat Score (100)	67

Site Photograph



Substrate	Gravel, sand, and a little bit of cobble
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Sample Date	Sample ID	Species Total	NCIBI	Bioclassification
04/23/07	2007-23	18	48	Good

Most Abundant Species	Tessellated Darter	Exotic Species	Black Bullhead and Green Sunfish
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Species Change Since Last Cycle	N/A
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Data Analysis

This is the first fish community sample collected at this site. **Watershed** -- tributary to Twelvemile Creek (and ultimately the Catawba River); drains southwestern Union County including the City of Charlotte metropolitan area suburbs, but no true municipalities in the watershed. **Habitat** -- side snags; riffle at sewer right-of-way; open canopy; a Carolina Slate Belt type stream. **2007** -- a very diverse and abundant community; intolerant species were absent, also absent from Twelvemile Creek at NC 16 and East Fork Twelvemile Creek at SR 1008; many Tessellated Darters were in the gravel and woody debris along the sides; Creek Chubsucker was abundant, but represented only by young-of-year; fauna typical of a lower piedmont Catawba River basin stream.

FISH COMMUNITY SAMPLE

Waterbody	Location	Date	Station ID	Bioclassification
E FK TWELVEMILE CR	SR 1008	04/23/07	CF60	Good

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
UNION	38	03050103	34.963781	-80.710425	11-138-2	Carolina Slate Belt

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Average Depth (m)	Reference Site
C	33.7	550	11	0.5	No

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	95	5 (rural residential)	0	0

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
None	---	---

Water Quality Parameters

Temperature (°C)	18.0
Dissolved Oxygen (mg/L)	8.5
Specific Conductance (µS/cm)	180
pH (s.u.)	7.1

Water Clarity	Slightly turbid
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Habitat Assessment Scores (max)

Channel Modification (5)	5
Instream Habitat (20)	16
Bottom Substrate (15)	3
Pool Variety (10)	10
Riffle Habitat (16)	7
Left Bank Stability (7)	3
Right Bank Stability (7)	3
Light Penetration (10)	9
Left Riparian Score (5)	5
Right Riparian Score (5)	5
Total Habitat Score (100)	66

Site Photograph



Substrate	Gravel, sand, and some cobble
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Sample Date	Sample ID	Species Total	NCIBI	Bioclassification
04/23/07	2007-24	14	48	Good

Most Abundant Species	Bluehead Chub and Carolina Darter	Exotic Species	Green Sunfish
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Species Change Since Last Cycle	N/A
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Data Analysis

This is the first fish community sample collected at this site. **Watershed** -- tributary to Twelvemile Creek (and ultimately the Catawba River); drains southwestern Union County; no municipalities in the watershed. **Habitat** -- entrenched and eroding banks; one large "blow-out" claypan deep pool; coarse woody debris; snags, roots, and undercuts. **2007** -- conductivity elevated, much greater than at nearby West Fork Twelvemile Creek, but no WWTPs in the watershed, probably from nonpoint source runoff; diversity slightly lower than expected, only one species of darter present; Redfin Pickerel represented by only young-of-year; intolerant species were absent, also absent from Twelvemile Creek at NC 16 and West Fork Twelvemile Creek at SR 1321.

FISH COMMUNITY SAMPLE

Waterbody	Location	Date	Station ID	Bioclassification
WAXHAW CR	SR 1103	04/23/07	CF58	Good

County	Subbasin	8 digit HUC	Latitude	Longitude	AU Number	Level IV Ecoregion
UNION	38	03050103	34.83666667	-80.79166667	11-139	Southern Outer Piedmont

Stream Classification	Drainage Area (mi2)	Elevation (ft)	Stream Width (m)	Average Depth (m)	Reference Site
C	35	495	7	0.3	No

Visible Landuse (%)	Forested/Wetland	Urban	Agriculture	Other (describe)
	80	0	20	0

Upstream NPDES Dischargers (>1MGD or <1MGD and within 1 mile)	NPDES Number	Volume (MGD)
None	---	---

Water Quality Parameters

Temperature (°C)	15.2
Dissolved Oxygen (mg/L)	8.3
Specific Conductance (µS/cm)	109
pH (s.u.)	6.8

Water Clarity	Slightly turbid
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Habitat Assessment Scores (max)

Channel Modification (5)	5
Instream Habitat (20)	16
Bottom Substrate (15)	3
Pool Variety (10)	10
Riffle Habitat (16)	1
Left Bank Stability (7)	4
Right Bank Stability (7)	4
Light Penetration (10)	9
Left Riparian Score (5)	5
Right Riparian Score (5)	5
Total Habitat Score (100)	62

Site Photograph



Substrate	Sand and clay
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Sample Date	Sample ID	Species Total	NCIBI	Bioclassification
04/23/07	2007-22	14	48	Good
06/11/97	97-55	19	56	Excellent

Most Abundant Species	Golden Shiner	Exotic Species	None
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Species Change Since Last Cycle

Gains -- Golden Shiner, Coastal Shiner, Brassy Jumprock, and Carolina Darter. **Losses** -- Rosyside Dace, Greenfin Shiner, Greenhead Shiner, Spottail Shiner, Creek Chub, Flat Bullhead, Margined Madtom, Largemouth Bass, and Piedmont Darter.

Data Analysis

Watershed -- tributary to the Catawba River; drains the extreme southwestern corner of Union County; no municipalities within the watershed. **Habitat** -- snags; undercuts; roots; woody debris in the current creating stick riffles; Chinese privet in the riparian zones. **2007** -- lower than expected scores for abundance and diversity metrics; intolerant species were absent; percentage of tolerant fish (Golden Shiner and Redbreast Sunfish) was slightly elevated. **1997 & 2007** -- site was a reference site in 1997 (total habitat score = 74), but in 2007 the substrate was sandier than in 1997 and there was the loss of small gravelly riffles; 23 species known from the site, including 11 species of cyprinids and 3 species of darters; no exotic species known from the site; Greenfin Shiner, Greenhead Shiner, and Spottail Shiner were abundant in 1997 but absent in 2002; a naturally low flow affected stream.

APPENDIX 3-C

AMBIENT STATION SUMMARY SHEETS

Ambient Monitoring System Station Summaries

NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: IRWIN CRK AT IRWIN CRK WWTP NR CHARLOTTE
Station #: C8896500 **Hydrologic Unit Code:** 03050103
Latitude: 35.19801 **Longitude:** -80.90453 **Stream class:** C
Agency: NCAMBNT **NC stream index:** 11-137-1

Time period: 01/15/2004 to 12/03/2008

	# results	# ND	EL	Results not meeting EL			Percentiles						
				#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	58	0	<4	0	0		6.1	6.9	8	9.3	11.3	12.4	14.1
	58	0	<5	0	0		6.1	6.9	8	9.3	11.3	12.4	14.1
pH (SU)	59	0	<6	0	0		6	6.2	6.6	7	7.5	8	8.4
	59	0	>9	0	0		6	6.2	6.6	7	7.5	8	8.4
Spec. conductance (umhos/cm at 25°C)	56	0	N/A				70	120	170	216	245	257	272
Water Temperature (°C)	59	0	>32	0	0		3	6.7	11.7	17.8	23.4	27.5	30.4
Other													
TSS (mg/L)	20	12	N/A				2.5	2.5	2.5	6.2	44	180.5	230
Turbidity (NTU)	59	0	>50	9	15.3	93.3	1.2	1.8	2.6	3.9	14	100	600
Metals (ug/L)													
Aluminum, total (Al)	13	0	N/A				65	72	86	250	5450	13560	18000
Arsenic, total (As)	13	12	>10	0	0		5	5	5	5	10	10	10
Cadmium, total (Cd)	13	13	>2	0	0		1	1.4	2	2	2	2	2
Chromium, total (Cr)	13	12	>50	0	0		10	16	25	25	25	25	25
Copper, total (Cu)	13	5	>7	5	38.5	99.9	2	2	2	2	18	37	44
Iron, total (Fe)	13	0	>1000	5	38.5	99.9	110	170	310	450	6800	14880	19000
Lead, total (Pb)	13	10	>25	3	23.1	96.6	10	10	10	10	19	41	49
Mercury, total (Hg)	12	12	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	13	12	>88	0	0		10	10	10	10	10	12	14
Zinc, total (Zn)	13	4	>50	3	23.1	96.6	10	10	10	31	84	188	200
Fecal Coliform Screening(#/100mL)													
# results:	Geomean	# > 400:	% > 400:	%Conf:									
58	328	22	38	100									

Key:

result: number of observations

ND: number of observations reported to be below detection level (non-detect)

EL: Evaluation Level; applicable numeric or narrative water quality standard or action level

Results not meeting EL: number and percentages of observations not meeting evaluation level

%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)

Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries

NCDENR, Division of Water Quality

Basinwide Assessment Report

Location: SUGAR CRK AT NC 51 AT PINEVILLE

Station #: C9050000

Hydrologic Unit Code: 03050103

Latitude: 35.09067

Longitude: -80.89962

Stream class: C

Agency: NCAMBNT

NC stream index: 11-137

Time period: 01/15/2004 to 12/10/2008

	# results	# ND	EL	Results not meeting EL			Percentiles						
				#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	59	0	<4	0	0		5.3	6.2	6.8	8	9.6	10.8	12
	59	0	<5	0	0		5.3	6.2	6.8	8	9.6	10.8	12
pH (SU)	59	0	<6	0	0		6.1	6.4	6.6	6.8	7.1	7.3	7.6
	59	0	>9	0	0		6.1	6.4	6.6	6.8	7.1	7.3	7.6
Spec. conductance (umhos/cm at 25°C)	54	0	N/A				138	176	265	328	356	364	438
Water Temperature (°C)	59	0	>32	0	0		3.1	7.5	12.5	19.4	24	26.3	28.5
Other													
TSS (mg/L)	20	6	N/A				2.5	3.9	5.1	6.2	16.5	49.5	62
Turbidity (NTU)	60	0	>50	4	6.7		2.1	3.5	4.6	7	13.8	45	150
Nutrients (mg/L)													
NH3 as N	60	24	N/A				0.02	0.02	0.02	0.02	0.05	0.08	0.84
NO2 + NO3 as N	60	0	N/A				1	3.01	4.93	7.45	9.07	11	13
TKN as N	60	1	N/A				0.2	0.43	0.46	0.58	0.71	0.89	1.6
Total Phosphorus	60	0	N/A				0.31	0.37	0.53	0.66	0.92	1.1	1.5
Metals (ug/L)													
Aluminum, total (Al)	13	0	N/A				87	108	190	240	740	2620	3100
Arsenic, total (As)	13	13	>10	0	0		5	5	5	5	5	10	10
Cadmium, total (Cd)	13	13	>2	0	0		1	1.4	2	2	2	2	2
Chromium, total (Cr)	13	13	>50	0	0		10	16	25	25	25	25	25
Copper, total (Cu)	13	1	>7	6	46.2	100	2	3	4	7	10	13	15
Iron, total (Fe)	13	0	>1000	3	23.1	96.6	320	320	430	670	1300	3280	3600
Lead, total (Pb)	13	13	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	12	12	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	13	13	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	13	0	>50	0	0		16	16	20	24	32	41	44
Fecal Coliform Screening(#/100mL)													
# results:	Geomean	# > 400:	% > 400:	%Conf:									
58	376	21	36	99.9									

Key:

result: number of observations

ND: number of observations reported to be below detection level (non-detect)

EL: Evaluation Level; applicable numeric or narrative water quality standard or action level

Results not meeting EL: number and percentages of observations not meeting evaluation level

%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)

Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries

NCDENR, Division of Water Quality

Basinwide Assessment Report

Location: LITTLE SUGAR CRK AT NC 51 AT PINEVILLE

Station #: C9210000

Hydrologic Unit Code: 03050103

Latitude: 35.08502

Longitude: -80.88218

Stream class: C

Agency: NCAMBNT

NC stream index: 11-137-8

Time period: 01/15/2004 to 12/10/2008

	# results	# ND	EL	Results not meeting EL			Percentiles						
				#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	60	0	<4	0	0		4.8	6.1	6.8	8.2	9.9	10.4	11.5
	60	0	<5	1	1.7		4.8	6.1	6.8	8.2	9.9	10.4	11.5
pH (SU)	60	0	<6	0	0		6.1	6.5	6.7	6.9	7.2	7.5	8.2
	60	0	>9	0	0		6.1	6.5	6.7	6.9	7.2	7.5	8.2
Spec. conductance (umhos/cm at 25°C)	55	0	N/A				139	205	307	348	388	446	495
Water Temperature (°C)	60	0	>32	1	1.7		7	8.6	14.7	21.1	26.4	28.6	32.2
Other													
TSS (mg/L)	20	4	N/A				2.5	2.5	4.8	6.5	16.2	21.7	50
Turbidity (NTU)	60	0	>50	2	3.3		1.8	2.6	3.8	5	14	25.9	95
Nutrients (mg/L)													
NH3 as N	59	15	N/A				0.02	0.02	0.02	0.04	0.09	0.15	0.62
NO2 + NO3 as N	59	0	N/A				0.93	2.6	4.6	6.6	8.3	11	14
TKN as N	59	0	N/A				0.25	0.62	0.69	0.79	0.93	1	1.8
Total Phosphorus	59	0	N/A				0.28	0.59	0.71	1	1.4	1.9	2.6
Metals (ug/L)													
Aluminum, total (Al)	13	0	N/A				110	122	160	200	760	1536	2000
Arsenic, total (As)	13	13	>10	0	0		5	5	5	5	5	10	10
Cadmium, total (Cd)	13	13	>2	0	0		1	1.4	2	2	2	2	2
Chromium, total (Cr)	13	13	>50	0	0		10	16	25	25	25	25	25
Copper, total (Cu)	13	0	>7	4	30.8	99.4	4	4	4	6	7	10	11
Iron, total (Fe)	13	0	>1000	2	15.4	86.6	290	310	370	450	910	1460	1700
Lead, total (Pb)	13	13	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	12	12	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	13	13	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	13	0	>50	0	0		17	18	22	27	30	40	44
Fecal Coliform Screening(#/100mL)													
# results:	Geomean	# > 400:	% > 400:	%Conf:									
58	347	24	41	100									

Key:

result: number of observations

ND: number of observations reported to be below detection level (non-detect)

EL: Evaluation Level; applicable numeric or narrative water quality standard or action level

Results not meeting EL: number and percentages of observations not meeting evaluation level

%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)

Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries

NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: MCALPINE CRK AT SR 3356 SARDIS RD NR CHARLOTTE
Station #: C9370000 **Hydrologic Unit Code:** 03050103
Latitude: 35.13725 **Longitude:** -80.76817 **Stream class:** C
Agency: NCAMBNT **NC stream index:** 11-137-9

Time period: 01/08/2004 to 12/04/2008

	# results	# ND	EL	Results not meeting EL			Percentiles						
				#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	60	0	<4	1	1.7		3	6.1	6.6	8	10.8	12.4	15.1
	60	0	<5	1	1.7		3	6.1	6.6	8	10.8	12.4	15.1
pH (SU)	60	0	<6	2	3.3		5	6.3	6.5	6.9	7.2	7.5	8.1
	60	0	>9	0	0		5	6.3	6.5	6.9	7.2	7.5	8.1
Spec. conductance (umhos/cm at 25°C)	58	0	N/A				69	105	140	186	213	222	265
Water Temperature (°C)	60	0	>32	0	0		2.8	5.4	11.6	17.5	23.5	25.6	29.6
Other													
Chlorophyll a (ug/L)	1	0	>40	0	0		3	3	3	3	3	3	3
TSS (mg/L)	20	6	N/A				2.5	3.5	4.2	6.2	7.7	45.3	94
Turbidity (NTU)	60	0	>50	4	6.7		3.1	4.2	5.5	8.9	17	44.5	270
Nutrients (mg/L)													
NH3 as N	60	23	N/A				0.02	0.02	0.02	0.02	0.07	0.09	0.23
NO2 + NO3 as N	60	3	N/A				0.02	0.07	0.22	0.33	0.41	0.58	0.93
TKN as N	60	2	N/A				0.2	0.22	0.28	0.38	0.43	0.71	1.2
Total Phosphorus	60	0	N/A				0.02	0.04	0.05	0.06	0.08	0.14	0.36
Metals (ug/L)													
Aluminum, total (Al)	13	0	N/A				87	108	145	220	550	2072	2900
Arsenic, total (As)	13	13	>10	0	0		5	5	5	5	5	10	10
Cadmium, total (Cd)	13	13	>2	0	0		1	1.4	2	2	2	2	2
Chromium, total (Cr)	13	13	>50	0	0		10	16	25	25	25	25	25
Copper, total (Cu)	13	6	>7	1	7.7		2	2	2	2	3	9	12
Iron, total (Fe)	13	0	>1000	5	38.5	99.9	670	734	880	1000	1200	3260	4500
Lead, total (Pb)	13	13	>25	0	0		10	10	10	10	10	10	10
Mercury, total (Hg)	12	12	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	13	13	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	13	10	>50	0	0		10	10	10	10	11	34	42
Fecal Coliform Screening(#/100mL)													
# results:	Geomean	# > 400:	% > 400:	%Conf:									
60	373	23	38	100									

Key:

result: number of observations

ND: number of observations reported to be below detection level (non-detect)

EL: Evaluation Level; applicable numeric or narrative water quality standard or action level

Results not meeting EL: number and percentages of observations not meeting evaluation level

%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)

Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries

NCDENR, Division of Water Quality
Basinwide Assessment Report

Location: MCALPINE CRK AT SC SR 2964 NR CAMP COX SC
Station #: C9680000 **Hydrologic Unit Code:** 03050103
Latitude: 35.04101 **Longitude:** -80.89162 **Stream class:** FW
Agency: NCAMBNT **NC stream index:**

Time period: 01/15/2004 to 12/10/2008

	# results	# ND	EL	Results not meeting EL			Percentiles						
				#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	60	0	N/A				3.9	5.3	5.7	6.4	7.6	8.7	10.1
pH (SU)	60	0	N/A				6.1	6.4	6.5	6.7	6.9	7.1	7.4
Spec. conductance (umhos/cm at 25°C)	55	0	N/A				155	297	362	435	485	562	685
Water Temperature (°C)	60	0	N/A				7	12.6	15.7	20.8	24.5	26.6	28.6
Other													
TSS (mg/L)	20	2	N/A				6	6.2	8	12	30	61.6	64
Turbidity (NTU)	60	0	N/A				3	4.6	6	8.1	12.8	26.9	80
Nutrients (mg/L)													
NH3 as N	60	1	N/A				0.02	0.04	0.05	0.1	0.16	0.44	2.3
NO2 + NO3 as N	60	0	N/A				2	5.77	8.12	13	16	20.9	22
TKN as N	60	0	N/A				0.39	0.79	1.02	1.2	1.4	1.89	3.6
Total Phosphorus	60	0	N/A				0.29	0.37	0.41	0.56	0.98	1.69	4.2
Metals (ug/L)													
Aluminum, total (Al)	13	0	N/A				190	202	235	340	890	1680	2000
Arsenic, total (As)	13	13	N/A				5	5	5	5	5	10	10
Cadmium, total (Cd)	13	13	N/A				1	1.4	2	2	2	2	2
Chromium, total (Cr)	13	13	N/A				10	16	25	25	25	25	25
Copper, total (Cu)	13	0	N/A				3	3	4	4	6	9	11
Iron, total (Fe)	13	0	N/A				520	600	735	870	1750	2800	3200
Lead, total (Pb)	13	13	N/A				10	10	10	10	10	10	10
Manganese, total (Mn)	3	0	N/A				100	100	100	180	330	330	330
Mercury, total (Hg)	12	12	N/A				0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	13	13	N/A				10	10	10	10	10	10	10
Zinc, total (Zn)	13	0	N/A				15	17	28	40	52	65	67
Fecal Coliform Screening(#/100mL)													
# results:	Geomean	# > 400:	% > 400:	%Conf:									
58	242	16	28	94.1									

Key:

result: number of observations

ND: number of observations reported to be below detection level (non-detect)

EL: Evaluation Level; applicable numeric or narrative water quality standard or action level

Results not meeting EL: number and percentages of observations not meeting evaluation level

%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)

Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries

NCDENR, Division of Water Quality

Basinwide Assessment Report

Location: SUGAR CRK AT SC 160 NR FORT MILL SC

Station #: C9790000

Hydrologic Unit Code: 03050103

Latitude: 35.00592

Longitude: -80.90221

Stream class: FW

Agency: NCAMBNT

NC stream index:

Time period: 01/15/2004 to 12/10/2008

	# results	# ND	EL	Results not meeting EL			Percentiles						
				#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	60	0	N/A				4.4	6.2	6.5	7.8	8.6	9.9	10.9
pH (SU)	60	0	N/A				5.9	6.5	6.6	6.9	7.1	7.3	7.6
Spec. conductance (umhos/cm at 25°C)	55	0	N/A				52	189	299	359	408	464	572
Water Temperature (°C)	60	0	N/A				5.6	9.7	14.1	19.6	24.2	26.6	30.6
Other													
TSS (mg/L)	20	0	N/A				7.3	8.3	9.6	13	42	96.3	133
Turbidity (NTU)	60	0	N/A				4.4	7.1	8.8	12	23.5	78	160
Nutrients (mg/L)													
NH3 as N	60	7	N/A				0.02	0.02	0.03	0.05	0.12	0.2	0.48
NO2 + NO3 as N	60	0	N/A				1.4	3.45	6.7	8.6	12	14	17
TKN as N	60	2	N/A				0.2	0.54	0.76	0.87	1.1	1.2	1.9
Total Phosphorus	60	0	N/A				0.36	0.43	0.52	0.66	0.9	1.1	2.5
Metals (ug/L)													
Aluminum, total (Al)	13	0	N/A				260	276	340	490	845	3260	3900
Arsenic, total (As)	13	13	N/A				5	5	5	5	5	10	10
Cadmium, total (Cd)	13	13	N/A				1	1.4	2	2	2	2	2
Chromium, total (Cr)	13	13	N/A				10	16	25	25	25	25	25
Copper, total (Cu)	13	0	N/A				4	4	4	5	7	10	11
Iron, total (Fe)	13	0	N/A				650	658	760	870	1750	4480	5200
Lead, total (Pb)	13	13	N/A				10	10	10	10	10	10	10
Manganese, total (Mn)	3	0	N/A				69	69	69	120	340	340	340
Mercury, total (Hg)	12	12	N/A				0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	13	13	N/A				10	10	10	10	10	10	10
Zinc, total (Zn)	13	0	N/A				16	16	22	26	28	30	30
Fecal Coliform Screening(#/100mL)													
# results:	Geomean	# > 400:	% > 400:	%Conf:									
57	370	20	35	99.8									

Key:

result: number of observations

ND: number of observations reported to be below detection level (non-detect)

EL: Evaluation Level; applicable numeric or narrative water quality standard or action level

Results not meeting EL: number and percentages of observations not meeting evaluation level

%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)

Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

Ambient Monitoring System Station Summaries

NCDENR, Division of Water Quality

Basinwide Assessment Report

Location: TWELVE MILE CRK AT NC 16 NR WAXHAW

Station #: C9819500

Hydrologic Unit Code: 03050103

Latitude: 34.95225

Longitude: -80.75581

Stream class: C

Agency: NCAMBNT

NC stream index: 11-138

Time period: 01/15/2004 to 12/04/2008

	# results	# ND	EL	Results not meeting EL			Percentiles						
				#	%	%Conf	Min	10th	25th	50th	75th	90th	Max
Field													
D.O. (mg/L)	60	0	<4	4	6.7		1.4	4.3	5.9	7.6	10.1	11.6	14.4
	60	0	<5	7	11.7	75.2	1.4	4.3	5.9	7.6	10.1	11.6	14.4
pH (SU)	60	0	<6	3	5		4.5	6	6.4	6.6	7	7.3	7.6
	60	0	>9	0	0		4.5	6	6.4	6.6	7	7.3	7.6
Spec. conductance (umhos/cm at 25°C)	58	0	N/A				20	108	132	150	159	176	340
Water Temperature (°C)	60	0	>32	0	0		1.8	6	10.2	15.9	21.7	24.4	28.9
Other													
TSS (mg/L)	20	4	N/A				2.5	3.2	6	6.8	12	54.6	310
Turbidity (NTU)	60	0	>50	8	13.3	85.8	3.6	6.7	9.9	18	29	69	650
Nutrients (mg/L)													
NH3 as N	60	16	N/A				0.02	0.02	0.02	0.03	0.06	0.1	0.25
NO2 + NO3 as N	60	6	N/A				0.02	0.02	0.18	0.33	0.47	0.56	0.89
TKN as N	60	0	N/A				0.2	0.28	0.37	0.5	0.64	0.78	1.2
Total Phosphorus	60	0	N/A				0.02	0.05	0.06	0.08	0.11	0.16	0.56
Metals (ug/L)													
Aluminum, total (Al)	13	0	N/A				85	163	400	570	2150	11040	16000
Arsenic, total (As)	13	13	>10	0	0		5	5	5	5	5	10	10
Cadmium, total (Cd)	13	13	>2	0	0		1	1.4	2	2	2	2	2
Chromium, total (Cr)	13	13	>50	0	0		10	16	25	25	25	25	25
Copper, total (Cu)	13	4	>7	3	23.1	96.6	2	2	2	3	7	14	18
Iron, total (Fe)	13	0	>1000	11	84.6	100	810	854	1150	1500	2350	13080	18000
Lead, total (Pb)	13	12	>25	0	0		10	10	10	10	10	13	15
Mercury, total (Hg)	12	12	>0.012	0	0		0.2	0.2	0.2	0.2	0.2	0.2	0.2
Nickel, total (Ni)	13	13	>88	0	0		10	10	10	10	10	10	10
Zinc, total (Zn)	13	9	>50	0	0		10	10	10	10	11	29	39
Fecal Coliform Screening(#/100mL)													
# results:	Geomean	# > 400:	% > 400:	%Conf:									
59	213	11	19										

Key:

result: number of observations

ND: number of observations reported to be below detection level (non-detect)

EL: Evaluation Level; applicable numeric or narrative water quality standard or action level

Results not meeting EL: number and percentages of observations not meeting evaluation level

%Conf : States the percent statistical confidence that the actual percentage of exceedances is at least 10% (20% for Fecal Coliform)

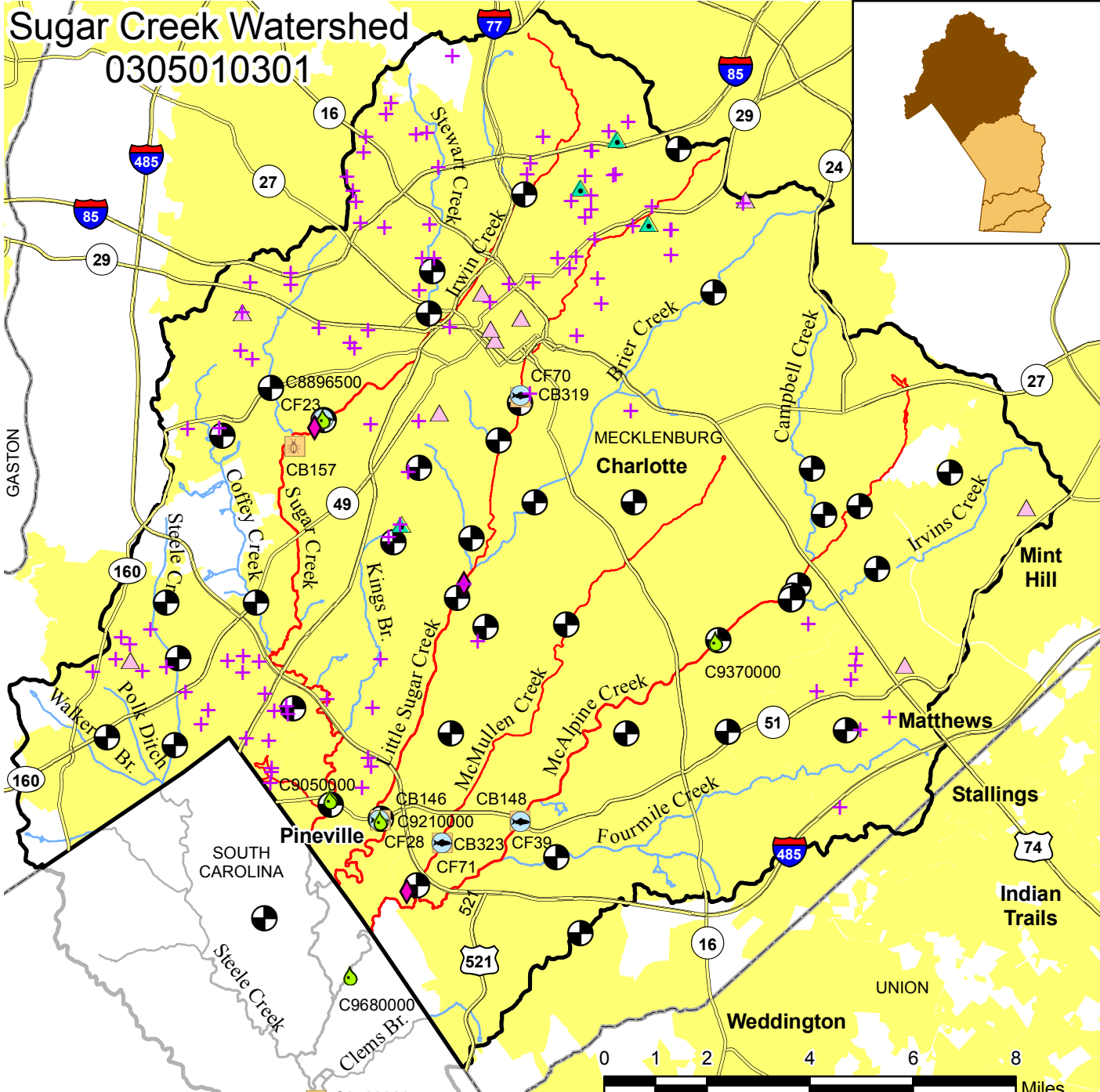
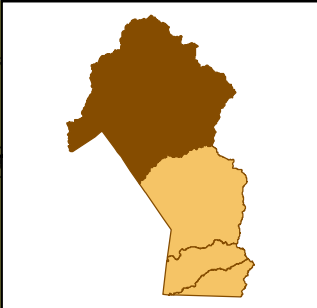
Stations with less than 10 results for a given parameter were not evaluated for statistical confidence

APPENDIX 3-D

WATERSHED MAPS

Sugar Creek Watershed

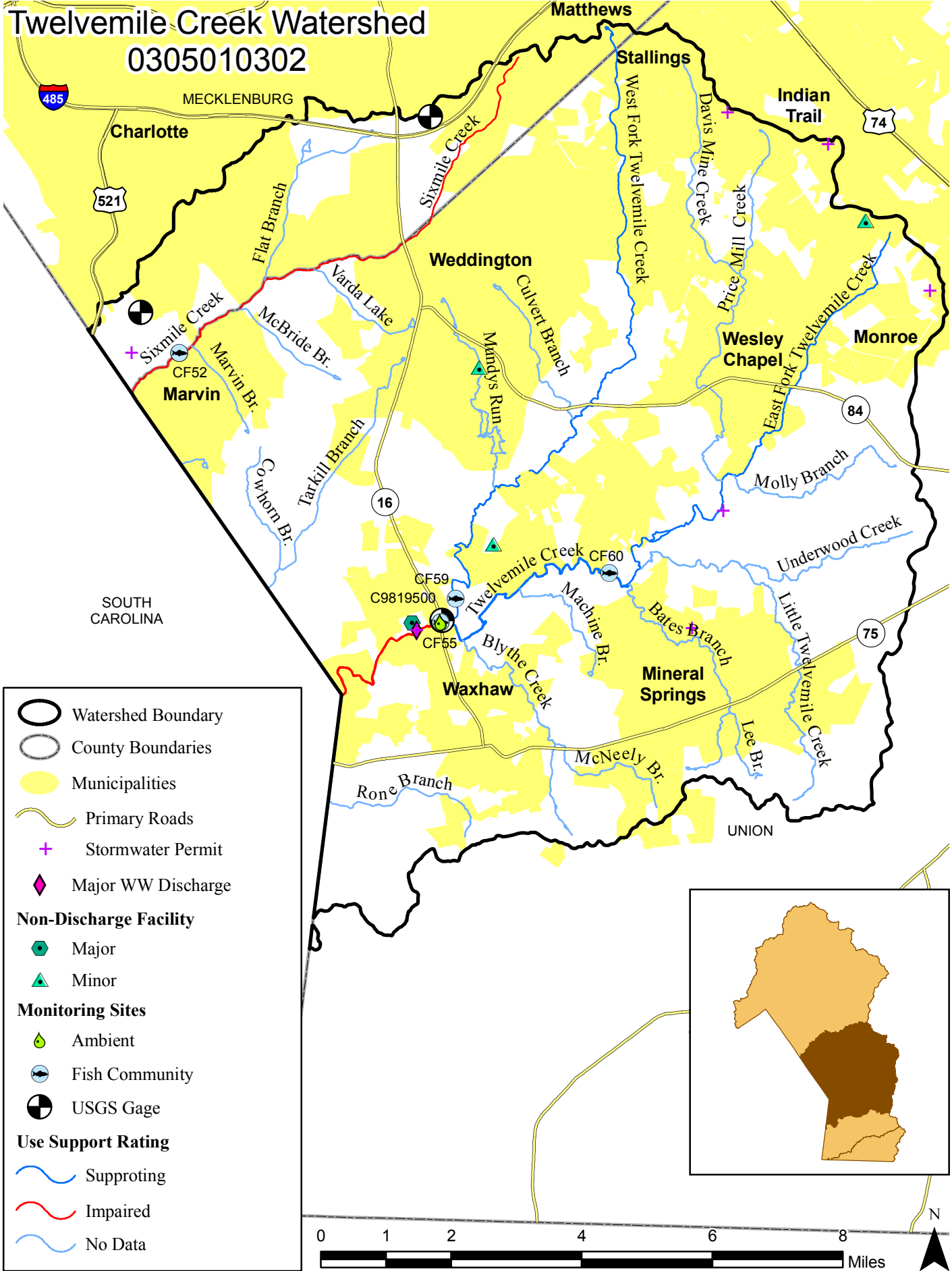
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	Watershed Boundary	Monitoring Sites	
	County Boundaries		Ambient
	Municipalities		Fish Community
	Primary Roads		Benthic Macroinvertebrates
	Stormwater Permit		USGS Gage
	Minor Non-Discharge Facility	Use Support Rating	
NPDES WW Discharge			Supporting
	Major		Impaired
	Minor		No Data

Twelvemile Creek Watershed

0305010302

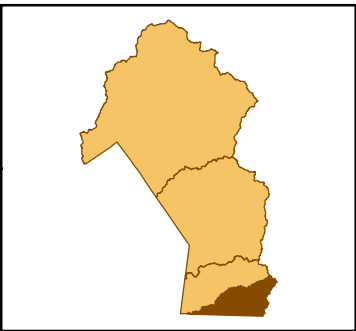






- Watershed Boundary
- County Boundaries
- Municipalities
- Primary Roads
- Stormwater Permit
- Major WW Discharge
- Non-Discharge Facility**
 - Major
 - Minor
- Monitoring Sites**
 - Ambient
 - Fish Community
 - USGS Gage
- Use Support Rating**
 - Supporting
 - Impaired
 - No Data

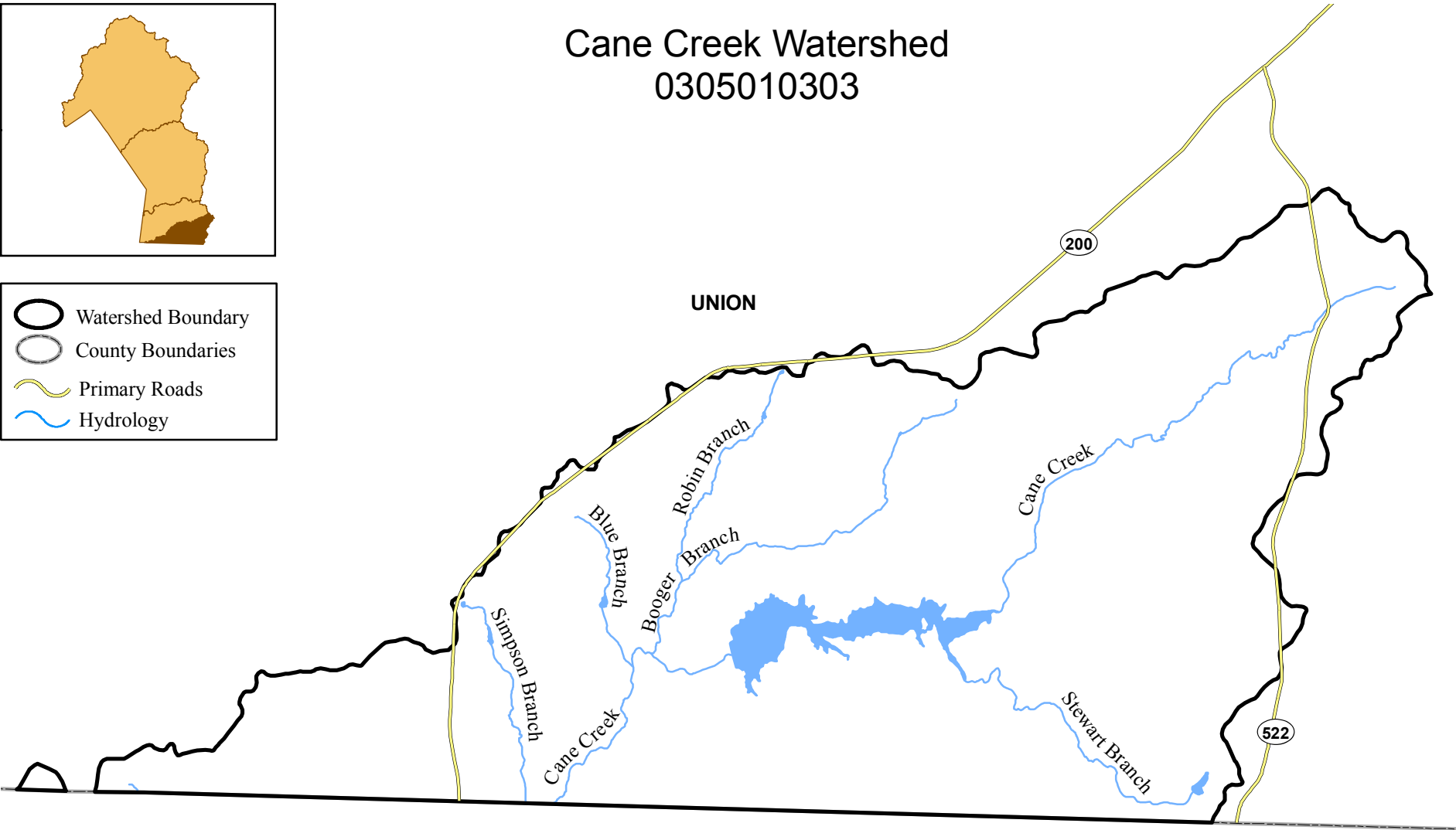


Cane Creek Watershed

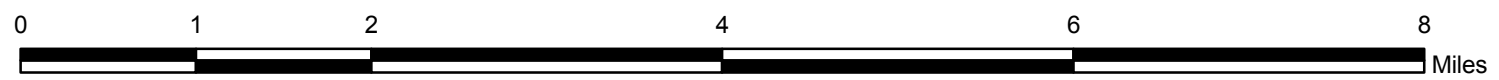
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-  Watershed Boundary
-  County Boundaries
-  Primary Roads
-  Hydrology



SOUTH CAROLINA



Fishing Creek Reservoir - Catawba River Watershed

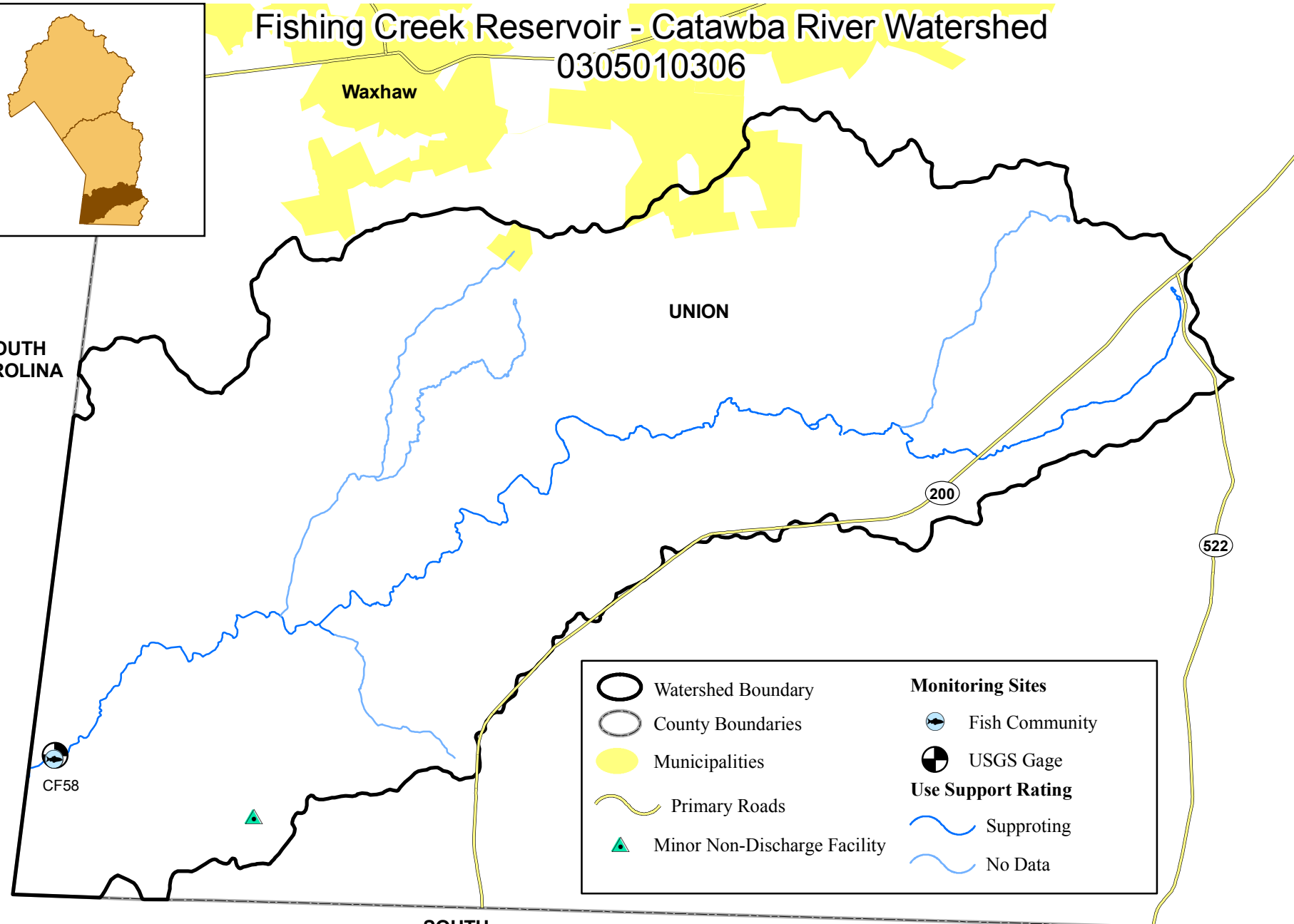
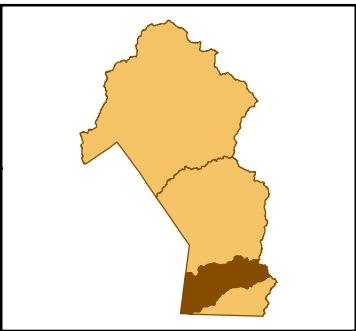
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Waxhaw

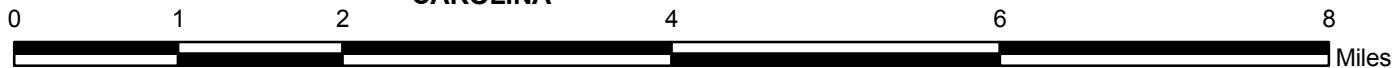
UNION

SOUTH CAROLINA

SOUTH CAROLINA



	Watershed Boundary	Monitoring Sites	
	County Boundaries		Fish Community
	Municipalities		USGS Gage
	Primary Roads	Use Support Rating	
	Minor Non-Discharge Facility		Supporting
			No Data



APPENDIX 3-E

PERMITS

TABLE 3E-1: WASTEWATER DISCHARGE PERMITS IN THE CATAWBA RIVER WATERSHED

PERMIT #	OWNER	FACILITY NAME	PERMIT TYPE	CLASS	COUNTY	REGION	PERMIT FLOW (GAL./DAY)
NC0024937*	Charlotte-Mecklenburg Utilities	Charlotte-Sugar Creek WWTP	Municipal Wastewater Discharge, Large	Major	Mecklenburg	Mooreville	20,000,000
NC0024945*	Charlotte-Mecklenburg Utilities	Irwin Creek WWTP	Municipal Wastewater Discharge, Large	Major	Mecklenburg	Mooreville	15,000,000
NC0024970*	Charlotte-Mecklenburg Utilities	McAlpine Creek WWTP	Municipal Wastewater Discharge, Large	Major	Mecklenburg	Mooreville	64,000,000
NC0029181	Carolina Water Service Inc. of North Carolina	Forest Ridge WWTP	Discharging 100% Domestic < 1MGD	Minor	Mecklenburg	Mooreville	150,000
NC0063789	Heater Utilities Inc.	Mint Hill Festival WWTP	Discharging 100% Domestic < 1MGD	Minor	Mecklenburg	Mooreville	35,000
NC0079758	National Welders DBA Airgas Nation	National Welders - Charlotte Plant	Industrial Process & Commercial Wastewater Discharge	Minor	Mecklenburg	Mooreville	14,300
NC0085359	Union County Public Works	Twelve Mile Creek WWTP	Municipal Wastewater Discharge, Large	Major	Union	Mooreville	2,500,000

* The asterisk indicates the NPDES permits with Pretreatment Programs. See the Point Source Contributors - Pretreatment section of the Subbasin Chapters for more details on Pretreatment Programs.

TABLE 3E-2: NON-DISCHARGE PERMITS IN THE CATAWBA RIVER WATERSHED

PERMIT #	OWNER	FACILITY NAME	OWNER TYPE	PERMIT TYPE	CLASS	COUNTY	REGION
WQ0004965	Linder Industrial Machinery Company	3535 N. Graham Street	Non-Government	Wastewater Recycling	Minor	Mecklenburg	Mooreville
WQ0012155	Metromont Corporation	Metromont Corporation	Non-Government	Wastewater Recycling	Minor	Mecklenburg	Mooreville
WQ0017321	Cargill Incorporated	Cargill Incorporated	Non-Government	Distribution of Residual Solids (503 exempt)	Minor	Mecklenburg	Mooreville

TABLE 3E-3: WASTEWATER DISCHARGE PERMITS IN THE CATAWBA RIVER WATERSHED

PERMIT #	OWNER	FACILITY NAME	PERMIT TYPE	CLASS	COUNTY	REGION	PERMIT FLOW (GAL./DAY)
NC0024937*	Charlotte-Mecklenburg Utilities	Charlotte-Sugar Creek WWTP	Municipal Wastewater Discharge, Large	Major	Mecklenburg	Mooreville	20,000,000
NC0024945*	Charlotte-Mecklenburg Utilities	Irwin Creek WWTP	Municipal Wastewater Discharge, Large	Major	Mecklenburg	Mooreville	15,000,000
NC0024970*	Charlotte-Mecklenburg Utilities	McAlpine Creek WWTP	Municipal Wastewater Discharge, Large	Major	Mecklenburg	Mooreville	64,000,000
NC0029181	Carolina Water Service Inc. of North Carolina	Forest Ridge WWTP	Discharging 100% Domestic < 1MGD	Minor	Mecklenburg	Mooreville	150,000
NC0063789	Heater Utilities Inc.	Mint Hill Festival WWTP	Discharging 100% Domestic < 1MGD	Minor	Mecklenburg	Mooreville	35,000
NC0079758	National Welders DBA Airgas Nation	National Welders - Charlotte Plant	Industrial Process & Commercial Wastewater Discharge	Minor	Mecklenburg	Mooreville	14,300
NC0085359	Union County Public Works	Twelve Mile Creek WWTP	Municipal Wastewater Discharge, Large	Major	Union	Mooreville	2,500,000

* The asterisk indicates the NPDES permits with Pretreatment Programs. See the Point Source Contributors - Pretreatment section of the Subbasin Chapters for more details on Pretreatment Programs.

TABLE 3E-4: NPDES STORMWATER PERMITS IN THE CATAMBA RIVER WATERSHED

PERMIT #	OWNER NAME		FACILITY NAME	OWNER TYPE	PERMIT TYPE	CLASS	COUNTY	REGION
	OWNER NAME	OWNER NAME						
NCG020045	Martin Marietta Materials Inc	Martin Marietta-Arrowwood		Non-Government	Mining Activities Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG020049	Vulcan Construction Materials LP	Vulcan Construction Materials-Pineville		Non-Government	Mining Activities Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG020051	Martin Marietta Materials Inc	Martin Marietta-Charlotte		Non-Government	Mining Activities Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG020159	Vulcan Construction Materials LP	Vulcan Construction Materials-Elkin		Non-Government	Mining Activities Stormwater Discharge COC	Minor	Surry	Winston-Salem
NCG020202	Martin Marietta Materials Inc	Martin Marietta-Matthews Q		Non-Government	Mining Activities Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030004	Duff-Norton	Duff-Norton		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030014	Imo Industries Inc	Imo Industries Inc-Mecklenburg		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030181	New South Fabricators LLC	New South Fabricators, LLC		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030208	McGee Corporation	McGee Corporation		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Union	Mooreville
NCG030234	Bendel Corporation	Bendel Corporation		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030254	Stork Prints America Inc	Stork Prints America, Inc.		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030276	Stowe Woodward LLC	DBA Mount Hope Machinery Company		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030284	Gerdau Ameristeel Corporation	Charlotte Rebar Division		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030302	Q C Manufacturing Inc	Q C Manufacturing, Inc.		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030385	Refabco Inc	Refabco Incorporated		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030391	Contech Construct Prod	Contech Construct Prod-Mecklenburg		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030397	Fuel Systems Inc	Fuel Systems Inc		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030444	Dental Equipment LLC DBA Pelton & Crane	Pelton & Crane		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG030486	A O Smith Water Systems	A. O. Smith Water Systems		Non-Government	Metal Fabrication Stormwater Discharge COC	Minor	Mecklenburg	Mooreville

TABLE 3E-4: NPDES STORMWATER PERMITS IN THE CATAWBA RIVER WATERSHED

PERMIT #	OWNER NAME	FACILITY NAME	OWNER TYPE	PERMIT TYPE	CLASS	COUNTY	REGION
NCG050007	Keller Crescent Company	Keller Crescent- Charlotte Plant	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050087	Rutland Holdings LLC	Rutland Plastic Technologies, Inc.	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050129	Forbo Movement Systems	Forbo Movement Systems	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050139	Ipex USA LLC	IPEX USA LLC	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050147	Genpak LLC	Genpak LLC	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050149	Otto Industries	Otto Industries	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050150	Exopack Advanced Coatings	Exopack Advanced Coatings	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050253	Alpha Gary Corp	Alpha Gary Corp-Mecklenburg	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG050284	Aplix Inc	Aplix Incorporated	Non-Government	Apparel/Printing/Paper/Leather/ Rubber Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG060028	ADM Milling Company	ADM Milling Co	Non-Government	Food/Tobacco/Soaps/Cosmetics/ Public Warehousing Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG060036	Cargill Incorporated	Cargill Incorporated	Non-Government	Food/Tobacco/Soaps/Cosmetics/ Public Warehousing Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG060068	B & H Foods Inc	B & H Foods Incorporated	Non-Government	Food/Tobacco/Soaps/Cosmetics/ Public Warehousing Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG060081	Cbcc Operations LLC	Snyder Production Center	Non-Government	Food/Tobacco/Soaps/Cosmetics/ Public Warehousing Stormwater Discharge COC	Minor	Mecklenburg	Mooreville

TABLE 3E-4: NPDES STORMWATER PERMITS IN THE CATAMBA RIVER WATERSHED

PERMIT #	OWNER NAME	FACILITY NAME	OWNER TYPE	PERMIT TYPE	CLASS	COUNTY	REGION
NCG060175	Frito Lay Inc	Frito Lay Incorporated	Non-Government	Food/Tobacco/Soaps/Cosmetics/ Public Warehousing Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG070010	Southern Concrete Materials Inc	Southern Concrete Materials, Inc.- Charlotte Block	Non-Government	Stone, Clay, Glass, and Concrete Products Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG070028	Metromont Corporation	Metromont Corporation	Non-Government	Stone, Clay, Glass, and Concrete Products Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG070082	Yates Wilbert Vault Company	Yates Wilbert Vault Company	Non-Government	Stone, Clay, Glass, and Concrete Products Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080035	Family Dollar Stores Inc	Family Dollar Stores Inc	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/ Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080109	Charlotte Partners	Charlotte Partners	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/ Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080178	United Parcel Service	United Parcel Service-Charlotte	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/ Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080309	Ups Ground Freight Inc	UPS Ground Freight, Inc.-Charlotte	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/ Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080332	Ezell Trucking Inc	Ezell Trucking-Mecklenburg	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/ Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080345	US Postal Service - Vmf	US Postal Service-Charlotte VMF	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/ Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080356	Fedex National Ltl Inc	FedEx National LTL, Inc.-Charlotte	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/ Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville

TABLE 3E-4: NPDES STORMWATER PERMITS IN THE CATAWBA RIVER WATERSHED

PERMIT #	OWNER NAME	FACILITY NAME	OWNER TYPE	PERMIT TYPE	CLASS	COUNTY	REGION
NCG080367	Nationsway Transport Serv	Nationsway Transport Serv	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080583	Schneider National Carriers	Schneider National Carriers - SO43	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080591	Greyhound Lines Inc	Greyhound Lines Inc - Charlotte	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080607	NC Air National Guard	NC Air National Guard	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080619	Norfolk Southern Railway Company	Charlotte Intermodal	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080620	Norfolk Southern Railway Company	Norfolk Southern Railway Co - Liddell St	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG080826	Southern Steel Comapny LLC	Southern Steel Company, LLC- Wilkinson Blvd.	Non-Government	Transportation w/Vehicle Maintenance/Petroleum Bulk/Oil Water Separator Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG100075	Hunter Auto & Wrecker Service	Hunter Auto & Wrecker Service	Non-Government	Used Motor Vehicle Parts Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG100076	DBA S&R Auto & Truck Salvage	DBA/S&R Auto & Truck Salvage	Non-Government	Used Motor Vehicle Parts Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG100082	City Salvage Inc	City Salvage Incorporated	Non-Government	Used Motor Vehicle Parts Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG100101	Lakeview Auto Parts Inc	Lakeview Auto Parts Incorporated	Non-Government	Used Motor Vehicle Parts Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG110012	Charlotte-Mecklenburg Utilities	Charlotte-Sugar Creek WWTP	Government - Municipal	Municipal WWTP > 1MGD, Stormwater Discharge, COC	Minor	Mecklenburg	Mooreville
NCG110071	Union County Public Works	Twelve Mile Creek WWTP	Government - County	Municipal WWTP > 1MGD, Stormwater Discharge, COC	Minor	Union	Mooreville

TABLE 3E-4: NPDES STORMWATER PERMITS IN THE CATAMBA RIVER WATERSHED

PERMIT #	OWNER NAME		FACILITY NAME	OWNER TYPE	PERMIT TYPE		CLASS	COUNTY	REGION
	OWNER NAME	OWNER NAME			PERMIT TYPE	PERMIT TYPE			
NCG120068	Mecklenburg County Solid Waste	Mecklenburg County Solid Waste	Mecklenburg Co-Highway 521 Landfill	Government - Municipal	Landfill Stormwater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG130011	Sonoco Products Co	Sonoco Products Co	Sonoco Products Co-Charlotte	Non-Government	Wholesale Trade of Non-metal Waste and Scrap Stormwater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG130025	Safety-Kleen Systems Inc	Safety-Kleen Systems Inc	Safety Kleen Corp-Mecklenburg	Non-Government	Wholesale Trade of Non-metal Waste and Scrap Stormwater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG130030	Safety-Kleen Systems Inc	Safety-Kleen Systems Inc	Safety Kleen Systems	Non-Government	Wholesale Trade of Non-metal Waste and Scrap Stormwater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG130046	Fcr LLC	FCR-Mecklenburg	FCR-Mecklenburg	Non-Government	Wholesale Trade of Non-metal Waste and Scrap Stormwater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140041	Concrete Supply Co	Concrete Supply Co	Concrete Supply Co-N Plant	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140043	Concrete Supply Co	Concrete Supply Co	Concrete Supply Co-S Plant	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140054	Concrete Supply Co	Concrete Supply Co	Concrete Supply Co-W Plant	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140162	Southern Concrete Materials Inc	Southern Concrete Materials Inc	Southern Concrete Mat-Mecklenb	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140163	Southern Concrete Materials Inc	Southern Concrete Materials Inc	Southern Concrete Mat-Union	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Union	Mooreville	
NCG140164	Southern Concrete Materials Inc	Southern Concrete Materials Inc	Southern Concrete Mat-Mecklen	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140187	Carolina Concrete	Carolina Concrete	Carolina Concrete	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Union	Mooreville	
NCG140198	Cemex Construction Materials Atlantic LLC	Cemex Construction Materials Atlantic LLC	Cemex-Pineville-Kings Branch	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140202	Cemex Construction Materials Atlantic LLC	Cemex Construction Materials Atlantic LLC	Cemex-N Charlotte	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140220	Utility Precast Inc	Utility Precast Inc	Utility Precast Incorporated	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140246	Concrete Supply Co	Concrete Supply Co	Concrete Supply Co-Arrowood	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	
NCG140308	Thomas Concrete Of Carolina Inc	Thomas Concrete Of Carolina Inc	Thomas Concrete Of Carolina Incorporated	Non-Government	Ready Mix Concrete Stormwater/Wastewater Discharge COC	Minor	Mecklenburg	Mooreville	

TABLE 3E-4: NPDES STORMWATER PERMITS IN THE CATAWBA RIVER WATERSHED

PERMIT #	OWNER NAME	FACILITY NAME	OWNER TYPE	PERMIT TYPE	CLASS	COUNTY	REGION
NCG160040	Blythe Construction Inc	Blythe Construction, Inc.-East Plant	Non-Government	Asphalt Paving Mixture Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG160081	Rea Contracting A Division of the Lane Construction Corp	Rea Contracting-Arrowood 069	Non-Government	Asphalt Paving Mixture Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG160083	Rea Contracting A Division of the Lane Construction Corp	Rea Contracting -Matthews 068	Non-Government	Asphalt Paving Mixture Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG160115	Blythe Construction Inc	Blythe Construction Inc	Non-Government	Asphalt Paving Mixture Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG200347	Southern Metals Company	Southern Metals Company	Non-Government	Wholesale Trade of Metal Waste and Scrap Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCG200351	Atlantic Scrap & Processing LLC-Charlot	Atlantic Scrap & Processing, LLC - Charlotte	Non-Government	Wholesale Trade of Metal Waste and Scrap Stormwater Discharge COC	Minor	Mecklenburg	Mooreville
NCGNE0056	Airborne Express	Airborne Express-CLT	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0111	ANI Holding LLC	ANI Holding LLC	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0113	Barnhardt Manufacturing Company	Barnhardt Mfg Company	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0120	BASF Corporation	BASF Corporation	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0143	Sonoco Carton	Sonoco Carton	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0147	Stronghaven Containers	Stronghaven Warehouse	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0169	Pennsylvania House	Pennsylvania House	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Union	Mooreville
NCGNE0230	Alcoa	Southern Graphic Systems	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0231	Atlantic Envelope Company	Atlantic Envelope Company	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0236	Green Fiber	Green Fiber	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0302	Southern Staircase	Southern Staircase-Charlotte	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCGNE0310	Hertron International LLC	Hertron International, LLC	Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville

TABLE 3E-4: NPDES STORMWATER PERMITS IN THE CATAMBA RIVER WATERSHED

PERMIT #	OWNER NAME		FACILITY NAME	OWNER TYPE	PERMIT TYPE	CLASS	COUNTY	REGION
	OWNER NAME	OWNER NAME						
NCNGE0440	Eaton Corporation-Clutch Division	Eaton Corporation-Clutch Division		Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCNGE0524	Shaw Industries Inc	Shaw Industries Incorporated-Plt 25		Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCNGE0581	CCL Label Inc	Ccl Label		Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCNGE0593	Monarch Color Corporation	Monarch Color Corporation		Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCNGE0616	Herff Jones Inc	Herff Jones Incorporated		Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCNGE0630	American Circuits Inc	American Circuits Inc		Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCNGE0660	Pepsi Bottling Group Charlotte	Pepsi Bottling Group-Charlotte		Non-Government	Stormwater Discharge, No Exposure Certificate	Minor	Mecklenburg	Mooreville
NCR001518	Edwards Construction Inc	Houston Ridge		Non-Government	Construction Stormwater	Minor	Union	Mooreville
NCS000040	Charlotte Pipe & Foundry Co	Charlotte Pipe & Foundry Company		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000045	National Welders DBA Airgas National Welders	National Welders-Charlotte Plant		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000049	Cognis Corporation	Cognis Corporation		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000183	Radiator Specialty Co	Radiator Specialty Co-Matthews		Non-Government	Stormwater Discharge, Individual	Minor	Union	Mooreville
NCS000213	Detrex Corporation	Detrex Corporation		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000240	City Of Charlotte Ms4	City Of Charlotte Ms4		Government - Municipal	Stormwater Discharge, Individual	Major	Mecklenburg	Mooreville
NCS000250	NC DOT - Environmental Operations	former NCDOT Division 10 Maintenance facility		Government - State	Stormwater Discharge, Individual	Major	Mecklenburg	Mooreville
NCS000312	Heritage Environmental Services LLC	Heritage Environmental Ser		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000313	Continental Tire North America Inc	Continental Tire North American Inc		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000315	Ashland Inc	Ashland Distribution Co		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000361	Caraustar Mill Group Inc	Caraustar Mill Group, Inc. - Charlotte Plant		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000382	Compost Central	Compost Central		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000386	Rohm And Haas Chemicals LLC	Rohm And Haas Chemicals LLC		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville
NCS000510	Sun Chemical Corporation	Sun Chemical Corporation		Non-Government	Stormwater Discharge, Individual	Minor	Mecklenburg	Mooreville

