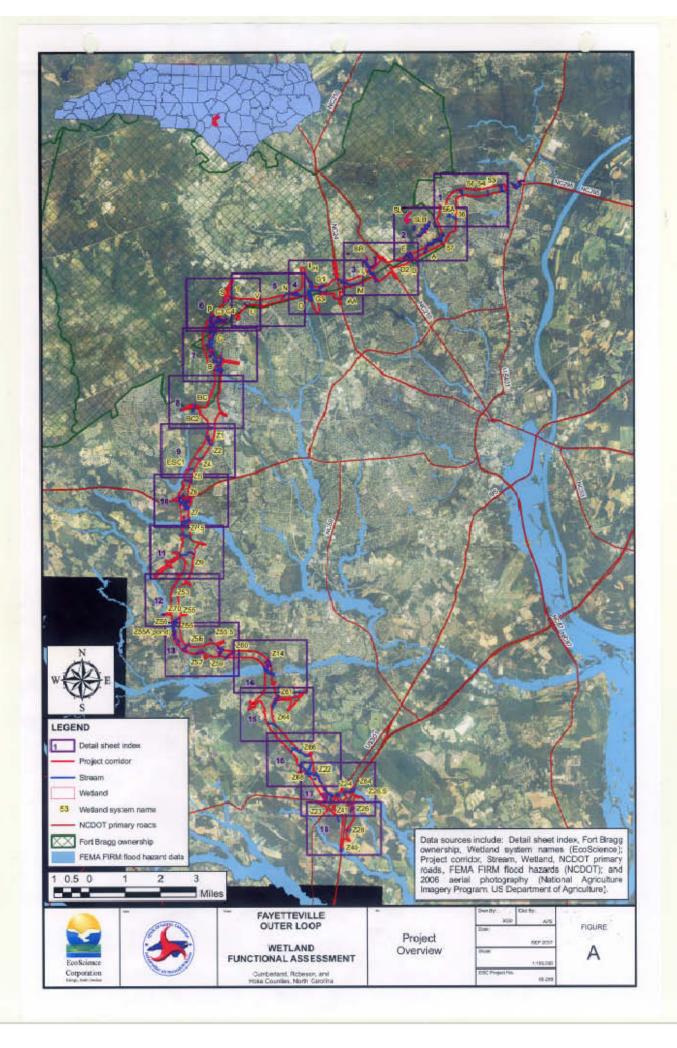
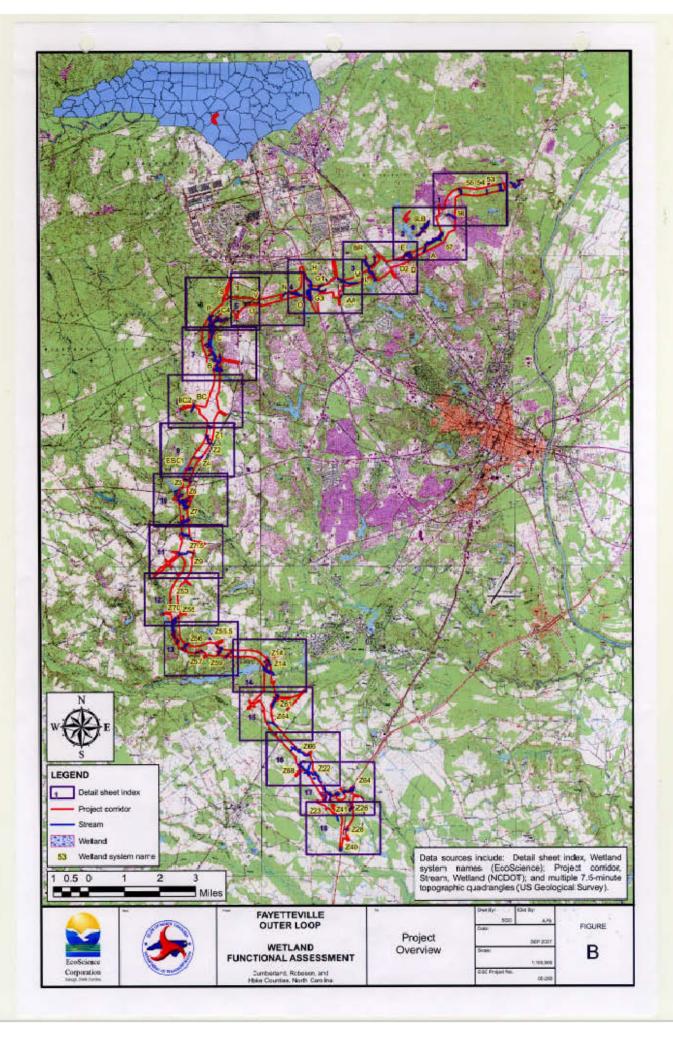
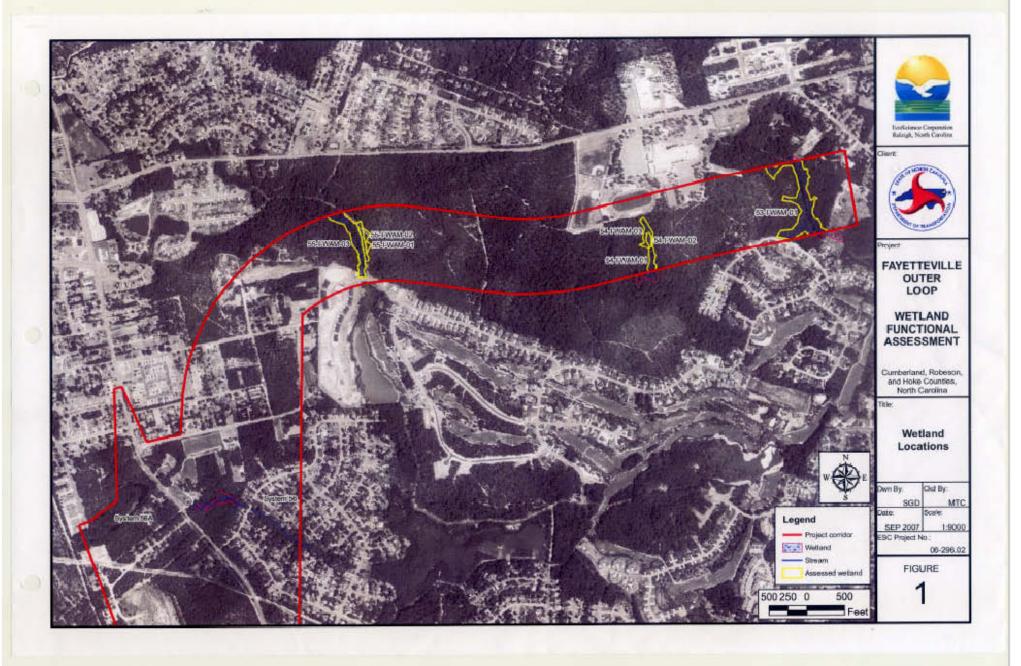
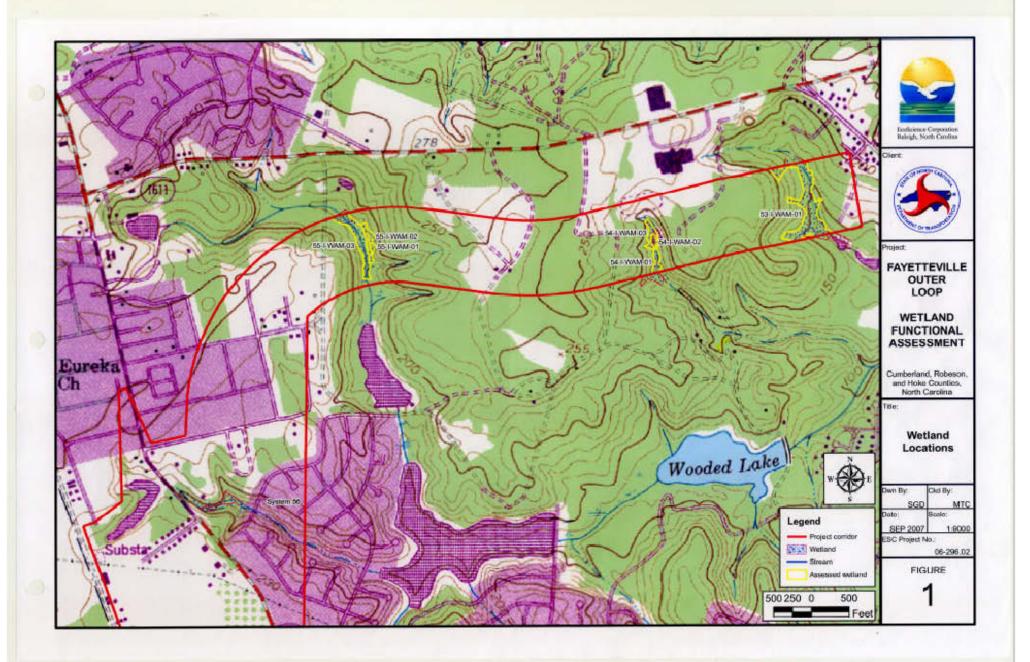
		I.	T											
								Water						
								Quality						
							Water	Sub-						
		ESC				Hydrology	Quality	Function	Water Quality	Habitat	Overall			
NCDOT	NCDOT	Sheet	ESC System		Assessment	Sub-	Sub-Function	(Modified	(Opportunity	Sub-	Wetland	USACE	NCWAM	Proposed
TIP/Section	Wetland Site	No.	Number	NC WAM Wetland Type	Area Size	Function	(Condition)	Condition)	Presence?)	Function	Quality	type	type	Impact
X-0002C	Site 6	1	53-I-WAM-01	Headwater Wetland	6	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	fill
X-0002C	Site 5	1	54-I-WAM-01	Riverine Swamp Forest	0.61	HIGH	HIGH	HIGH	NO	HIGH	1 HIGH	N	R	fill
X-0002C	Site 5	1	54-I-WAM-02	Non-Tidal Freshwater Marsh	0.23	HIGH	HIGH	X	X	HIGH	1 HIGH	N	R	fill
X-0002C	Site 5	1	54-I-WAM-03	Seep	0.69	HIGH	HIGH	Χ	X	HIGH	1 HIGH	N	N	fill
X-0002C	Site 4	1	55-I-WAM-01	Seep	0.36	HIGH	HIGH	Χ	X	HIGH	1 HIGH	R	N	fill
X-0002C	Site 4	1	55-I-WAM-02	Seep	0.55	LOW	LOW	X	X	LOW	3 LOW	R	Ν	bridged
X-0002C	Site 4	1	55-I-WAM-03	Bottomland Hardwood Forest	2.54	HIGH	HIGH	HIGH	YES	LOW	1 HIGH	R	R	bridged
X-0002C	Site 2	2	57-I-WAM-01	Headwater Wetland	8.41	HIGH	MEDIUM	HIGH	YES	HIGH	1 HIGH	Ν	R	fill
X-0002C	Site 1	2	A-I-WAM-01	Riverine Swamp Forest	3.17	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
X-0002B	Site 3	2,3	D-I-WAM-01	Riverine Swamp Forest	13.17	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	R	R	bridged
X-0002B	Sites 1a-c	3	L-I-WAM-01	Riverine Swamp Forest	6.17	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	bridged
U-2519E	Sites 2, 3	3,4	M-I-WAM-01	Headwater Wetland	4.76	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519E	Site 4	4	G2-I-WAM-01	Headwater Wetland	5.14	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519DA	Site 4	4	G2-I-WAM-02	Headwater Wetland	3.84	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519DA	Site 4	4	G2-I-WAM-03	Riverine Swamp Forest	6.27	MEDIUM	HIGH	HIGH	YES	MEDIUM	1 HIGH	R	R	fill
U-2519DA	Site 5	4	G3-I-WAM-01	Riverine Swamp Forest	7.17	MEDIUM	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519DA	Site 3	4	G3-I-WAM-02	Non-Tidal Freshwater Marsh	4.5	HIGH	HIGH	X	X	HIGH	1 HIGH	R	R	fill
U-2519DA	Sites 1, 2	4,5	O-I-WAM-01	Riverine Swamp Forest	13.01	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	R	R	fill
U-2519DA	? 15+50	5	N-I-WAM-01	Riverine Swamp Forest	1.09	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	N	R	fill
U-2519CB	Site 3	6	T-I-WAM-01	Headwater Wetland	0.21	LOW	MEDIUM	HIGH	YES	MEDIUM	2 MEDIUM	N	R	fill
U-2519CA	Site 6	9	Z1-II-WAM-03	Headwater Wetland	2.09	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH	N	R	fill
U-2519CA	Site 5	9	Z2-II-WAM-04	Riverine Swamp Forest	1.75	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	fill
U-2519CA	Site 4	9	Z4-II-WAM-08	Headwater Wetland	0.57	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	N	R	fill
U-2519CA	? ~670+50	9	ESC1-II-WAM-05	Headwater Wetland	0.1	LOW	MEDIUM	HIGH	YES	LOW	3 LOW		R	fill
U-2519CA	? ~670+50	9	ESC1-II-WAM-06	Headwater Wetland	0.25	HIGH	HIGH	HIGH	YES	MEDIUM	1 HIGH		R	fill
U-2519CA	Site 3	10	Z5-II-WAM-09	Headwater Wetland	2.97	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	bridged
U-2519CA	Site 2	10	Z6-II-WAM-20	Bottomland Hardwood Forest	1.07	HIGH	HIGH	HIGH	YES	LOW	1 HIGH	R	R	fill
U-2519CA	Site 2	10	Z6-II-WAM-19	Seep	2.41	HIGH	HIGH	X	X	HIGH	1 HIGH	R	N	fill
U-2519CA	Site 2	10	Z6-II-WAM-10	Bottomland Hardwood Forest	13.47	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	R	fill
U-2519CA	Site 2	10	Z6-II-WAM-12	Seep	0.48	HIGH	HIGH	Х	X	HIGH	1 HIGH	R	N	fill
U-2519CA	Site 2	10	Z6-II-WAM-13	Headwater Wetland	0.79	HIGH	HIGH	HIGH	YES	HIGH	1 HIGH	R	N	fill

Legend
High quality wetland
Medium quality wetland
Low quality wetland
USACE and NC WAM riverine vs non-riverine call inconsistent









		d Site Name	54-I-WAM01	Date	9/6/07
		etland Type		Assessor Name/Organization	AS, RA ESC
		i ⊑coregion River Basin	Southeastern Plains Cape Fear	Nearest Named Water Body USGS 8-Digit Catalogue Unit	Fails Creek, Wooded Lake 03030004
	□ Y			Latitude/Longitude (deci-degrees)	35.151326, -78.887395
	Please cir (for instan	cle and/or mace, within 10 Hydrological r Surface and septic tanks, t Signs of vege Habitat/plant of	ake note below if evidence of stressor years). Noteworthy stressors include nodifications (examples: ditches, da sub-surface discharges into the we underground storage tanks (USTs), h	ms, beaver dams, dikes, berms, ponds, etland (examples: discharges containing log lagoons, etc.) mortality, insect damage, disease, storm wing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
	Select all t	anadromous frederally protection of patural serious and (if tidal, cosment areas and a	he assessment area. ish ected species or State endangered of ian buffer rule in effect eent to or associated stream drains to d property of Coastal Management Area of Envi of Water Quality best usage classification. CNHP reference community tream is associated with the wetla theck one of the following boxes) a on a coastal island?	o a Primary Nursery Area ronmental Concern (AEC) (including buff ation of SA or supplemental classifications	s of HQW, ORW, or Trout
1.	Check the ass	a box in eac essment area ment area ba: VS ⊠A N □B S so al	 a. Compare to reference wetland if seed on evidence of alteration. ot severely altered everely altered over most of the assedimentation, fire-plow lanes, skidden 	the ground surface (GS) in the assessment applicable (see User Manual v1.0). If a see that a see that area (ground surface alteration ear tracks, bedding, fill, soil compaction, of turbance, herbicides, salt intrusion [whe	obvious pollutants) (vegetation structure
2.	Surface	and Sub-Su	ırface Storage Capacity and Durat	ion – assessment area condition metri	ic.
	Check (Sub). G) for N	a box in ead Consider both Iorth Carolina nly, while a ble. Sub A B B C C C C C C C C C C C C C C C C C	ch column. Consider surface storal increase and decrease in hydrologal hydric soils for the zone of influence ditch > 1 foot deep is expected to dater storage capacity and duration a fater storage capacity or duration are later storage capacity or duration are later storage capacity or duration are	age capacity and duration (Surf) and sulty. Refer to the NRCS Scope and Effect to of ditches in hydric soils. A ditch ≤1 if affect both surface and sub-surface we are not altered. • altered, but not substantially (typically, not substantially altered (typically, alteration, fill, sedimentation, channelization, diversity).	b-surface storage capacity and duration Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface ater. Consider tidal flooding regime, if ot sufficient to change vegetation).
3.	Water 9	Storage/Surf	ace Relief – assessment area/wetl	and type condition metric	
J.				orage for the assessment area (AA) and t	he wetland type (WT).
	AA □A ⊠B □C □D □E	WT □A > ⊠B > □C >	50% of the wetland type with depres 50% of the wetland type with depres 50% of wetland type with depression	ssions able to pond water > 2 feet ssions able to pond water 1 to 2 feet as able to pond water 6 inches to 1 foot as able to pond water 3- to 6-inches deep	

	4.**	Soil **exture/Structure – assessment area condition metric
	••	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot.
		National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance).
		□ A Sandy soil □ B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)
_		□ Predominantly characterized by other, mineral soil (no mottling)
\bigcirc		□D Gleyed mineral soil (F2, S4) □E Soil ribbon < 1 inch
\ /		☐F Soil ribbon ≥1 inch
		✓G No peat or muck presence☐H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)
		Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)
	5.	Discharge into Wetland – opportunity metric
		Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).
		Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub
		B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area
		C Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and
		potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
		sedimentation)
	6.	Land Use – opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area
		within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles
		and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.
		WS 5M 2M
		☐A ☐A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
		□B □B > 30% impervious surfaces without stormwater BMPs
		□C □C 10 to 30% impervious surfaces □D □D □D < 10% impervious surfaces
		☐E ☐E ☐E Old urban development (pink areas on USGS 7.5-minute quadrangles)
		☐F ☐F New adjacent development
)	
\ /		□I □I ≥20% coverage of pasture with effective riparian buffer
		□J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer □K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
		□L □L ≥20% coverage of maintained grass/herb
		 M ☐M ☐M Silvicultural land with disturbance < 5 years old N ☐N ☐N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or
		overbank flow from affecting the assessment area.
	7.	Wetland Acting as Vegetated Buffer – assessment area condition metric
		Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) ⊠Yes □No If No, Skip to next metric
		Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine
		widths of channels/braids for a total stream width.
		Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water?
		⊠Yes □No Is stream or other open water sheltered or exposed?
		⊠Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic.
		☐Exposed – adjacent open water with width ≥2500 feet or regular boat traffic.
	8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric
		Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need
		only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an
		anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed.
		WT WC RB (if applicable)
		□A □A ≥100 feet □B □B □B From 80 to < 100 feet
		C C C From 50 to < 80 feet
)	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
X , 2	,	F From 15 to < 30 feet
		□G □G From 5 to < 15 feet

	9.*	″ Inundat	tion Duration – assessment area condition metric
		Answer □A □B ⊠C	for assessment area dominant landform. Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation Evidence of long-duration inundation (7 to 30 consecutive days or more)
	10.		ors of Deposition – assessment area condition metric
		Conside □A ☑B □C	r recent deposition only (no plant growth since deposition). Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but not overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland.
	11.	Wetland	Size – wetland type/wetland complex condition metric
		Check a size of the applicabe a boundary WT. If a WT B C D D E G G H D I I J	box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the ne wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if le, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms are it is clear-cut, select "K" for FW column. WC FW (if applicable) A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres From 10 to < 25 acres From 5 to < 10 acres G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre J G J From 0.01 to < 0.5 acre
		□K	□K □K < 0.01 acre
•	12.		Intactness – wetland type condition metric (evaluate for Pocosins only)
			Wetland type is the full extent (≥90%) of its natural landscape size. Wetland type is < 90% of the full extent of its natural landscape size.
1	3.	Connecti	vity to Other Natural Areas – landscape condition metric
\bigcirc	į	Check al appropria agriculturi landscape WC ⊠A □B □C □D	ppropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if te) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and e), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (UC) to the
		Check Ye	s or No.
4	ĺ	⊠Yes [No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Is the assessment area subject to overbank flooding during normal conditions?
1.			ect – wetland type condition metric
	r [main point ∐A N ⊠B N	distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight so fit the compass. No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions No artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
1	5. \	/egetative	e Composition – assessment area condition metric (skip for marshes and Pine Flat)
		MA N S B N C C C	/egetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate pecies, with exotic plants absent or sparse within the assessment area. /egetation is different from reference condition in species diversity or proportions, but still largely composed of native species haracteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or learing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. /egetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic pecies or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16	_		e Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
\supset		⊒B ∨	egetation diversity is high and is composed primarily of native species. egetation diversity is low or has > 10% cover of exotics. egetation is dominated by exotic species.

	17:	Vegetative Structure – assessment area/wetland type condition metric
		∨ Vegetation present
		Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation
		B < 25% coverage of vegetation
)	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
\ /		AA WT □A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
		 ☑A ☑B ☐B ☐C ☐C Mid-story/sapling layer sparse or absent
		□A Dense shrub layer □B □B Moderate density shrub layer □C ☑C Shrub layer sparse or absent
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent
	18	Snags – wetland type condition metric
	10.	☐ B Shags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A
	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
		present. ⊠B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. □C Most canopy trees are < 6-inches DBH or no trees.
	20.	Large Woody Debris – wetland type condition metric
		Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). B Not A
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	,	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
		areas indicate vegetated areas, while solid white areas indicate open water.
	22.	Habitat Uniqueness – wetland type condition metric
	□Y	
	Note	9S

Wetland Site Name	54-I-WAM01	Date of Assessment 9/6/0	7
Wetland Type	Riverine Swamp Forest As		RA ESC
		70,1	VA 130
Presence of str	ressor affecting assessment area (Y/N)	NO	
Notes on Field	Assessment Form (Y/N)	NO	
	gulatory considerations (Y/N)	YES	
	nsively managed (Y/N)	NO	
Wetland may be	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	Summary		
Function	Sub-function	Metrics	Dotina
Hydrology	Surface Storage and Retention	Condition	Rating
	Sub-surface Storage and Retention		HIGH
Water Quality	Pathogen Change	Condition	MEDIUM
		Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	
	Particulate Change	Condition	NO MEDIUM
		Condition/Opportunity	
		Opportunity Presence (Y/N)	MEDIUM_ NO
	Soluble Change	Condition	
	Physical Change	Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	MEDIUM
		Condition	NO
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N)	
	Pollution Change	Condition	NO V
		Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
Habitat	Physical Structure	Condition	MEDILINA
	Landscape Patch Structure	Condition	MEDIUM MEDIUM
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
unction Rating Summ	nary		
unction		Metrics	
łydrology		Condition	Rating
Vater Quality		Condition	HIGH
		Condition/Opportunity	HIGH
		•	HIGH
labitat		Opportunity Presence (Y/N)	NO
		Condition	HIGH

		V E.	Data	9/6/07
		53-I-WAM01	Date	AS, RA / EcoScience
Wet	land Site Name	Headwater Wetland	Assessor Name/Organization	Falls Creek
	Wetland Type	Southeastern Plains	Nearest Named Water Body USGS 8-Digit Catalogue Unit	03030004
Lev	el III Ecoregion River Basin	Cape Fear	(2007DD in all / deai dograps)	35.152096, -78.879960
	J Voc ⊠ No	Precipitation within 48 hrs?		
Evide Pleas (for in	ence of stressors the circle and/or mail anstance, within 10 Hydrological Surface and	years). Noteworthy stressors incomodifications (examples: ditches sub-surface discharges into the underground storage tanks (UST)	a (may not be within the assessment area essors is apparent. Consider departure fror clude, but are not limited to the following. s, dams, beaver dams, dikes, berms, ponds, e wetland (examples: discharges containing rs), hog lagoons, etc.) tion mortality, insect damage, disease, storn mowing, clear-cutting, exotics, etc.)	etc.) 3 obvious pollutants, presence of nearby
	 Habitat/plant 	community alteration (examp	Yes 🛛 No	
Desc Sew	cribe effects of seer lien right of way	tressors that are present. y adjacent to wetland		
Sele	Anadromou Federally pr NCDWQ rip Wetland ad Publicly ow N.C. Divisic N.C. Divisic	o the assessment area. Is fish rotected species or State endang parian buffer rule in effect jacent to or associated stream dr med property on of Coastal Management Area on of Water Quality best usage cl	rains to a Primary Nursery Area of Environmental Concern (AEC) (including l lassification of SA or supplemental classifica	buffer) tions of HQW, ORW, or Trout
	Designated	NCNHP reference community	e wetland, if any? (Check all that apply)	
Wh	nat type of natura	al stream is associated with the	g wettand, if any i (
	Blackwater			
	Brownwate	er al, check one of the following box —	(es) 🗌 Lunar 🔲 Wind 🔲 Both	
	Tidal (if tida	al, check one of the following so-	N NO	
10	the assessment	area on a coastal island?	Yes No	hy heaver? ☐ Yes ☒ No
13	tile decement	aroa's surface water storage c	apacity or duration substantially altered b	Dy beaver?
1.	Ground Surface Check a box in the assessment assessment are	e Condition/Vegetation Conditi each column. Consider altera area. Compare to reference we a based on evidence of alteration	on – assessment area condition metric tion to the ground surface (GS) in the asse etland if applicable (see User Manual v1.0). n.	ssment area and vegetation structure (VS) in the same of the last the same is not applicable, then rate the same is not applicable, then rate the same is not applicable.
	GS VS ⊠A ⊠A □B □B	alteration examples: mecha less diversity [if appropriate],	If the assessment area (ground surface alterates, skidder tracks, bedding, fill, soil compactanical disturbance, herbicides, salt intrusion artificial hydrologic alteration)	[where appropriate], one at
	o of an and C	Otamana Canacity a	nd Duration – assessment area condition	and sub-surface storage capacity and duration
2.	Check a box in (Sub). Consider G) for North Callwater only, when applicable.	in each column. Collisider saider both increase and decrease in arolina hydric soils for the zone of the a ditch > 1 foot deep is expected.	in hydrology. Refer to the NRCS Scope and of influence of ditches in hydric soils. A ditches in hydric soils.	Effect Guide (see Gost manual) and the set of the set
	Surf Sub	Water storage capacity and Water storage capacity or d Water storage capacity or d	duration are not altered. uration are altered, but not substantially (typi uration are substantially altered (typically, alt ve ditching, fill, sedimentation, channelizatio or lines, soil compaction).	ically, not sufficient to change vegetation). teration sufficient to result in vegetation n, diversion, man-made berms, beaver
		change) (examples: Intensi dams, stream incision, sew	61 1111001 0011 0011	
		change) (examples: Intensi dams, stream incision, sew	61 1111001 0011 0011	
3	3. Water Storag	change) (examples: Intensi dams, stream incision, sew	61 1111001 0011 0011	
3	Water Storag	change) (examples: Interest dams, stream incision, sew- ge/Surface Relief – assessment in each column. Select the app	er lines, soil compaction). tarea/wetland type condition metric propriate storage for the assessment area (A with depressions able to pond water > 2 feel with depressions able to pond water 1 to 2 for a depressions able to pond water 6 inches to	A) and the wetland type (WT).

t	-	*				
•	4.	Soil Texture Select all th	Structur	re – asses . Dig soil	sment area condition metric profile in the dominant assessment area landscape feature. Make soil observations within r Hydric Soils regional indicators are noted (use most recent guidance). r Hydric Soils regional indicators are noted (use most recent guidance).	the top foot.
			ndy soli edominar edominar eyed min sil ribbon	ntly charact ntly charact eral soil (F: < 1 inch	erized by mottled (redoxymorphic features), mineral soil (1 6, 1 6, 1 2, 1 2, 1 2, 1 2, 1 2, 1 2,	
		☐G No ☑H A	peat or m	muck prese nuck preset ck soil (hist	osol or histic epipedon) (A1, A2, A3)	
	5.	Discharge	into Wet	land - opp	ortunity metric configuration or disconnection of the configuration of t	harges (Sub).
		Examples of	ot sub-sur	nace discre	11903 1101000	
		□A ⊠ ⊠B □]B N	Voticeable	evidence of pollutants or discharges entering the assessment area evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming apacity of the assessment area evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the evidence of particulates (pathogen, pathogen, path	
			5	sedimentati	on)	
	6.	within enti	re upstre	ershed drain	tion of this metric involves a constitution of this metric involves and within the watershed draining to the assessment area (5M), and (WS), within 5 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet withing to the Mountains.	
		ws :	5M	2M □A >	30% impervious surfaces with stormwater Best Management Plactices (Billie 9) (terrer 1) and high-density residential)	amples:
		□c	□c	□c 1	of the continuous surfaces without stormwater BMPs to 30% impervious surfaces to 30% impervious surfaces to 30% impervious surfaces to 30% impervious surfaces	
		\Box D		T- (old urban development (pink areas on 0303 7.5 minute 4	
		□F □G	□F □G □H		Confined animal operations (or other local, conformation) >20% coverage of pasture without riparian buffer	
	()				≥20% coverage of pasture with effective riparian buffer ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer >20% coverage of agricultural land (regularly plowed land) with effective riparian buffer	
		□N □N	 	□N N L	≥20% coverage of maintained grassmand. Silvicultural land with disturbance < 5 years old Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that pre overbank flow from affecting the assessment area.	vent drainage or
		7. Wetland	Acting		ed Buffer – assessment area condition metric n 50 feet of a stream or other open water? ("open water" does not include man-made ditches If No. Skip to next metric	or canals)
1		Is the as	sessmen	nt area with ☐No tream width	If No, Skip to next metric If No, Skip to next metric is normal flow width [ordinary high water to ordinary high water]). If the stream is anast	omosed, combine
			of channe S ≥15- s of asses	is/braids io -feet wide ssment are	r a total stream width.	
		ls strea	m or othe Shel	er open wat Itered – adj	er sheltered or exposed? acent open water with width < 2500 feet <u>and</u> no regular boat traffic.	
			_	- cc - 1	width assessment area/wetland type/wetland complex mount	e wetland complex
: :		Check (WC), a only be anasto	a box ir	n each col iparian buf t on one s ystem. Ma	Vidth – assessment area/wetland type/wetland complex metric umn. Select the appropriate width for the wetland type at the assessment area (WT), th er at the assessment area (RB) (if applicable). Riparian buffer width is measured from top er at the assessment area (RB) (if applicable). Riparian buffer width is measured from the outside banks of the out de of the water body. The riparian buffer is measured from the outside banks of the out ke buffer judgment based on dominant landscape feature. Record a note if a portion of the	of bank and need ter channels of an ne buffer has been
		WT	WC WC ⊠A	RB (if a ⊠A	pplicable) ≥100 feet	
		⊠A □B □C		⊟B ⊟C	From 80 to < 100 feet From 50 to < 80 feet	
					From 40 to < 50 feet From 30 to < 40 feet From 15 to < 30 feet	
\	, <u>, , , , , , , , , , , , , , , , , , </u>		□F □G □H	□F □G □H	From 5 to < 15 feet < 5 feet	

2	•		, Inundation Duration – assessment area condition metric
	9	•	to the second landform
			Evidence of short-duration includation
			⊠A Evidence of short-duration included in the decidence of inundation □B Evidence of saturation, without evidence of inundation □C Evidence of long-duration inundation (7 to 30 consecutive days or more)
		_	Indicators of Deposition – assessment area condition metric
	\bigcap^1	0.	Consider recent deposition only (no plant growth since deposition).
(1		Sediment deposition is not excessive, but not overwhelming the wetland.
			type/wetland complex condition metric
		11.	Wetland Size – wetland type/wetland complex condition metric Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland (FW) (if size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous wetland complex (WC), and the size of the contiguous wetland (FW) (if size of the contiguous wetland complex (WC), and the size of the contiguous wetland (FW) (if size of th
			WT WC FW (If applicable)
			□A □A ≥500 acres □B □B From 100 to < 500 acres
			C C From 50 to < 100 acres
			D D D From 25 to < 35 acres
			□F □F From 5 to < 10 acres
			H: H From 0.5 to < 1 acre
			⊠I ☐ From 0.01 to < 0.1 acre
			H. H. Constant
		12	wotland type condition metric (evaluate for Pocosins only)
			Wetland type is the full extent (\$\geq 90\%) of its natural landscape size.
			B Wetland type is < 90% of the full extent of the landscape condition metric Connectivity to Other Natural Areas – landscape condition metric Connectivity to Other Natural Areas – landscape patch, the contiguous naturally vegetated area and open water (if
	ے	13	Check appropriate box(es). This metric feles to the tall-socret property of ta
	•	/	landscape patch. WC LC
			MA ☐A ≥500 acres ☐B ☐B From 100 to < 500 acres
			C C From 50 to < 100 acres
			D D From 10 to < 50 acres E DE < 10 acres Connection to other natural habitats
			Wetland type has a poor or no connection to other reaction reaction.
			Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Yes No Is the assessment area subject to overbank flooding during normal conditions?
			Tree to west and type condition metric
			Estimate distance from wetland type boundary to artificial edges. Finance in two-lane road, and clear-cuts < 10 years old. Consider the distance two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the distance two-lane road, and clear-cuts < 10 years old.
			main points of the compass. No artificial edge within 150 feet in all directions
			B No artificial edge within 150 feet in more than four directions or assessment area is clear-cut
			Species, with exotic plants absent of species diversity or proportions, but still largely composed of a single year to species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic species of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic species of weedy native species that develop after clearcutting or characteristic species of weedy native species that develop after clearcutting or characteristic species of weedy native species that develop after clearcutting or characteristic species of weedy native species that develop after clearcutting or characteristic species of weedy native species that develop after clearcutting or characteristic species that develop after clearcutting or characteristic species of weedy native species that develop after clearcutting or characteristic species are clearcutting or characteristic species of weedy native species or characteristic species or characteris
			Species or composed of planted stands of non-characteristic species or inappropriately composed species or composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed of planted stands of non-characteristic species or inappropriately composed stands of non-characteristic species or inappropri
1			16. Vegetative Diversity – assessment area condition metric (evaluate to the
1		_	TA Vegetation diversity is low or has > 10% cover of exotics.
1	1)

1 -	⊌, د	account area/wetland type condition metric
1		Vegetative Structure – assessment area/wetland type condition metric
		∀egetation present Evaluate percent coverage of vegetation for marshes only Evaluate percent coverage of vegetation
		□ A ≥25% coverage of vegetation □ A ≥25% coverage of vegetati
		□A ≥25% coverage of vegetation □B <25% coverage of vegetation □Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands.
		t mature in aircnace applye the assessment with
		⊠A Canopy closed, or nearly closed, with natural gaps
		□B □B Canopy present, but operiod more distance and the control of the control o
		Dence mid-story/sapling layer
		B Moderate density in industry by San
		Dense shrub laver
		B B Moderate density shrub layer
		Dense herb laver
		□ B □ Moderate details feet beyon
		☐ Vegetation absent
	18.	 Snags – wetland type condition metric A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).
		□p Not A
	10	
	13	Most canopy trees have stems > 0-inches in diameter
		present. Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.
		Most canopy trees are < 6-inches DBH of the trees.
	20	D. Large Woody Debris – wetland type condition metric Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).
		A Large logs (more than one) are present (> 12-inches in diameter, or large research only)
	\	□ B Not A 1. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) 1. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) 1. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
(\mathcal{F}^{2}	1. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Notification and open water in the growing season. Patterned Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
		areas indicate vegetated areas, while some DB
		dend to me condition metric
		22. Habitat Uniqueness – wetland type condition metric ☐Yes ☑No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
		□Yes ☑No Has the N.C. Environmental Wantgement of
		Notes
		Notes
1		
\		
1	١	
	1	

		Date of Assessment	9/6/07	
etland Site Name	53-I-NCWAM01	sor Name/Organization	AS, RA / Ec	oScience
etland Type	Headwater Wetland Assess	-		
		YES		
Presence of st	ressor affecting assessment area (Y/N)	NO		
Notes on Field	Assessment Form (Y/N)	NO		
Presence of re	egulatory considerations (Y/N)	NO		
Wetland is inte	ensively managed (Y/N)			
Wetland may	be a high-quality riverine wetland (Y/N)			
ub-function Ratir	ng Summary			Rating
unction	Sub-function	Metrics		HIGH
ydrology	Surface Storage and Retention	Condition		HIGH
ydiology	Sub-surface Storage and Retention	Condition		LOW
Vater Quality	Pathogen Change	Condition		MEDIUM
valer Quanty		Condition/Opportunity		YES
		Opportunity Presence	= (1/14) _	HIGH
	Particulate Change	Condition	_	X
		Condition/Opportunit		X
		Opportunity Presenc	e (1/N)	HIGH
	Soluble Change	Condition		HIGH
		Condition/Opportunity		
		Opportunity Present	e (Y/N)	YES HIGH
	Physical Change	Condition		HIGH
	, .,,	Condition/Opportuni		YES
		Opportunity Present	ce (Y/N)	
	Pollution Change	Condition		X
	, ondian charge	Condition/Opportun		X
		Opportunity Presen	ce (Y/N)	X
	Physical Structure	Condition		HIGH
Habitat	Landscape Patch Structure	Condition		HIGH
	Vegetation Composition	Condition		MEDIUM
	Uniqueness	Condition		NO
	Olliquolitose			
Function Rating	g Summary	Metrics		Rating
Function		Condition		HIGH
Hydrology		Condition		HIGH
Water Quality		Condition/Opportu	nity	HIGH
		Opportunity Prese		YES
		Condition		HIGH
Habitat				

			Date Assessor Name/Organization Nearest Named Water Body	9/6/07 AS, RA, EcoScience				
	River Ba	ion Southeastern Plains						
		sin Cana Foor						
- 7		SIII Cabe real	USGS 8-Digit Catalogue Unit	Falls Creek, Wooded Lake				
		No Precipitation within 48 hrs?	atitude/l opaitude (desi de march)	03030004				
1			Latitude/Longitude (deci-degrees)	35.151839, -78.887505				
	(for instance, within Hydrologic Surface a septic tank Signs of ve Habitat/pla	r make note below if evidence of stres 10 years). Noteworthy stressors included all modifications (examples: ditches, and sub-surface discharges into the volumers, underground storage tanks (USTs)	n mortality, insect damage, disease, storm on moving, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby				
l	Long standing, man	made dam source of hydrology, near	school property					
	Anadromou Federally p NCDWQ ri Wetland ac Publicly ow N.C. Division N.C. Division	to the assessment area. us fish protected species or State endangered parian buffer rule in effect djacent to or associated stream drains and property on of Coastal Management Area of Fn		er) of HQW, ORW, or Trout				
V		-						
	Blackwater Brownwate Tidal (if tida		and, if any? (Check all that apply) ☐ Lunar ☐ Wind ☐ Both ☐ No					
İs	s the assessment a		-	avor? 🗆 Vos 🕅 Na				
	Is the assessment area's surface water storage capacity or duration substantially altered by beaver? ☐ Yes ☒ No 1. Ground Surface Condition/Vegetation Condition — assessment area condition metric							
	the assessment a	peach column. Consider alteration to rea. Compare to reference wetland it based on evidence of alteration. Not severely altered Severely altered over most of the ass sedimentation, fire-plow lanes, skide	the ground surface (GS) in the assessment applicable (see User Manual v1.0). If a research sessment area (ground surface alteration extent tracks, bedding, fill, soil compaction, obsturbance, herbicides, salt intrusion laboration and the sturbance.	camples: vehicle tracks, excessive				
2.	Surface and Sub-	Surface Storage Capacity and Dura	tion – assessment area condition metric					
	Check a box in € (Sub). Consider b G) for North Carol water only, while applicable. Surf Sub ⊠A ⊠A □B □B □C □C	each column. Consider surface storage in hydrolo in hydric soils for the zone of influent a ditch > 1 foot deep is expected to water storage capacity and duration and Water storage capacity or duration and water s	rage capacity and duration (Surf) and sub- gy. Refer to the NRCS Scope and Effect (ce of ditches in hydric soils. A ditch ≤1 for affect both surface and sub-surface was are not altered. e altered, but not substantially (typically, not e substantially altered (typically, alteration so g. fill, sedimentation, channelization, diversi-	surface storage capacity and duration Guide (see User Manual v1.0 Appendix to deep is considered to affect surface ter. Consider tidal flooding regime, if				
2								
3.		rface Relief – assessment area/wet						
	Check a box in ea	ich column. Select the appropriate st	orage for the assessment area (AA) and the	e wetland type (WT).				
)	MA	> 50% of the wetland type with depres > 50% of the wetland type with depres > 50% of wetland type with depressio	ssions able to pond water > 2 feet ssions able to pond water 1 to 2 feet ns able to pond water 6 inches to 1 foot ns able to pond water 3- to 6-inches deep					

4.	SoîÎ Texture/Structure – assessment area condition metric					
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot.					
	National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance).					
_	☐C Predominantly characterized by other, mineral soil (no mottling)					
	☐D Gleyed mineral soil (F2, S4) ☐E Soil ribbon < 1 inch					
	☐F Soil ribbon ≥1 inch					
	□G No peat or muck presence □H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)					
	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)					
5.	Discharge into Wetland – opportunity metric					
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).					
	Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub					
	B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area					
	C Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and					
	potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)					
6.	Land Use – opportunity metric					
0.	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area					
	within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles					
	and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.					
	WS 5M 2M					
	□A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:					
	□B □B > 30% impervious surfaces without stormwater BMPs					
	☐C ☐C 10 to 30% impervious surfaces ☐D ☐D ☐D <10% impervious surfaces					
	□E □E ○Id urban development (pink areas on USGS 7.5-minute quadrangles)					
	□F □F New adjacent development					
	□G □G □G Confined animal operations (or other local, concentrated source of pollutants) □H □H □H ≥20% coverage of pasture without riparian buffer					
	□I □I ≥20% coverage of pasture with effective riparian buffer					
	□J □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer					
	□L □L ⊇20% coverage of maintained grass/herb					
	 M M M M N N D /ul>					
	N N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.					
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric					
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)					
	widths of channels/braids for a total stream width.					
	So tools of assessment area vegetation extend into the bank of the adjacent stream/open water? Since I water?					
	Is stream or other open water sheltered or exposed? ☑Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic.					
	Shellered – adjacent open water with width ≥2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.					
8.	Wetland/Riparian Buffer Width - assessment area/wetland type/wetland complex metric					
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex					
	(WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an					
	anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been					
	removed or disturbed. WT WC RB (if applicable)					
	□A □A ⊠A ≥100 feet					
	□B □B From 80 to < 100 feet					
	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □					
()	☐E ☐E From 30 to < 40 feet					
•	☐F ☐F From 15 to < 30 feet ☐G ☐G ☐G From 5 to < 15 feet					
	□H □H <5 feet					

	9.	Inund	ation Duration – assessment area condition metric				
		Answe	r for assessment area dominant landform.				
		∐A □B	Evidence of short-duration inundation (< 7 consecutive days)				
		⊠c	Evidence of saturation, without evidence of inundation				
	10		Evidence of long-duration inundation (7 to 30 consecutive days or more)				
	10.	Consid	tors of Deposition – assessment area condition metric				
		Consid ⊠A	er recent deposition only (no plant growth since deposition).				
		□B	Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but not overwhelming the wetland.				
		□с	Sediment deposition is excessive and is overwhelming the wetland.				
	11.	Wetlan	d Size – wetland type/wetland complex condition metric				
		Check	a box in each column. Involves a GIS offert with field adjustment.				
		applical a bound WT. If if WT B C D D E F	ble, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms dary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WC FW (if applicable)				
		□G	UG ⊠G From 1 to < 5 acres				
		∏H ⊠I	☐H ☐H From 0.5 to < 1 acre				
		ij	☐ ☐ From 0.1 to < 0.5 acre ☐ ☐ ☐ From 0.01 to < 0.1 acre				
		∐κ	□K □K < 0.01 acre				
1.	2.	Wetland	I Intactness – wetland type condition metric (evaluate for Pocosins only)				
		ΠA	Wetland type is the full extent (≥90%) of its natural landscape size.				
		□в	Wetland type is < 90% of the full extent of its natural landscape size.				
1:	3.	Connect	tivity to Other Natural Areas – landscape condition metric				
\supset	; ; ;	Check a appropria agricultu landscap WC	ate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and open water), or open water > 300 feet wide. Consider if the workend type is well as a real to take the workend type.				
		⊠A	□A ≥500 acres				
		_]B _]C	☐B From 100 to < 500 acres ☐C From 50 to < 100 acres				
		∃ŏ	☐C From 50 to < 100 acres ☐D From 10 to < 50 acres				
]E	□E < 10 acres				
	Ĺ]F	F Wetland type has a poor or no connection to other natural habitats				
	_	_	es_or No.				
			 □No /ul>				
14	. Е	dge Eff	ect – wetland type condition metric				
	E	stimate	distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,				
	n	nain poin	or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight to of the compass.				
	Σ	 ∄A .	No artificial edge within 150 feet in all directions				
		JB ∶	No artificial edge within 150 feet in four to seven directions				
]C .	An artificial edge occurs within 150 feet in more than four directions <u>or</u> assessment area is clear-cut				
15.	. v	egetativ	etative Composition – assessment area condition metric (skip for marshes and Pine Flat)				
	L	JA ,	vegetation is close to reference condition in species present and their proportions. I give starts				
]B \	Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species diversities of the wetland type. This may include computation of the wetland type. This may include computation of the species diversities din				
]C \	Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.				
16.	V	egetativ	e Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)				
	\times]A ۱	/egetation diversity is high and is composed primarily of native species.				
)			/egetation diversity is low or has > 10% cover of exotics. /egetation is dominated by exotic species.				

	7 17.	Vegetative Structure – assessment area/wetland type condition metric						
		 ✓ Vegetation present Evaluate percent coverage of vegetation for marshes only 						
		⊠A ≥25% coverage of vegetation						
		B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider						
	ŀ	structure in airspace above the assessment area (AA) and the wetland type (WT) separately.						
<i>.</i>)	!	AA WT A Canopy closed, or nearly closed, with natural gaps associated with natural processes B B Canopy present, but opened more than natural gaps C Canopy sparse or absent						
		□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent						
		□A□B□B□C□C□CShrub layer sparse or absent						
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent						
	18.	Snags – wetland type condition metric						
		Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A						
	19.	Diameter Class Distribution – wetland type condition metric Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are						
		present						
		Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees.						
	20.	Large Woody Debris – wetland type condition metric						
		Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). B Not A						
	21.	Vegetation/Open Water Dispersion wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)						
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.							
		□ A □ B □ C □ D						
	22	Habitat Uniqueness – wetland type condition metric						
		—						
	Not	es						
		ndated during drought						

welland Site Name	54INCWAM02	Date of Assessment	9/6/07	
Wetland Type	Non-Tidal Freshwater Marsh A	Assessor Name/Organization	AS, RA, EcoScience	
_				
	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	YES		
vvetland may b	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	Summary			
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	X	
	Sub-surface Storage and Retenti	ion Condition	X	
Water Quality	Pathogen Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence		
	Particulate Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Soluble Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence		
	Physical Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence ((Y/N) X	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence (
Habitat	Physical Structure	Condition		
	Landscape Patch Structure	Condition	MEDIUM	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
Function Rating Sum	ımarv			
unction		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence (
-labitat		Condition	HIGH	

	Wetland Site Nam	e <u>54-I-WAM03</u>	Date	9/6/07
	Wetland Typ		Assessor Name/Organization	AS, RA, EcoScience
		n Southeastern Plains	Nearest Named Water Body	
$\overline{}$		n Cape Fear	USGS 8-Digit Catalogue Unit	03030004
<i>)</i>	☐ Yes 🗵 No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.152268, -78.887746
F (1	Please circle and/or r for instance, within 1 • Hydrologica • Surface and septic tanks • Signs of veg • Habitat/plan	nake note below if evidence of stressor oyears). Noteworthy stressors included modifications (examples: ditches, daid sub-surface discharges into the well, underground storage tanks (USTs), higheration stress (examples: vegetation it community alteration (examples: morea intensively managed?	ms, beaver dams, dikes, berms, ponds, eland (examples: discharges containing log lagoons, etc.) mortality, insect damage, disease, storm wing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
	Describe effects of said	stressors that are present. otball field		
S	Anadromous Federally pr NCDWQ rip Wetland adj Publicly owr N.C. Division N.C. Division	o the assessment area. Is fish otected species or State endangered of arian buffer rule in effect acent to or associated stream drains to the property In of Coastal Management Area of Envi	·	
	_	•	and if any 2 (Charle all that apply)	
ľ	- *** · · · · · · · · · · · · · · · ·	stream is associated with the wetla	nu, ii any ? (Check an that appry)	
		, check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both	•
) ,	the accessment a	rea on a coastal island?	⊠ No	
-				
ls	the assessment a	rea's surface water storage capacity	or duration substantially altered by b	eaver?
1.	Check a box in e	rea. Compare to reference wetland if based on evidence of alteration. Not severely altered Severely altered over most of the assisted sedimentation, fire-plow lanes, skidd alteration examples: mechanical dis	he ground surface (GS) in the assessment area (ground surface alteration er tracks, bedding, fill, soil compaction, turbance, herbicides, salt intrusion [whe	ent area and vegetation structure (VS) in reference is not applicable, then rate the examples: vehicle tracks, excessive obvious pollutants) (vegetation structure ere appropriate], exotic species, grazing,
		less diversity [if appropriate], artificial	hydrologic alteration)	
2.	Surface and Sub-	Surface Storage Capacity and Dura	tion – assessment area condition metr	ric
	(Sub). Consider b G) for North Carol	oth increase and decrease in hydrologina hydric soils for the zone of influence a ditch > 1 foot deep is expected to Water storage capacity and duration at Water storage capacity or duration are Water storage capacity or duration are	gy. Refer to the NRCS Scope and Effect of ditches in hydric soils. A ditch ≤1 of affect both surface and sub-surface vare not altered. The altered, but not substantially (typically, alteration of fill, sedimentation, channelization, dive	n sufficient to result in vegetation
_	W-4 0410-	ırface Relief – assessment area/wet	and type condition metric	
3.	water Storage/Su	irrace Keller – assessment area/wet	torage for the assessment area (AA) and	the wetland type (WT).
		acn column. Select the appropriate s	torage for the assessment area (AA) and	
	AA WT □A □A □B □B □C □C □D □D ⊠E ⊠E	> 50% of the wetland type with depre > 50% of the wetland type with depre > 50% of wetland type with depressio > 50% of wetland type with depression Depressions able to pond water < 3-i	ssions able to pond water 1 to 2 leet ons able to pond water 6 inches to 1 foot ons able to pond water 3- to 6-inches dee	p

* 4.	SoĦ Te	xture/Str	ucture -	- assessment area condition metric					
		al Technic Sandy	al Comm soil	Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. nittee for Hydric Soils regional indicators are noted (use most recent guidance).					
	□C □D	C Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4)							
	⊠E □F		bon < 1 i bon ≥1 i						
	□G ⊠H			k presence presence (A6, A7, A8, A9, A10, F1, S1)					
		Peat or	muck so	il (histosol or histic epipedon) (A1, A2, A3)					
5.		_		- opportunity metric					
	Exampl Surf	es of sub Sub	-surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). discharges include presence of nearby septic tank, underground storage tank (UST), etc.					
	⊠a □B	⊠a □B	Notice	or no evidence of pollutants or discharges entering the assessment area able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ent capacity of the assessment area					
	□с	□c	Notice potent	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive entation)					
6.		se – opp	_						
	within e and witl	entire upst hin the wa	tream wa atershed ont and 3	valuation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area stershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal to feet wide in the Mountains.					
	□A	□A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)					
	□B □C	□в □c	□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces					
	\boxtimes D	\boxtimes D	\boxtimes D	< 10% impervious surfaces					
	□E □F	□E □F	□E □F	Old urban development (pink areas on USGS 7.5-minute quadrangles) New adjacent development					
	□G □H	□G □H	□G □H	Confined animal operations (or other local, concentrated source of pollutants) ≥20% coverage of pasture without riparian buffer					
				≥20% coverage of pasture with effective riparian buffer					
	□k □l	□J □K	□J □K	≥20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer					
	□L □M	□L	□L □M	≥20% coverage of maintained grass/herb Silvicultural land with disturbance < 5 years old					
	⊠N	⊠N	⊠N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.					
7.				tated Buffer – assessment area condition metric					
	Is the as	ssessmer ⊟Yes	nt area wi ⊠No	ithin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric					
		width (St of <u>ch</u> annel	ream wid	dth is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine for a total stream width.					
	Do roots	_	sment a	rea vegetation extend into the bank of the adjacent stream/open water?					
	Is strear	m or othei ∐Shelt	r open wa ered – ad	ater sheltered or exposed? djacent open water with width < 2500 feet <u>and</u> no regular boat traffic. jacent open water with width ≥2500 feet <u>or</u> regular boat traffic.					
8.	Wetland	d/Riparia	n Buffer	Width – assessment area/wetland type/wetland complex metric					
	(WC), a only be anaston	nd the rip	oarian bu on one s stem. Ma	olumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex ffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been					
	WT	WC	RB (if a	applicable)					
	□A □B	□A ⊠B	□A □B	≥100 feet From 80 to < 100 feet					
	□c	□С	□с	From 50 to < 80 feet					
	□D ⊠E	□D □E	□D □E	From 40 to < 50 feet From 30 to < 40 feet					
` '	□F	□F	□F	From 15 to < 30 feet From 5 to < 15 feet					
	□G □H	□G □H	□G □H	< 5 feet					

	' 9.	Inumdatio	on Duration – assessment area condition metric						
			or assessment area dominant landform.						
		☐A Evidence of short-duration inundation (< 7 consecutive days)☐B Evidence of saturation, without evidence of inundation							
		☐B Evidence of saturation, without evidence of inundation ☐C Evidence of long-duration inundation (7 to 30 consecutive days or more)							
_	10.	Indicator	s of Deposition – assessment area condition metric						
)	Consider	recent deposition only (no plant growth since deposition).						
` ′			Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but not overwhelming the wetland.						
			Sediment deposition is excessive, but not overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland.						
	11.	Wetland	Size – wetland type/wetland complex condition metric						
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT. WC. FW (if applicable) □ A. □ A. ≥500 acres □ B. □ B. From 100 to < 500 acres							
		□□□	□C □C From 50 to < 100 acres □D □D From 25 to < 50 acres						
			☐E ☐E From 10 to < 25 acres ☑F ☐F From 5 to < 10 acres						
		□G	□G ⊠G From 1 to < 5 acres						
		=	☐H ☐H From 0.5 to < 1 acre ☐I ☐I From 0.1 to < 0.5 acre						
		□J	☐J ☐J From 0.01 to < 0.1 acre						
		□K							
	12.		Intactness – wetland type condition metric (evaluate for Pocosins only)						
			Wetland type is the full extent (≥90%) of its natural landscape size. Wetland type is < 90% of the full extent of its natural landscape size.						
	13.		vity to Other Natural Areas – landscape condition metric						
)	appropriate agriculture landscape	opropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if te) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and e), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the e patch.						
		_	□A ≥500 acres						
		=	□B From 100 to < 500 acres □C From 50 to < 100 acres						
			□D From 10 to < 50 acres □E < 10 acres						
		_	□E < 10 acres □F Wetland type has a poor or no connection to other natural habitats						
		Check Ye							
			 □No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) □No Is the assessment area subject to overbank flooding during normal conditions? 						
		-	ect – wetland type condition metric						
		two-lane o	distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight ts of the compass.						
		⊠A i	No artificial edge within 150 feet in all directions						
			No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut						
			e Composition – assessment area condition metric (skip for marshes and Pine Flat)						
		⊠A \	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate						
		□B \	species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic						
		□c '	species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.						
	16.		re Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)						
			Vegetation diversity is high and is composed primarily of native species.						
		□B Vegetation diversity is low or has > 10% cover of exotics. □C Vegetation is dominated by exotic species.							

	* 17.	Vegetative Structure – assessment area/wetland type condition metric					
		Evaluate percent coverage of vegetation for marshes only					
		☐A ≥25% coverage of vegetation					
		☐B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider					
)	structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT					
` '		☐A ☐A Canopy closed, or nearly closed, with natural gaps associated with natural processes ☐B ☐B Canopy present, but opened more than natural gaps					
		☐C ☐C Canopy sparse or absent					
		□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent					
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent					
		☐ Vegetation absent					
	18.	Snags – wetland type condition metric					
		□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A					
	19.	Diameter Class Distribution – wetland type condition metric					
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are					
		present. Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.					
		□C Most canopy trees are < 6-inches DBH or no trees.					
	20.	Large Woody Debris – wetland type condition metric					
	-0.	Include both man-made and natural debris piles.					
		□A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). □B Not A					
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)					
	,	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned					
		areas indicate vegetated areas, while solid white areas indicate open water.					
		Habitat Uniqueness – wetland type condition metric Tes No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"					
	□Y	es No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"					
	Note	es					

 \bigcirc

Wettand Site Name	J4INCVAIVIO2	Date of Assessment 9/6/	07
Wetland Type	Non-Tidal Freshwater Marsh As	ssessor Name/Organization AS,	RA, EcoScience
Presence of str	ressor affecting assessment area (Y/N)	YES	
	Assessment Form (Y/N)	YES	
	gulatory considerations (Y/N)	YES	
	nsively managed (Y/N)	YES	
	e a high-quality riverine wetland (Y/N)		
	•		
Sub-function Rating Function	3 Summary Sub-function		
		Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	X
\A/-t \O	Sub-surface Storage and Retention		X
Water Quality	Pathogen Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
	Particulate Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
	Soluble Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
	Physical Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y/N)	X
Habitat	Physical Structure	Condition	
	Landscape Patch Structure	Condition	MEDIUM
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
Function Rating Sum	nmary		
unction		Metrics	Rating
Hydrology		Condition	HIGH
Vater Quality		Condition	HIGH
		Condition/Opportunity	×
		Opportunity Presence (Y/N)	×
Habitat		Condition	HIGH

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	vveti	and Site I		55-I-WAM01	Det	0.00.00
		Wetland	Type	Seep	Date Assessor Name/Organization	9/6/07
	Leve	el III Ecore	gion	Southeastern Plains	Nearest Named Water Body	AS, RA, EcoScience
	\	River			USGS 8-Digit Catalogue Unit	Wooded Lake
		Yes 🗵	No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	
	Eviden	ce of stre	ssors	affecting the assessment and /	giorde (doci degrees)	35.151569, -78.899939
	Please	circle and	lor ma	ke note below if ovidence of the	may not be within the assessment area)	
	(for inst	ance, with	in 10 v	(ears). Noteworthy stressors include	fors is apparent. Consider departure from	reference, if appropriate, in recent past
		Hyarolog	aical m	nodifications (examples: ditabas d	and the minimum to the following.	· ·
		septic ta	nks. u	nderground storage tanks (USTs)	eliand (examples: discharges containing of	obvious pollutants, presence of nearby
	•	Signs of	vegeta	ation stress (examples: vocatation		
	Is the a			, , , , , , , , , , , , , , , , , , , ,	exolics, elc.)	pamage, salt intrusion, etc.)
	, promitive constraint and the second	CONTRACTOR	***********	intensively managed? Yes	s 🖾 No	
	Describ	e effects (of stre	essors that are present.		AND THE RESIDENCE OF THE PROPERTY OF THE PROPE
	******************************		THE PARTY OF THE P	ant consequence consequence consequence and co		
	Regulat	ory Consi	derati	ons		
		apply Anadrom	y to the	e assessment area.		
		Federally	protec	cted species or State endangered	or threatened energia-	
			ripana	ii bullel lule in effect		
	ä	Publicly o	adjace wned	nt to or associated stream drains to	a Primary Nursery Area	
		N.C. Divis	sion of	Coastal Management Area of Envi	ronmental Concern (AEC) (including buffer	
		N.C. Divis	sion of	Water Quality best usage classifica NHP reference community	ronmental Concern (AEC) (including buffel ation of SA or supplemental classifications	r) of HOW, ORW, or Trout
-						, or mode
-	□ ″	Blackwate	er	cam is associated with the wetla	nd, if any? (Check all that apply)	
		Brownwate				
		i idal (if tid	lal, che	eck one of the following boxes) [☐ Lunar ☐ Wind ☐ Both	
1	is the ass	sessment	area c	on a coastal island? 🔲 Yes		
	is the ass	sessment	area's	surface water storage capacity	or duration substantially altered by bea	vor2
1.	Groun	d Surface	Cond	lition/Vegetation Condition - ass	esement area condition	
	the ass	sessment a	area.	Compare to reference wetland if a	e ground surface (GS) in the assessment pplicable (see User Manual v1.0). If a ref	area and vegetation structure (VS) in
	GS	VS	based	on evidence of alteration.	the transfer with the second s	erence is not applicable, then rate the
	⊠A	⊠A	Not :	severely altered		
	□в	□в	Seve	erely altered over most of the associated	ssment area (ground surface alteration exa	
			sedii	mentation, fire-plow lanes, skidder	tracks, bedding, fill, soil compaction, objurbance, herbicides, salt intrusion (where	wicus pollutanta) (variate)
			less	ation examples: mechanical distu	rbance, herbicides, salt intrusion [where drologic alteration)	appropriatel, exotic species, grazing
2.	Surface	and Sub	-Curf	diversity [if appropriate], artificial hy	/drologic alteration)	, representation of the species, grazing,
_,	Check	a hox in	each each	solumn Consider (on – assessment area condition metric	
	(Sub).	Consider t	ooth in	crease and decrease in hydrology	le capacity and duration (Surf) and sub-s Refer to the NRCS Scope and Effect Co	urface storage capacity and duration
	0) 101 1	votiti Caro	una n∨	aric soils for the zone of influence	The coope and Ellect G	JIUU (See User Manual v1 0 Appondix
	water o	nly, while	a dito	h > 1 foot deep is expected to a	of ditches in hydric soils. A ditch ≤1 foo affect both surface and sub-surface wate	t deep is considered to affect surface
	Surf	ole. Sub			water candoc and sub-surface water	r. Consider tidal flooding regime, if
	⊠A	⊠A	Wate	r storage capacity and duration are		
	□в	□в	vvate	r Storage capacity or duration are a	Storod but and the control	
	□с	□с	Wate	r storage capacity or duration are s	litered, but not substantially (typically, not substantially alteration sufficiently alteration sufficiently substantially alteration sufficiently substantially alteration sufficiently substantially alteration sufficiently substantially sections of the substantial subst	sufficient to change vegetation).
			chang	ge) (examples: intensive ditching it	ill sedimentation shows it is	micient to result in vegetation
						, manamade berms, beaver
3.	Water S	torage/Su	ırface	Relief – assessment area/wetlan	d type condition metric	
	Check a	box in ea	ach co	lumn. Select the appropriate store	age for the assessment area (AA) and the	wetland type (WT)
	AA □A					
	⊟̂B		> 50%	of the wetland type with depression	ons able to pond water > 2 feet	
	∐c	□c □c	> 50%	of the wetland type with depressions	ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot	
	□D	□D	> 50%	of wetland type with depressions	able to pond water 6 inches to 1 foot able to pond water 3- to 6-inches deep	
	⊠E	⊠E	Depre	ssions able to pond water < 3-inch	es deep	
					- r-	

	7.				- assessment area condition metric
	5.	⊠ABCD □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Sandy Predor Predor Gleyed Soil rib Soil rib No pea A peat Peat or	soil minantly minantly minantly minera bon < 1 bon ≥1 tor mucl or muck s	Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. In interest the for Hydric Soils regional indicators are noted (use most recent guidance). The characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) The characterized by other, mineral soil (no mottling) The soil (F2, S4) The characterized by other, mineral soil (no mottling) The characterized by other characterized by
				····	a - opportunity metric
		Example Surf	a box II es of sub Sub A B C	Little Notic treatr Notic poten	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). It discharges include presence of nearby septic tank, underground storage tank (UST), etc. or no evidence of pollutants or discharges entering the assessment area eable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ment capacity of the assessment area eable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and tially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive nentation)
	6.	Land Us	se – oppo	ortunit	/ metric
	o .	Check a within er and with	ill that ap ntire upst in the wa	pply. E ream watershed	valuation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area atershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal 30 feet wide in the Mountains. > 30% impervious surfaces with stormwater Best Management Practices (RMPs) (land use examples).
\bigcirc		□L □M	800mf61-3k18z	80000000000000000000000000000000000000	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces < 10% impervious surfaces Old urban development (pink areas on USGS 7.5-minute quadrangles) New adjacent development Confined animal operations (or other local, concentrated source of pollutants) ≥20% coverage of pasture without riparian buffer ≥20% coverage of pasture with effective riparian buffer ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥20% coverage of maintained grass/herb Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent decisions are
					overbank flow from affecting the assessment area.
7	; \ [Is the ass Stream w widths of Do roots of s stream	essment Yes ridth (Stre channels ≤15-fe of assess Yes or other o Expose	area wide No Pare No P	rea vegetation extend into the bank of the adjacent stream/open water? ster sheltered or exposed? tjacent open water with width < 2500 feet and no regular boat traffic. acent open water with width ≥2500 feet or regular boat traffic.
8.	V	Vetland/F	Riparian	Buffer '	Width – assessment area/wetland type/wetland complex metric
	(° c a r	Check a lower with the world of	box in e I the ripa resent or sed syste or disturbe	ach co rian buf one s em. Ma ed.	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex fer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need ide of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ide buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been pplicable)
			_ .	□A`	≥100 feet
		_B [⊟B	From 80 to < 100 feet
_]c [_c	□c	From 50 to < 80 feet
	Ğ			□D	From 40 to < 50 feet
)	[From 30 to < 40 feet
		_ =		∏F □G	From 15 to < 30 feet
				∐G □H	From 5 to < 15 feet 5 feet 5 feet 6 feet 6 feet 7 f
	L			''	-0.1001

	9	accomment and condition metric
		Answer for assessment area dominant landform. ☐ A Evidence of short-duration inundation (< 7 consecutive days) ☐ B Evidence of saturation, without evidence of inundation ☐ C Evidence of long-duration inundation (7 to 30 consecutive days or more)
	\ 1). Indicators of Deposition – assessment area condition metric
()	Consider recent deposition only (no plant growth since deposition). ☑A Sediment deposition is not excessive, but at approximately natural levels. ☐B Sediment deposition is excessive, but not overwhelming the wetland. ☐C Sediment deposition is excessive and is overwhelming the wetland.
	1′	. Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT
	12	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
		 □A Wetland type is the full extent (≥90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size.
	13.	Connectivity to Other Natural Areas – landscape condition metric
		Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A Sources B From 100 to < 500 acres C From 50 to < 100 acres From 10 to < 50 acres C IC From 50 to < 100 acres Wetland type has a poor or no connection to other natural habitats
		Check Yes or No.
		Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Is the assessment area subject to overbank flooding during normal conditions?
	14.	Edge Effect – wetland type condition metric
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. A No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		□ A Vegetation is close to reference condition in species present and their proportions. Lower state services of the condition in species present and their proportions. Lower state services of the condition in species present and their proportions. Lower state services are serviced in the condition in species present and their proportions. Lower states are serviced in the condition in species present and their proportions. Lower states are serviced in the condition in species present and their proportions. Lower states are serviced in the condition in species present and their proportions.
		□B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. C Vegetation severely altered from reference in composition. Expected strata are unpaturally absent or dominant by exotice.
	16	species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	10.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only) A Vegetation diversity is high and is composed primarily of native species.
\bigcirc		□ □ □ □ □ □ □

17	7. Vegetative Structure – assessment area/wetland type condition metric
	vegetation present
	Evaluate percent coverage of vegetation for marshes only □A ≥25% coverage of vegetation
	□A ≥25% coverage of vegetation □B < 25% coverage of vegetation
	Check a box in each column for each stratum. Further the
	WY Separately.
	 ☑A ☑A Canopy closed, or nearly closed, with natural gaps associated with natural processes ☐C ☐C Canopy sparse or absent
	□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
	□A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent
	□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent
18	
10.	Snags – wetland type condition metric A Large snags (more than one) are present (a.40 in the
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).
19.	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
	present. ☐ B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐ Most canopy trees are < 6-inches DBH or no trees.
20.	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles. □A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).
	Vegetation/Open Water Dispersion and Landscape Stability).
. / .	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
22. H	labitat Uniqueness – wetland type condition metric
∐Yes	Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
Marian Marian San	OVIL)?
Notes	
The state of the s	
1	

NC WAM Wetland Rating Sheet 55-I-WAM01

Wetland Site Name	55-I-WAM01	D-4- 64	
Wetland Type	Seep	Date of Assessment	9/6/07
	,	Assessor Name/Organization	AS, RA, EcoScience
Presence of str	essor affecting assessment area (Y/N)	NO	
Notes on Field	Assessment Form (Y/N)	NO	
Presence of reg	ulatory considerations (Y/N)	NO	
vvetiand is inten	sively managed (Y/N)	NO	
vvetland may be	a high-quality riverine wetland (Y/N)		
Sub-function Rating	Summary		
Function	Sub-function		
Hydrology	Surface Storage and Retention	Metrics	Rating
	Sub-surface Storage and Retention	Condition	X
Water Quality	Pathogen Change		X
	5 - Lango	Condition	X
		Condition/Opportunity	X
	Particulate Change	Opportunity Presence (Y	/N) X
	r drictiate Change	Condition	X
		Condition/Opportunity	X
	Soluble Change	Opportunity Presence (Y.	(N) X
		Condition	X
		Condition/Opportunity	X
	Physical Change	Opportunity Presence (Y/N) Condition	N) X
			×
		Condition/Opportunity	X
	Pollution Change	Opportunity Presence (Y/N) Condition	N) X
			X
		Condition/Opportunity	X
abitat	Dhysical O.	Opportunity Presence (Y/N) X
	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	MEDIUM
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
Inction Rating Summa	ry		
Inction		Metrics	
drology		Condition	Rating
ater Quality	•	Condition	HIGH
		Condition/Opportunity	HIGH
Lu i		Opportunity Presence (Y/N)	X
bitat		Condition Condition	X
erall Wetland Rati		55.10((0))	HIGH

	Wetia	and Site N	lame	55-I-WAM02		
	Levo	Wetland [*] III Ecore	Type	Seep	Date Assessor Name/Organization	9/6/07 ESC (AS, RA)
	Leve	River B	gion	Southeastern Plains Cape Fear	Nearest Named Water Body	Wooded Lake
			No	Precipitation within 48 hrs?	USGS 8-Digit Catalogue Unit	03030004
`	Evidend	ce of stree	seore :		Latitude/Longitude (deci-degrees)	-48.900080, 35.151560
	(for insta	Ance, within Hydrolog Surface septic tar Signs of Habitat/p	in 10 ye gical me and sunks, un vegeta lant co t area	ears). Noteworthy stressors included diffications (examples: ditches, daub-surface discharges into the wedgerground storage tanks (USTs), tion stress (examples: vegetation mmunity alteration (examples: mointensively managed?	mortality, insect damage, disease, storm dowing, clear-cutting, exotics, etc.)	tc.)
	Clear-cui	t and mow	ed sev	verline corridor. Foul odor suggest	possible discharge.	
	What type	Anadromo Federally NCDWQ r Wetland a Publicly ov N.C. Divisi N.C. Divisi Designated	to the pus fish protection of the protection of	assessment area. Ted species or State endangered of buffer rule in effect to or associated stream drains to roperty Coastal Management Area of Environment Quality best usage classificated the reference community		of HQW, ORW, or Trout
	<u> </u>	Brownwate	er	ck and of the falls in the	_	
√ ls					Lunar Wind Both	
					⊠ No	
	110 233	essinent a	area S	surface water storage capacity	or duration substantially altered by beau	ver? ☐ Yes ☒ No
1.	Ground Check	d Surface a box in a	Condi each carea. (based Not s Seve sedin altera	tion/Vegetation Condition – assistiumn. Consider alteration to the Compare to reference wetland if a on evidence of alteration. everely altered rely altered over most of the assessentation, fire-plow lanes, skidder	essment area condition metric e ground surface (GS) in the assessment pplicable (see User Manual v1.0). If a refu	area and vegetation structure (VS) in erence is not applicable, then rate the mples: vehicle tracks, excessive
2.	Surface	and Sub-	-Surfa	ce Storage Capacity and Duratio	n – assessment area condition metric	- 0,
	(Sub). (G) for N	Consider booth Carolinly, while le. Sub	ooth inclina hyd a ditch Water Water Water Water	sterage capacity or duration are a storage capacity and duration are a storage capacity an	e capacity and duration (Surf) and sub-si Refer to the NRCS Scope and Effect Gu of ditches in hydric soils. A ditch ≤1 foot ffect both surface and sub-surface water not altered.	ufficient to change vegetation)
3.	Water St		dams,	stream incision, sewer lines, soil of	compaction).	i, man-made berms, beaver
	Check a	box in ea	ch col	Relief – assessment area/wetland	type condition metric	
					ge for the assessment area (AA) and the v	vetland type (WT).
	□A □B □C ☑D □E	□c ⊠d	> 50% > 5 0% > 50%	of the wetland type with depressic of the wetland type with depressic of wetland type with depressions of wetland type with depressions of wetland type with depressions assions able to pond water < 3-inch	ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot able to pond water 3- to 6 inches deep	

٦.	Son Texture/Structure – assessment area condition metric
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil
	Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4) Soil ribbon < 1 inch
\ \ \	□ F Soil ribbon ≥1 inch
	☑G No peat or muck presence
	H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)
	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)
5.	Discharge into Wetland – opportunity metric
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub
	□A □A Little or no evidence of pollutants or discharges entering the assessment area □B □B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
	treatment capacity of the assessment area Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
	sedimentation)
6.	Land Use – opportunity metric
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M
	□A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
	□B □B > 30% impervious surfaces without stormwater BMPs □C □C □C 10 to 30% impervious surfaces
	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
	□E □E □E Old urban development (pink areas on USGS 7.5-minute quadrangles)
	□F □F New adjacent development □G □G □G Confined animal operations (or other local, concentrated source of pollutants)
	□G □G □G Confined animal operations (or other local, concentrated source of pollutants) □H □H □H ≥20% coverage of pasture without riparian buffer
\ /	□I □I ≥20% coverage of pasture with effective riparian buffer
	□J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer □K □K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
	 K
	M ☐M Silvicultural land with disturbance < 5 years old
	N IN Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or
7	overbank flow from affecting the assessment area.
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) Yes No If No, Skip to next metric
	Stream width (Stream width is normal flow width fordinary high water to ordinary high water). If the stream is anastomosed combine
	widths of channels/braids for a total stream width.
	∐Yes ∐No
	Is stream or other open water sheltered or exposed? ☐Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. ☐Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex
	(WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	removed or disturbed. WT WC RB (if applicable)
	□A □A ≥100 feet
	B DB From 80 to < 100 feet
	□C □C From 50 to < 80 feet
	□ D □ D From 40 to < 50 feet □ E □ E From 30 to < 40 feet
. /	☐E ☐E From 30 to < 40 feet ☐F ☐F From 15 to < 30 feet
	☐G ☐G From 5 to < 15 feet
	□H □H <5 feet

	9.	Inunda	n Duration – assessment area condition metric
		Answer ⊠A □B □C	assessment area dominant landform. vidence of short-duration inundation (< 7 consecutive days) vidence of saturation, without evidence of inundation vidence of long-duration inundation (7 to 30 consecutive days or more)
	10.	Indicat	of Deposition – assessment area condition metric
()		ecent deposition only (no plant growth since deposition). sediment deposition is not excessive, but at approximately natural levels. sediment deposition is excessive, but not overwhelming the wetland. sediment deposition is excessive and is overwhelming the wetland.
	11.	Wetland	ize – wetland type/wetland complex condition metric
		Check a size of the application a bound	ox in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms of it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column essment area is clear-cut, select "K" for FW column. C
	12.	Wetland	tactness – wetland type condition metric (evaluate for Pocosins only)
		□A □B	etland type is the full extent (≥90%) of its natural landscape size. letland type is < 90% of the full extent of its natural landscape size.
	13.		ty to Other Natural Areas – landscape condition metric
\bigcirc)	appropria	ropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the patch. A ≥500 acres B From 100 to < 500 acres C From 50 to < 100 acres D From 10 to < 50 acres E < 10 acres F Wetland type has a poor or no connection to other natural habitats
		Check Y	
			No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Is the assessment area subject to overbank flooding during normal conditions?
			- wetland type condition metric
		main poir □A □B	tance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, arger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight of the compass. artificial edge within 150 feet in all directions artificial edge within 150 feet in four to seven directions artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	15.		Composition – assessment area condition metric (skip for marshes and Pine Flat)
		□A	getation is close to reference condition in species present and their proportions. Lower strata composed of appropriate
		□в ⊠c	getation is different from reference condition in species diversity or proportions, but still largely composed of native species aracteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or aring. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. getation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic ecies or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	16		Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
		ΠĀ	getation diversity is high and is composed primarily of native species.
		B C	getation diversity is low or has > 10% cover of exotics. getation is dominated by exotic species.

	17. Vegetative Structure – assessment area/wetland type condition metric	
	□ vegetation present	
	Evaluate percent coverage of vegetation for marshes only □A ≥25% coverage of vegetation	
	☐B < 25% coverage of vegetation Check a box in each column for each stratum. Further at the	
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consequence of the metric for non-marsh wetlands. Consequence of the metric for non-marsh wetlands.	sider
	□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent	
	□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent	
	□A □A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent	
	☐A ☐A Dense herb layer ☐B ☐B Moderate density herb layer ☐C ☐C Herb layer sparse or absent ☐ Vegetation absent	
	18. Snags – wetland type condition metric	
	☐A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A	
!	19. Diameter Class Distribution – wetland type condition metric	
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are	
	20. Large Woody Debris – wetland type condition metric	
	Include both man-made and natural debris piles.	
	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).	
	()21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between the second conditions and the second conditions are selected to the second condition of the second condition metric (evaluate for Non-Tidal Freshwater Marsh only)	
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Pattern	ed
	22. Habitat Uniqueness – wetland type condition metric	
	☐Yes ☑No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"	
	Notes	
		Menuts
(1994

Wetland Site Name	55-I-NCWAM02	Date of Assessment	9/6/07
Wetland Type	Seep	Assessor Name/Organization	ESC (AS, RA)
Presence of str	essor affecting assessment area (Y/N)	YES	
	Assessment Form (Y/N)	NO	
	gulatory considerations (Y/N)	NO	•
	nsively managed (Y/N)	YES	
Wetland may be	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	Summary		
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	X
	Sub-surface Storage and Retent	ion Condition	X
Water Quality	Pathogen Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (
	Particulate Change	Condition	, <u> </u>
		Condition/Opportunity	X
		Opportunity Presence (
	Soluble Change	Condition	, <u> </u>
		Condition/Opportunity	X
		Opportunity Presence ()	
	Physical Change	Condition	,X
		Condition/Opportunity	X
		Opportunity Presence (Y	
	Pollution Change	Condition	X
		Condition/Opportunity	×
		Opportunity Presence (Y	
Habitat	Physical Structure	Condition	LOW
	Landscape Patch Structure	Condition	MEDIUM
	Vegetation Composition	Condition	LOW
	Uniqueness	Condition	NO
Function Rating Sumn	nary		
Function		Metrics	Rating
Hydrology		Condition	LOW
Water Quality		Condition	Low
		Condition/Opportunity	X
		Opportunity Presence (Y/	
Habitat		Condition	LOW

Wetland Type Bottomiant Hardwood Forest Level III Ecoregion Southerstern Plains Nerviet Plains N	Į	Wetland Site Na	ame _55-I-WAM03	Date	9/6/07		
Nearest Named Water Body Woodset Lake Nearest Managed Nearest Named Water Body Woodset Lake Nearest Named Water Body Woodset Lake Nearest Named Water Body Woodset Named Nearest Named Water Body Woodset Named Nearest Named Neares	i		ype Bottomiand Hardwood Forest				
VscS s-Digit Catalogue Unit 30303004		Level III Ecoreg	ion Southeastern Plains	Nearest Named Water Body			
Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent per (circ instance, within 10 years). Notevorthy stressors include, but are not limited to the following. Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.) Surface and sub-currical edischarges into the welfand (examples: discharges containing obvious pollutants, presence of near septic tarks, underground storage tarks (USTs), hog lagoons, etc.) Surface of vigodation states (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Is the assessment area intensively managed? Yes No Describe effects of stressors that are present. New neighborhoods upstream: sewerline possibly overflows Regulatory Considerations Select all that apply to the assessment area. Anadromous fish Federally protected species or State endangered or threatened species NCDWO ripanan buffer rule in effect Wetland adjacent to associated stream drains to a Primary Nursery Area Primary Nursery Area No Describe property N.C. Division of Water Coulishy best usage classification of SA of supplemental classifications of HOW, ORW, or Trout Designated NCNHP reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Blackwater Blackwater Brownwater Tidal (if didal, check one of the following boxes) Lunar Wind Both Is the assessment area and vegetation structure (VS) in assessment area on a coastal island? Yes No Surface and Sub-Surface Storage Capacity of duration substantially altered by beaver? Yes No Surface and Sub-Surface Storage Capacity of duration assessment area (ground surface alteration examples:		River Ba		USGS 8-Digit Catalogue Unit			
Evidence of stressors affecting the assessment area (may not be within the assessment area) Phases ericles and/or make note below if evidence of stressors is apprient. Consider departure from reference, if appropriate, in recent per (for instance, within 10 years). Noteworthy stressors include, but are not limited to the instance, within 10 years). Noteworthy stressors include, but are not limited to the instance, within 10 years). Noteworthy stressors include, but are not limited to the instance of the property of the p		☐ Yes 🛛	No Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)			
Felese Orcile another make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent ps (for instance, within 10 years). Networthy stressors include, but are not limited to the following. Surface and modifications (occumples, ditches, dams, beaver dams, dikes, berms, ponds, etc.)		Evidence of street					
Describe effects of stressors that are present.		(for instance, within Hydrologi Surface a septic tan Signs of v	or make note below if evidence of stresson in 10 years). Noteworthy stressors include ical modifications (examples: ditches, dar and sub-surface discharges into the wett liks, underground storage tanks (USTs), ho regetation stress (examples: vegetation n	rs is apparent. Consider departure from the but are not limited to the following. The beaver dams, dikes, berms, ponds, eland (examples: discharges containing to glagoons, etc.)	reference, if appropriate, in recent past tc.) byvious pollutants, presence of nearby		
New neighborhoods upstream; sewerline possibly overflows	Publisher or opportunity, operational control control and control						
Select all that apply to the assessment area. Andorromous fish Federally protected species or State endangered or threatened species NCDWO riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Trout Designated NCNHP reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area and vegetation condition - assessment area condition metric Check a box in each column. Consider alteration to the ground surface (SS) in the assessment area and vegetation structure (VS) in assessment area based on evidence of alteration. Yes No Is a seement area based on evidence of alteration. Yes No Is a seement area based on evidence of alteration assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, sait intrusion (where appropriate), exotic species, grazin less diversity (if appropriate), artificial hydrologic alteration (Surf) and sub-surface storage capacity and duration are altered. Surface and Sub		Describe effects of New neighborhoods	f stressors that are present. s upstream; sewerline possibly overflows		Control of the development of the second control of the second con		
N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HOW, ORW, or Trout Designated NCNHP reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No No Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No No Is the assessment area on a coastal island? Yes No Is the assessment area on the column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate the assessment area based on evidence of alteration.		Select all that apply Anadromo Federally p	to the assessment area. bus fish protected species or State endangered or iparian buffer rule in effect djacent to or associated stream drains to				
Blackwater Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both		N.C. Divisi	ion of Coastal Management Area of Environ of Water Quality best usage classificates.	onmental Concern (AEC) (including buffe tion of SA or supplemental classifications	er) s of HQW, ORW, or Trout		
Is the assessment area's surface water storage capacity or duration substantially altered by beaver?		Blackwater Brownwater Tidal (if tida	r er al, check one of the following boxes) □	<u> </u>			
1. Ground Surface Condition/Vegetation Condition – assessment area condition metric Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate the assessment area based on evidence of alteration. GS VS	1 !	s the assessment a	area on a coastal island? 🔲 Yes 🏻 [⊠ No			
Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) the assessment area. Compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate to assessment area based on evidence of alteration. GS VS	Į:	s the assessment a	area's surface water storage capacity c	or duration substantially altered by be	aver? 🗌 Yes 🖾 No		
Severely altered over most of the assessment area (ground surface alteration examples: vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples: mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazin less diversity [if appropriate], artificial hydrologic alteration) 2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duratio (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Append G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, surf sub	1.	Check a box in the assessment area GS VS	each column. Consider alteration to the area. Compare to reference wetland if ap based on evidence of alteration.	e around surface (GS) in the assessmen	nt area and vegetation structure (VS) in eference is not applicable, then rate the		
Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Append G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface applicable. Surf Sub Sub Sub Sub Sub Sub Sub Surface capacity and duration are not altered. B B B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AA So% of the wetland type with depressions able to pond water > 2 feet B B B > 50% of the wetland type with depressions able to pond water 1 to 2 feet CC SC > 50% of wetland type with depressions able to pond water 6 inches to 1 foot D D D > 50% of wetland type with depressions able to pond water 3- to 6-inches deep		□В □В	Severely altered over most of the asses sedimentation, fire-plow lanes, skidder alteration examples: mechanical distu	tracks, bedding, till, soil compaction, o	hyious pollutopta) (vogotation standard		
Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Append G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface applicable. Surf Sub Sub Sub Sub Sub Sub Sub Surface capacity and duration are not altered. B B B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AA So% of the wetland type with depressions able to pond water > 2 feet B B B > 50% of the wetland type with depressions able to pond water 1 to 2 feet CC SC > 50% of wetland type with depressions able to pond water 6 inches to 1 foot D D D > 50% of wetland type with depressions able to pond water 3- to 6-inches deep	2.	Surface and Sub	-Surface Storage Capacity and Duratio	n – assessment area condition metric			
□B □C □B □C Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT □A □A > 50% of the wetland type with depressions able to pond water > 2 feet □B □B > 50% of the wetland type with depressions able to pond water 1 to 2 feet □C □C > 50% of wetland type with depressions able to pond water 6 inches to 1 foot □D □D > 50% of wetland type with depressions able to pond water 3- to 6-inches deep		Check a box in (Sub). Consider to G) for North Caro	each column. Consider surface storag both increase and decrease in hydrology.	e capacity and duration (Surf) and sub- Refer to the NRCS Scope and Effect (surface storage capacity and duration Guide (see User Manual v1.0 Appendix		
Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AB Solventian Solventian Select the appropriate storage for the assessment area (AA) and the wetland type (WT). BB B Solventian S		applicable. Surf Sub	a ditch > 1 foot deep is expected to a	affect both surface and sub-surface wa	ter. Consider tidal flooding regime, if		
Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AB Solventian Solventian Select the appropriate storage for the assessment area (AA) and the wetland type (WT). BB B Solventian S		applicable. Surf Sub ⊠A ⊠A □B □B	Water storage capacity and duration are water storage capacity or duration are a Water storage capacity or duration are s change) (examples: intensive ditching, f	nect both surface and sub-surface wa not altered. Iftered, but not substantially (typically, no ubstantially altered (typically, alteration s fill, sedimentation, channelization, diversi	ts. Consider tidal flooding regime, if		
□A □A > 50% of the wetland type with depressions able to pond water > 2 feet □B □B > 50% of the wetland type with depressions able to pond water 1 to 2 feet □C □C > 50% of wetland type with depressions able to pond water 6 inches to 1 foot □D □D > 50% of wetland type with depressions able to pond water 3- to 6-inches deep	3.	applicable. Surf Sub ☑A ☑A ☐B ☐B ☐C ☐C	Water storage capacity and duration are a Water storage capacity or duration are a Water storage capacity or duration are s change) (examples: intensive ditching, f dams, stream incision, sewer lines, soil of	not altered. Itered, but not substantially (typically, no ubstantially altered (typically, alteration sfill, sedimentation, channelization, diversicompaction).	ts. Consider tidal flooding regime, if		
	3.	applicable. Surf Sub A A B B B C C Water Storage/Su	Water storage capacity and duration are water storage capacity or duration are a Water storage capacity or duration are s change) (examples: intensive ditching, f dams, stream incision, sewer lines, soil our face Relief – assessment area/wetlan	e not altered. Iltered, but not substantially (typically, no ubstantially altered (typically, alteration s fill, sedimentation, channelization, diversicompaction). In type condition metric	ter. Consider tidal flooding regime, if tsufficient to change vegetation). sufficient to result in vegetation on, man-made berms, beaver		

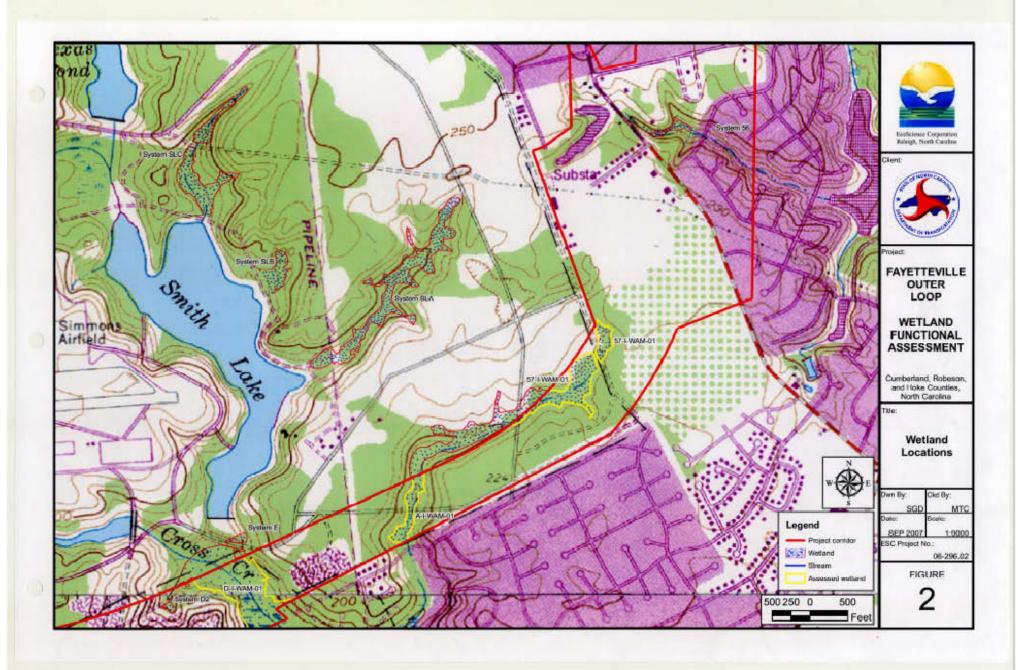
¥1.	Hect all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Hect all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. Heat apply. Dig soil profile in the dominant assessment area landscape features. Make soil observations. Heat apply. Dig soil profile in the dominant a
5.	scharge into Wetland – opportunity metric heck a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).
	camples of sub-surface discharges include presence of flearby septic tarity, underground and of
	Little or no evidence of pollutants or discharges entering the assessment area A
6	and Use – opportunity metric
	and Use – opportunity metric heck all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area heck all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area (5M), and within 2 miles within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal lain and Piedmont and 30 feet wide in the Mountains. VS 5M 2M □ A □ A □ A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:
	industrial, commercial, and high-density residential)
	□C □C 10 to 30% impervious surfaces without stormwater BMPs
	D D < 10% impervious surfaces Cold urban development (pink areas on USGS 7.5-minute quadrangles)
	F F New adjacent development Confined animal operations (or other local, concentrated source of pollutants)
	H ☐H ☐H ≥20% coverage of pasture without riparian buffer
`	□J □J ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
	IL IL ≥20% coverage of maintained grass/herb
	☐M ☐M ☐M Silvicultural land with disturbance < 5 years old ☐N ☐N ☐N ☐N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
	Wetland Acting as Vegetated Buffer – assessment area condition metric s the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
	s the assessment area within 50 feet of a stream of other open water? (open water? (open water)) Yes No If No, Skip to next metric Yes No No No No No No No N
	Midths of Chairles/Soldado to
	⊠Yes
	Sheltered – adjacent open water with width ≥2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.
	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex Check a box in each column.
	Check a box in each column. Select the appropriate width for the wettand type at the assessment area (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed.
	WT WC RB (if applicable) MA MA ≥100 feet
	B B From 80 to < 100 feet
	D D From 40 to < 50 feet
(E DE DE From 30 to < 40 feet
	☐G ☐G From 5 to < 15 feet ☐H ☐H < 5 feet

	* 9.	Inundation Duration – assessment area condition metric
		Answer for assessment area dominant landform. Answer for assessment area dominant landform. By Evidence of short-duration inundation (< 7 consecutive days) By Evidence of saturation, without evidence of inundation Cylindrical Evidence of long-duration inundation (7 to 30 consecutive days or more)
	10.	Indicators of Deposition – assessment area condition metric
ζ.)	Consider recent deposition only (no plant growth since deposition). \[\rightarrow{A} \] Sediment deposition is not excessive, but at approximately natural levels. \[\rightarrow{B} \] Sediment deposition is excessive, but not overwhelming the wetland. \[\rightarrow{C} \] Sediment deposition is excessive and is overwhelming the wetland.
	11.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A So0 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D D From 25 to < 50 acres F From 10 to < 25 acres F F F F From 5 to < 10 acres G G G G G From 1 to < 5 acres H H H H From 0.5 to < 1 acre J J J From 0.01 to < 0.1 acre K K K K K < 0.01 acre
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
		□A Wetland type is the full extent (≥90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size.
	13.	Connectivity to Other Natural Areas – landscape condition metric
)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 10 to < 50 acres E = E < 10 acres F Wetland type has a poor or no connection to other natural habitats
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)
		Yes No Is the assessment area subject to overbank flooding during normal conditions?
	14.	Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		 □A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. □B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. □C Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
)	 □A Vegetation diversity is high and is composed primarily of native species. □B Vegetation diversity is low or has > 10% cover of exotics. □C Vegetation is dominated by exotic species.

	™ 17.	Vegetative	Structure -	- assessment area/wetland type con	dition metric		
		Evalua ∐A	≥25% co	coverage of vegetation for marshes overage of vegetation	only		
)	struct	c a box in ure in airsp	overage of vegetation each column for each stratum. E ace above the assessment area (AA	valuate this portion of the and the wetland type (WT	e metric for non-marsh wetlands. ') separately.	Consider
、 /	,	AA □A ⊠B □C	WT □A ⊠B □C	Canopy closed, or nearly closed, with Canopy present, but opened more that Canopy sparse or absent	natural gaps associated with an natural gaps	n natural processes	
		□A ⊠B □C	□A ⊠B □C	Dense mid-story/sapling layer Moderate density mid-story/sapling la Mid-story/sapling layer sparse or abs	yer ent		
		∏А ⊠в ∏С	□A ⊠B □C	Dense shrub layer Moderate density shrub layer Shrub layer sparse or absent			
		⊠A □B □C	⊠A □B □C tation abse	Dense herb layer Moderate density herb layer Herb layer sparse or absent nt			
	18	Snage - W	votland type	condition metric			
		⊠A L □B N	arge snags Not A	(more than one) are present (> 12-incl		species present and landscape stabilit	y).
	19.	Diameter	Class Distri	ibution – wetland type condition me trees have stems > 6-inches in diame	tric ter at breast beight (DBH): m	any large trees (> 12-inches DBH) are)
		∏B M	oresent. Most canopy	trees have stems between 6- and 12- trees are < 6-inches DBH or no trees.	inches DBH, few are > 12-inc		
	20			- wetland type condition metric			
	20.	Include bo		le and natural debris piles. more than one) are present (> 12-inche	es in diameter, or large relativ	re to species present and landscape s	tability).
	121.		n/Onon Wa	ter Dispersion – wetland type/open	water condition metric (eva	luate for Non-Tidal Freshwater Mar	sh only)
()-''	Salact the	figure that	best describes the amount of interspe-	ersion between vegetation ar	nd open water in the growing season	. Patterned
		areas indi	cate vegetat □A	ed areas, while solid white areas indic	ate open water.		
			niqueness	 wetland type condition metric N.C. Environmental Management Co 	mmission classified the asse	ssment area as "Unique Wetlands" (U	WL)?"
	□\	Yes ⊠No) Has the	9 N.C. Environmentar Management Co	minission diagomod the door		
	Not	tes	ACCORDINATION PLANSMONE AND MARKET OF MARKET AND ACCORDINATION OF THE PARTY OF THE		<u>Auditor bases anno est a canada a cabanda de propres a canada de propres a canada a canada a canada a canada a</u>		
				•			

Wetland Site Name	55-I-WAM03	Date of Assessment	9/6/07		
Wetland Type	Bottomland Hardwood Forest A	Assessor Name/Organization _	AS, RA, EcoScience		
Dunganga of atu	record offerting accomment and (MAI)	YES			
	ressor affecting assessment area (Y/N) Assessment Form (Y/N)	NO			
	gulatory considerations (Y/N)	NO			
	nsively managed (Y/N)	NO			
	e a high-quality riverine wetland (Y/N)				
Sub-function Rating					
Function	Sub-function	Metrics	Rating		
Hydrology	Surface Storage and Retention	Condition	HIGH		
	Sub-surface Storage and Retent		HIGH		
Water Quality	Pathogen Change	Condition	LOW		
		Condition/Opportunity	MEDIUM		
		Opportunity Presence (Y/N)		
	Particulate Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence (Y/N) YES		
	Soluble Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence (Y/N) YES		
	Physical Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence (Y/N) YES		
	Pollution Change	Condition	X		
		Condition/Opportunity	X		
		Opportunity Presence (Y/N) X		
labitat	Physical Structure	Condition	HIGH		
	Landscape Patch Structure	Condition	LOW		
	Vegetation Composition	Condition	LOW		
	Uniqueness	Condition	NO		
unction Rating Sur	nmary				
unction		Metrics	Rating		
łydrology		Condition	HIGH		
Vater Quality		Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence (Y/N) YES		
Habitat		Condition	LOW		





	Lev	Wetland el III Ecor	l Type	Headwater Wetland	Date	9/7/0 7	
	Lev	'el III Ecor					
		D:	region _		Assessor Name/Organization Nearest Named Water Body		
	\		Basin _		USGS 8-Digit Catalogue Unit	Cross Creek	
	/		⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-dograps)	2F 400000 =-	
	Evider	nce of str	essors a	iffecting the assessment area			
	(for ins	tance, with Hydrold Surface septic to Signs o Habitat/	hin 10 ye ogical mo e and su anks, un f vegetat plant co	ears). Noteworthy stressors includedifications (examples: ditches, club-surface discharges into the widerground storage tanks (USTs), tion stress (examples: vegetation mmunity alteration (examples: m	sol's apparent. Consider departure from de, but are not limited to the following. lams, beaver dams, dikes, berms, ponds, et etland (examples: discharges containing chog lagoons, etc.) n mortality, insect damage, disease, storm dowing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past	
İ	200 to the constitution of	Commence of the second contract of the second	Chartes to consentation opposite agent	sors that are present.			
	Road C	auseway t	through	wetland, Fort Bragg		en en en en en en en en en en en en en e	
	Regulatory Considerations Select all that apply to the assessment area. Anadromous fish Federally protected species or State endangered or threatened species NCDWQ riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Trout What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in assessment area based on evidence of alteration.						
	⊠A □B	⊠a □B	Not se Sever sedim alterat less di	everely altered ely altered over most of the asses entation, fire-plow lanes, skidder ion examples: mechanical distu versity [if appropriate], artificial hy	essment area (ground surface alteration exar tracks, bedding, fill, soil compaction, obv irbance, herbicides, salt intrusion (where a	mples: vehicle tracks, excessive	
2.	Surface	e and Sub	-Surfac	e Storage Canacity and Duratic	,		
	(Sub). G) for N water o applicate Surf ⊠A	Consider North Caronly, while ble. Sub	both incr plina hydr a ditch Water s	rease and decrease in hydrology ric soils for the zone of influence > 1 foot deep is expected to a	e capacity and duration (Surf) and sub-su. Refer to the NRCS Scope and Effect Gui of ditches in hydric soils. A ditch ≤1 foot affect both surface and sub-surface water.	deep is considered to affect surface Consider tidal flooding regime, if	
	□c □с	□с	Water s change dams, s	storage capacity or duration are a storage capacity or duration are s) (examples: intensive ditching, f stream incision, sewer lines, soil of	Itered, but not substantially (typically, not substantially altered (typically, alteration sufficible), sedimentation, channelization, diversion, compaction).	ufficient to change vegetation). icient to result in vegetation , man-made berms, beaver	
3.	Water S	torage/Su	ırface R	elief – assessment area/wetlan	d type condition makes		
	Check a	box in ea	ach colu	mn. Select the appropriate stora	ge for the assessment area (AA) and the w		
' 	AA □A □B ⊠C □D □E	∐A □B ⊠C □D	> 50% c > 50% c > 50% c > 50% c	of the wetland type with depression of the wetland type with depression of wetland type with depressions of wetland type with depressions.	ons able to pond water > 2 feet ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot	etland type (WT).	

4.				assessment area condition metric	
	Select a National ⊠A □B	l Technica Sandy s Predomi	ıl Commi oil inantly ch	g soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ttee for Hydric Soils regional indicators are noted (use most recent guidance). naracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)	
	□c			naracterized by other, mineral soil (no mottling)	
	□D ⊠E	Gleyed r Soil ribb		oil (F2, S4)	1
	□F	Soil ribb	on ≥ 1 in	ch	
	□G	No peat	or muck	presence	
	⊠H □I			resence (A6, A7, A8, A9, A10, F1, S1) I (histosol or histic epipedon) (A1, A2, A3)	
_	_				
5.	Check	a box in	each c	 opportunity metric column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). discharges include presence of nearby septic tank, underground storage tank (UST), etc. 	
	⊠A □B	⊠A □B	Noticea	r no evidence of pollutants or discharges entering the assessment area able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the	
	□c	□c	Noticea potentia	ent capacity of the assessment area able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive entation)	
6.	Land U	se – oppo	ortunity i	metric	
	Check a within e and with Plain an	all that ap ntire upstr nin the wa nd Piedmo	pply. Ever ream wat tershed on tent and 30	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal 0 feet wide in the Mountains.	
	WS □A	5M □A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:	
	<u></u> "	ш,,	□ ^`	industrial, commercial, and high-density residential)	
	□B	⊠B	ДВ	> 30% impervious surfaces without stormwater BMPs	
	□c ⊠d	□c □d	⊠c □D	10 to 30% impervious surfaces < 10% impervious surfaces	
		ΠE	□E	Old urban development (pink areas on USGS 7.5-minute quadrangles)	
		<u>E</u>	厅	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)	
		□G □H	□G □H	≥ 20% coverage of pasture without riparian buffer	Ι,
				≥ 20% coverage of pasture with effective riparian buffer	
	Π'n	Π'n	□k □l	≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer	
	片.	□L	监	≥ 20% coverage of maintained grass/herb	
	□M	□м	□м	Silvicultural land with disturbance < 5 years old	
	□N	□N	□N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.	
7.				tated Buffer – assessment area condition metric	
	is the a	ssessmen ∐Yes	it area wi ⊠No	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric	
	Stream	width (St	ream wid	dth is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine	t
	widths o			for a total stream width.	
	Do root		feet wide sment al	e	
		□Yes	□No		
	Is strea	□Shelt	ered – ad	ater sheltered or exposed? djacent open water with width < 2500 feet <u>and</u> no regular boat traffic. jacent open water with width ≥ 2500 feet <u>or</u> regular boat traffic.	
8.	Wetlan	d/Riparia	n Buffer	Width – assessment area/wetland type/wetland complex metric	
	(WC), a	and the rip	arian bu on one s	olumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (offer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need (side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been	
	remove	d or distur	rbed.		
	<u>w</u> T	WC		applicable)	
	⊠A	ΜA		≥ 100 feet From 80 to < 100 feet	
	□B □C	□B □C	□B □C	From 50 to < 80 feet	
	<u> </u>	<u> </u>	□D	From 40 to < 50 feet	ζ.
	□E			From 30 to < 40 feet From 15 to < 30 feet	
	□F □G	□F □G	□F □G	From 15 to < 30 feet From 5 to < 15 feet	
	□G □H	H	H H	< 5 feet	

€:		9. "Լու	undation Duration – assessment area condition metric
		Ans	swer for assessment area dominant landform
			Evidence of short-duration inundation / Z agree and the short shor
			Evidence of long-duration inundation (7 to 30 consecutive days or more)
	١1	0. Ind	icators of Deposition – assessment area condition metric
Ι,)	Cor ⊠A	isider recent deposition only (no plant growth since densett)
			Codmient deposition is not excessive, but at approximant a
			and is excessive and is overwhelming the wetland
	1	1. Wet	land Size – wetland type/wetland complex condition matrix
		CHE	UN d DOX ID each column lovely a color of
		a bo WT.	icable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms undary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column.
		WT	WC FW (if applicable)
		□a □B	. ∐A LIA ≥500 acres
		□с	C C From 50 to < 100 acres
		□D ⊠E	니 UD From 25 to < 50 acres
		□F	
		∏G ∏H	G G From 1 to < 5 acres
		Π.	☐H ☐H From 0.5 to < 1 acre ☐I ☐I From 0.1 to < 0.5 acre
		□k	니 및 From 0.01 to < 0.1 acre
	12		□K □K < 0.01 acre
	· 2.	□A	Ind Intactness – wetland type condition metric (evaluate for Pocosins only)
		□в	Wetland type is the full extent (≥90%) of its natural landscape size. Wetland type is < 90% of the full extent of its natural landscape size.
1	3.	Conne	ectivity to Other Natural Areas – landscape condition much to
		CHECK	A SUDFOOFIATE DOV(AS). This makes and the surface of the surface o
		approp	priate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and age patch). Consider if the wetland type is well-connected (WC) or locally agree to the landscape patch.
< /			apo pateri.
		WC ⊠A	LC □A ≥500 acres
		□в	B From 100 to < 500 acres
		□c □D	☐C From 50 to < 100 acres ☐D From 10 to < 50 acres
		ΠE	☐E < 10 acres
		□F	F Wetland type has a poor or no connection to other natural habitats
		☐Yes	res or Mo.
		∐Yes	□No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ffort wetland to
14		Edge E	ffect – wetland type condition metric
		Estimat	e distance from wetland type have decreased as
	1	main po	e or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight
		⊒A ⊠B	The distribution dugle within 100 feet in all directions
		i c	NO districtal edge within 150 feet in four to account of
15.	١	/egetat	An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut ive Composition – assessment area condition metric (skip for marshes and Pine Flat)
	2	⊠A	
	Г	⊒в	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate Vegetation is different from reference earlier to the condition of the
	_		characteristic of the wetland type. This pecies diversity or proportions, but still largely composed of patients
	Г]c	
	-	_ ~	1 value of the state of the sta
16.	٧	egetati	species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	_		ve Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only) Vegetation diversity is high and is composed primarily of native species.
ノ]B]C	* Ogeration diversity is low or has > 10% cover of evotion
	_		Vegetation is dominated by exotic species.

	s. 1	7. Negetati	ve Structur	e – assessment area/wet	land type c	ondition				
		⊬a vey	eration bre	sent			ic .			
		Eva	luate perce	nt coverage of vegetation	for marsh	es oniv				
j		∐A □B	=2370	coverage of vegetation		· · · · · · · · · · · · · · · · · ·				
į		Che	ck a box ii	coverage of vegetation	ctrotum	Ford a second				
i ! !	()	~~	VVI	n each column for each	•	,	- and type	((v i) separatery	/.	ds. Conside
		⊠a □b □c	⊠A □B □C	Canopy closed, or nearl Canopy present, but ope Canopy sparse or abser	y closed, wit ened more th nt	h natural gaps nan natural ga	associated ps	d with natural prod	Cesses	
		□A □B ⊠C	□A □B ⊠C	Dense mid-story/sapling Moderate density mid-st Mid-story/sapling layer s	layer Ory/sanling l	ayer ent				
		⊠A □B □C	⊠A □B □C	Dense shrub layer Moderate density shrub l Shrub layer sparse or ab	aver					
		□A ⊠B □C	∏A ⊠B ∏C ation abseı	Dense herb layer Moderate density herb la Herb layer sparse or abs	yer ent					
	18.			condition metric						
			arde spage i	more than and						
		⊠B N	ot A	(more than one) are preser	nt (> 12-inch	es DBH, or lar	ge relative	to species preser	nt and landscape stabi	ility).
1	19.	Diameter 0	lass Distri	oution – wetland type co	odition mot	da.			,	
ļ		□A M	ost canopy	trees have stems > 6-inche	s in diamete	er at breast be	iaht (DDLI)			
		⊠B M	esent. Ost canony t	rees have stored by	_	at breast ne	igni (DBH);	many large trees	(> 12-inches DBH) ar	·e
		□с м	ost canopy t	rees have stems between rees are < 6-inches DBH o	6- and 12-in or no trees	ches DBH, fev	v are > 12-i	nch DBH.		
	20.	Large Woo	dy Debris –	wetland type condition i	notric					
		include both	man-made	and natural debris piles						
		∐A La ⊠B No	rge logs (mo ot A	ore than one) are present (> 12-inches	in diameter, o	r large relat	ive to species pre	eent and lands	
		Vegetation/	Onon Wata	• Diana			•		sont and landscape s	tability).
	C 7-" ;	Select the fi	Open wate	r Dispersion – wetland ty est describes the amount o	pe/open wa	ter condition	metric (ev	aluate for Non-T	idal Freshwater Mar	sh only)
	á	areas indica	te vegetated	est describes the amount of areas, while solid white a	of interspers reas indicate	ion between v	egetation a	and open water ir	the growing season.	. Patterned
		400	∐A Ö≻	□В	odo marcate	open water.		Пр		
	22 11	-1.14							****	
	22. H	abitat Uniq	ueness – w	etland type condition me	tric					
	∐Yes	⊠No	Has the N.	C. Environmental Manager	nent Commi	ssion classifie	d the asses	sment area as "I	Inique Motlanda" (Linu	/I \O!!
	**************************************		CONTRACTOR OF THE STATE OF THE						mique Wellands (UW	L)'?"
	Notes					TO COMMENT (COMMENTED COMMENTED COMM	karra war war no and a mariante co			With the second
_	_									
) ************************************	MANAGEM (00.000)			***************************************			***************************************		
`	/								112	· · · · · · · · · · · · · · · · · · ·

Welland Site Name	57-I-WAM01	Date of Assessment	9/7/07
Wetland Type	Headwater Wetland	A	AS, RA, EcoScience
			- 13, 10 th Education
Presence of str	essor affecting assessment area (Y/N)	YES	
Notes on Field	Assessment Form (Y/N)	NO	
Presence of reg	gulatory considerations (Y/N)	YES	
	nsively managed (Y/N)	NO	
Wetland may be	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	Summary		
Function	Sub-function	Matrix	
Hydrology	Surface Storage and Retention	Metrics	Rating
	Sub-surface Storage and Reten	Condition	HIGH
Water Quality	Pathogen Change		HIGH
	Same gon Ghango	Condition	LOW
		Condition/Opportunity	MEDIUM
	Particulate Change	Opportunity Presence (Y/	(N) YES
	a mount offunge	Condition	HIGH
		Condition/Opportunity	X
	Soluble Change	Opportunity Presence (Y/	N)X
	Colubic Change	Condition	HIGH
		Condition/Opportunity	HIGH
	Physical Change	Opportunity Presence (Y/I	V) YES
	r Hysical Change	Condition	LOW
		Condition/Opportunity	LOW
	Pollution Change	Opportunity Presence (Y/N	NO NO
	r ollulon Change	Condition	X
		Condition/Opportunity	X
labitat	Physical Street	Opportunity Presence (Y/N) X
	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
unction Rating Summ	ary		
unction		Metrics	D-#
ydrology		Condition	Rating
ater Quality		Condition	HIGH
		Condition/Opportunity	MEDIUM
		Opportunity Presence (Y/N)	HIGH
abitat		Condition Condition	
verall Wetland Ra		Sofiation	HIGH

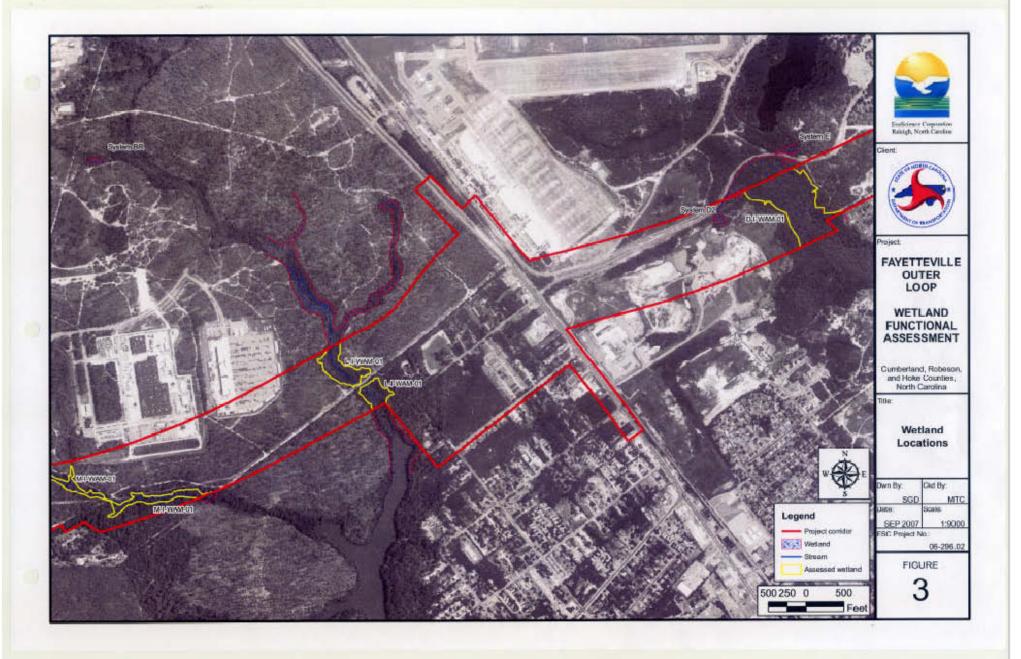
Level III Ecoregio - Returnit Swamp Porest Assessor Name Organization AS. R.A. EcoScience Cross Creek			nd Site Na		Date	9/7/07	_
Noarest Named Water Body Cross Creat No. Precipitation within 48 hrs? List tudel. Conglude (deci-degree) 30,303,0004 30,18825, -78,916120			Wetland T		Assessor Name/Organization		_
Ves No No Precipitation within 48 hrs? LatitudeLongitude (deci-degrees) \$3,12825, 78,918120		Level			Nearest Named Water Body	Cross Crost	4
Evidence of stressors affecting the assessment area (any not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in reference continued to the following. In Hydrological modifications (examples: diches, dams, beaver dams, dikes, berns, ponds, etc.) Surface and sub-avirace discharges into the wetland (examples: discharges containing obvious pollutants, presence of the stressors and the surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of the stressors and the surface and sub-avirace discharges into the wetland (examples: discharges containing obvious pollutants, presence of the stressors and the surface of the stressors and the surface of th					USGS 8-Digit Catalogue Unit	O3030004	_
Evidence of stressors affecting the assassment area (may not be within the assessment area) Please circle and/or make note below if evidence in Evidence, but are not limited to the following. Private and/or make note below if evidence in Evidence to the following. Private and/or make note that the value he evidence area (may disease). The private and the state of the following. Private and sub-surface discharges into the value he evidence area. (Make, berns, ponds, etc.) Surface and sub-surface discharges into the value he evidence area. (Make, berns, ponds, etc.) Surface and sub-surface discharges into the value he evidence area. (Make, berns, ponds, etc.) Surface and sub-surface discharges into the value he evidence area. (Surface) and sub-surface discharges into the value he evidence area. (Surface) and sub-surface discharges into the value he evidence area. (Surface) and sub-surface discharges into the value he evidence area. (Surface) and sub-surface discharges are sub-surface. (Surface) and sub-surface area. (Surface		<u> </u>	Yes ⊠	No Precipitation within 48 hr	's? Latitude/Longitude (deci-degrees)	05050004 25 120225 70 040400	4
(for instance, within 10 years). Noteworthy bits of systesors is apparent. Consider departure from reference, if appropriate, in reference yet of the following. Hydrological modifications (examples states, dams, beaver dams, dikes, berms, ponds, etc.) Surface and sub-surface discharges in the control of the following of the control of the following of the control of the contro	`	Evidenc	a of etroe		Situate (deep degrees)	33.126225, -78.918120	
Regulatory Considerations Select all that apply to the assessment area. Andromous fish Federally protected species or State endangered or threatened species NCDWQ riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Trout Designated NCNI-P reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Browwater Browwater India! (if tidal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area and read one of the following boxes on the same of the same of the following boxes on the same of the following boxes on the same of the following boxes on the same of the following boxes on the followin		(for insta	nce, within Hydrologic Surface a septic tank Signs of v Habitat/pla	10 years). Noteworthy stressors cal modifications (examples: ditclend sub-surface discharges into us, underground storage tanks (Uegetation stress (examples: vegetation community alteration (example)	stressors is apparent. Consider departure from include, but are not limited to the following. hes, dams, beaver dams, dikes, berms, ponds, ethe wetland (examples: discharges containing of STs), hog lagoons, etc.) etation mortality, insect damage, disease, storm des: mowing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby	1
Select all that apply to the assessment area. Anadromous fish Federally protected species or State endangered or threatened species Federally protected species or State endangered or threatened species Federally protected species or State endangered or threatened species Federally protected species or State endangered or threatened species Federally protected species or State endangered or threatened species Federally protected Fe		Describe Road Cau	effects of useway thr	stressors that are present. ough wetland with culvert, Fort Br	ragg		
less diversity [if appropriate], artificial hydrologic alteration) 2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and complete (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 A) water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Considered to affect applicable. Surf Sub A A Water storage capacity and duration are not altered. B B B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation) water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AA So% of the wetland type with depressions able to pond water > 2 feet B B S 50% of the wetland type with depressions able to pond water 1 to 2 feet C C C C So% of wetland type with depressions able to pond water 6 inches to 1 foot		Select all	that apply Anadromous Federally processing and accomplished and accomplished and accomplished and accomplished and accomplished accomplished and accomplished acc	to the assessment area. Its fish rotected species or State endang parian buffer rule in effect jacent to or associated stream drined property on of Coastal Management Area of the Month of Water Quality best usage of NCNHP reference community is stream is associated with the stream is associated with the rea on a coastal island?	rains to a Primary Nursery Area of Environmental Concern (AEC) (including buffer assification of SA or supplemental classifications wetland, if any? (Check all that apply) as)	of HQW, ORW, or Trout aver? Yes No t area and vegetation structure (VS) in ference is not applicable, then rate the amples: vehicle tracks, excessive	
2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and column. Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Application of the Variation of Variation				alteration examples: mechanical less diversity lif appropriate.	al disturbance, herbicides, salt intrusion [where	appropriate], exotic species, grazing,	
(Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 A) water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regardless. Surf Sub A Water storage capacity and duration are not altered. B B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation) water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation dams, stream incision, sewer lines, soil compaction). Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). A A WT A So% of the wetland type with depressions able to pond water > 2 feet B B B So% of wetland type with depressions able to pond water 1 to 2 feet	2.	Surface			injuriologio altorationi	-	
dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AA Soon of the wetland type with depressions able to pond water > 2 feet BB BB > 50% of the wetland type with depressions able to pond water 1 to 2 feet CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		(Sub). (G) for Nowater or applicab Surf ☑A ☐B	Consider be corth Caroli ally, while a le. Sub	oth increase and decrease in hydrace oth increase and decrease in hydrace of information and didn't soils for the zone of information of the zone of information with the zone of information of the zone of the zone of the zone of the zone of the zone of zone of the zone of zone	storage capacity and duration (Surf) and sub-trology. Refer to the NRCS Scope and Effect Gluence of ditches in hydric soils. A ditch ≤1 fored to affect both surface and sub-surface water ion are not altered. In are altered, but not substantially (typically, not page substantially altered (typically, not page substantially altered).	sufficient to change vegetation).	
Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AB BB S0B > 50% of the wetland type with depressions able to pond water > 2 feet BB CB > 50% of the wetland type with depressions able to pond water 1 to 2 feet CC C > 50% of wetland type with depressions able to pond water 6 inches to 1 foot	•	14 4 c =	•	dams, stream incision, sewer line	s, soil compaction).	on, man-made berms, beaver	
Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AB BB S0B > 50% of the wetland type with depressions able to pond water > 2 feet BB CB > 50% of the wetland type with depressions able to pond water 1 to 2 feet CC C > 50% of wetland type with depressions able to pond water 6 inches to 1 foot	3.	water St	torage/Sur	face Relief – assessment area/	wetland type condition metric		
□A > 50% of the wetland type with depressions able to pond water > 2 feet □B □B > 50% of the wetland type with depressions able to pond water 1 to 2 feet □C □C > 50% of wetland type with depressions able to pond water 6 inches to 1 foot		Check a	box in each	ch column. Select the appropria	te storage for the assessment area (AA) and the	wetland type (WT).	
□D □D > 50% of wetland type with depressions able to pond water 3- to 6-inches deep □E □E Depressions able to pond water < 3-inches deep		□A □B □C □D	□A : : : : : : : : : : : : : : : : : : :	 50% of the wetland type with de 50% of the wetland type with depre 50% of wetland type with depre 50% of wetland type with depre 	epressions able to pond water > 2 feet epressions able to pond water 1 to 2 feet ssions able to pond water 6 inches to 1 foot ssions able to pond water 3- to 6-inches deep		

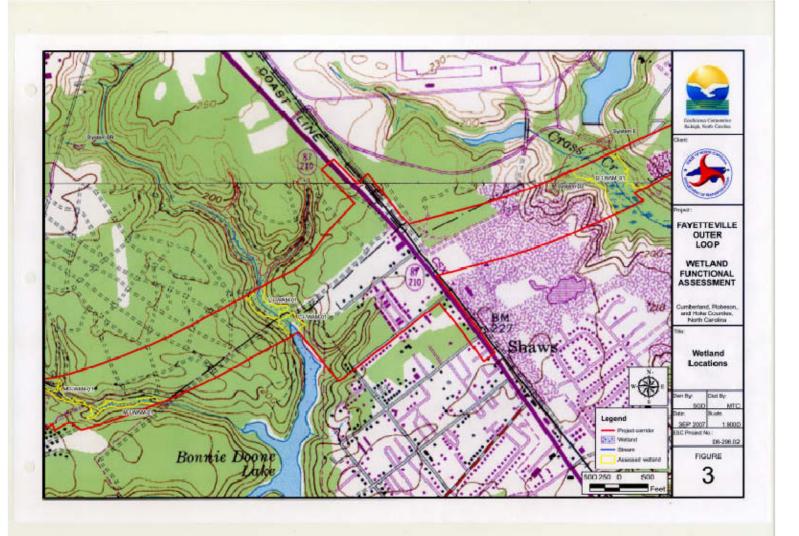
	4.	∍ Soil.Į	exture/S	tructure	- assessment area condition metric
		Selec	t all that	apply	Dig soil profile in the deminant
		Natior ⊠A	nal Techn Sand	iical Com	imittee for Hydric Soils regional indicators are noted (use most recent guidance).
		∐В	Predo	minantly	characterized by mottled (rodovymorphic factors)
	\	□c □p	Predo	minantly	characterized by other, mineral soil (no mottling)
)	⊠E	Soil ri	bbon < 1	in 5011 (F2, 54)
		□F.	Soil ril	bbon ≥1	inch
		∐G ⊠H	No pe A peat	at or mud t or mud	ck presence c presence (A6, A7, A8, A9, A10, F1, S1)
			Peat o	or muck s	soil (histosol or histic epipedon) (A1, A2, A3)
	5.	Discha	arge into	Wetland	d – opportunity metric
		Check	a box i	in each	Column Consider surface will be a
		Sull	Sub)-surrace	e discharges include presence of nearby septic tank, underground storage tank (UST), etc.
		⊠A	⊠A	Little	or no evidence of pollutants or discharges and at a t
		ДВ	∐В		eable evidence of pollutants or discharges entering the assessment area nent capacity of the assessment area
		□с	□с	Notice	Pable evidence of pollutants or discharges (and the second
				poten: sedim	tially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
	6.	Land U	se – opp		
		Check a	all that a	pply F	/aluation of this metric inval
		within er	ntire upst	ream wa	valuation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area draining to the assessment area (2M). Effective riparian buffers are considered to be 50, and within 2 miles
		Plain and	d Piedmo	nt and 3	draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal
		WS □A	IVIC	2M	
		ЦА	□A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential).
		□в	⊠B	⊠в	> 30% impervious surfaces without stormwater PARDs
		□c ⊠d			10 to 30% impervious surfaces
	ĺ	ΩE	ΠE	□E	< 10% impervious surfaces Old urban development (pink areas on USGS 7.5-minute quadrangles) New adjacent development
		□F □G	□F □G		
	[_]H	□H	□G □H	Confined animal operations (or other local, concentrated source of pollutants) ≥20% coverage of pasture without riparian buffer
])]])	맘.	₽!	≥20% coverage of pasture with effective ringring buffer
		⊒κ	□k □l	□k □l	==20 /0 COVERAGE OF AGRICUITURAL land (regularly played Level)
		_]L		□L	≥20% coverage of maintained grass/herb
	F		□м □n	□N □N	Silvicultural land with disturbance < 5 years old
		_			Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
7.	V	Vetland A	Acting as	s Vegeta	sted Buffer – assessment area condition metals
	ls	the ass	essment	area witi	nn 50 feet of a stream or other open water? ("open water") door not be a
	S	ا tream wi	⊠Yes idth (Stre	∐No eam widt	If No, Skip to next metric
	W	idths of	hannels/	braids fo	h is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine or a total stream width.
		Ĺ	91-c1≥ ل∆	et wide	1 > 15-feet wide
					a vegetation extend into the bank of the adjacent stream/open water?
	ls	stream o	or other o	pen wate	er sheltered or exposed?
			⊒Expose	ed – adja ed – adja	acent open water with width < 2500 feet <u>and</u> no regular boat traffic. cent open water with width ≥2500 feet <u>or</u> regular boat traffic.
8.	W	etland/R	iparian E	Buffer W	lidth – assessment area/wetland type/wetland complex metric
	•	OOK U D	'YA III Ga	ich com	MD Select the engraphists of the con-
	(VV	(C), and Iv be ore	the ripari	ian buffe	or at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need of the water body. The riparian buffer is measured from the cutside bank.
	an	astomos	ed syster	m. Mak	e of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ebuffer judgment based on dominant landscape feature. Record a note if a post-in a continuous of an
	rer W	1000000	uisturbe	u.	the state of a portion of the buffer has been
	\boxtimes			RB (if app ∐A	blicable) ≥100 feet
		в 🗀]B [⊒в	From 80 to < 100 feet
				⊴c	From 50 to < 80 feet
)		E []E [From 40 to < 50 feet From 30 to < 40 feet
		F 🖺]F [⊒F	From 15 to < 30 feet
					From 5 to < 15 feet < 5 feet
		_			T 1991

	9₂ inu	ndation Duration – assessment area condition metric
	Ans ∐A	wer for assessment area dominant landform
	□В	Evidence of saturation, without evidence of inundation
	⊠C	Evidence of long-duration inundation (7 to 30 consecutive days or more)
	Con:	cators of Deposition – assessment area condition metric
\	,,	sider recent deposition only (no plant growth since deposition). Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but at approximately natural levels.
	□B □C	Sediment deposition is excessive, but not overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland.
	11. Weti	and Size – wetland type/wetland complex condition metric
	size applia a bou	cable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms undary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column of FW (if applicable) WC FW (if applicable) A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres C From 50 to < 50 acres From 10 to < 25 acres From 10 to < 25 acres From 5 to < 10 acres
	ΠΉ	☐G ☐G From 1 to < 5 acres ☐H ☐H From 0.5 to < 1 acre
	□1 □1	닏' 니 From 0.1 to < 0.5 acre
	□ĸ	□J □J From 0.01 to < 0.1 acre □K □K < 0.01 acre
1:	2. Wetla	nd Intactness – wetland type condition metric (evaluate for Pocosins only)
	□A □B	Wetland type is the full extent (≥90%) of its natural landscape size. Wetland type is < 90% of the full extent of its natural landscape size.
13	. Conne	ectivity to Other Natural Areas – landscape condition metric
	approp	appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if ture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the LC LC A ≥500 acres B From 100 to < 500 acres C From 50 to < 100 acres From 10 to < 50 acres From 10 to < 50 acres
	∐Yes ⊠Yes	□No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)
14.	Edge E	rrect – wetland type condition metric
	two-lane main po	e distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Vegetati	We Composition – assessment area condition metric (skip for marches and B)
	⊠A	v against to close to reference condition in enecial property and the
	□в	species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetati	ve Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	□a □B	vegetation diversity is high and is composed primarily of native species
/	□° □°	Vegetation diversity is low or has > 10% cover of exotics. Vegetation is dominated by exotic species.

1	Z. Ve	getative Structur	e – assessment area/wetlan	d type condition	n motrie			
	\boxtimes	vegetation pres	sent					
		□A ≥25%	nt coverage of vegetation fo coverage of vegetation	r marshes only				
		∐B < 25%	coverage of vegetation					
		structure in airs	n each column for each st space above the assessmen	ratum. Evalua t area (AA) and	te this portion of the wetland type	of the metric for no e (WT) separately.	on-marsh wetlands.	Consider
		⊠A ⊠A □B □B □C □C	Canopy closed, or nearly cl Canopy present, but opene Canopy sparse or absent	a more than hatt	al gaps associate ural gaps	d with natural process	ses	
		⊠A ⊠A □B □B □C □C	Dense mid-story/sapling lay Moderate density mid-story/ Mid-story/sapling layer spar	sanling laver				
		□A □A 図B 図B □C □C	Dense shrub layer Moderate density shrub laye Shrub layer sparse or abser	er ot				
		□A □A 図B 図B □C □C	Dense herb layer Moderate density herb layer Herb layer sparse or absent					
10		Vegetation abser	nt					
10.	onag ∐A		condition metric					
	⊠B	Not A	(more than one) are present (> 12-inches DBF	l, or large relative	to species present ar	nd landscape stability)	
19.	Diam	eter Class Distri	bution – wetland type condi	tion metric				
	ΠA	Most canopy present.	trees have stems > 6-inches in	n diameter at bre	east height (DBH)	; many large trees (>	12-inches DBH) are	
	⊠B □C	Most canopy	trees have stems between 6-	and 12 inches D	BH, few are > 12-	inch DBH.	,	
20.			trees are < 6-inches DBH or n - wetland type condition me	o trees.				
	includ	le both man-made	and natural dehris niles		•			
	∐A ⊠B	Large logs (ma	ore than one) are present (> 1	2-inches in diam	neter, or large rela	tive to species preser	nt and landscape stabi	lit.A
21.								
/	Select	the figure that be	er Dispersion – wetland type est describes the amount of in d areas, while solid white area	open water cor nterspersion bet	idition metric (e ween vegetation	valuate for Non-Tida	l Freshwater Marsh o	only)
	areas	indicate vegetated □A	, m	s indicate open v	<u></u>	and open water in th	e growing season. P	atterned
					C			
22 1	1-1-14							
⊒Ye	nabita s 🖂	No Has the N.	vetland type condition metri	С				
		rias the N.	C. Environmental Management	nt Commission o	lassified the asse	ssment area as "Uniq	jue Wetlands" (UWL)?	"
Notes	rid fundamental par			The second secon		nd for common becomes for the state becomes a state of the common and the state of		
			·					

Wetland Site Name	A-I-WAM01	Date of Assessment	0/7/07
Wetland Type	Riverine Swamp Forest A	ssessor Name/Organization	9/7/07 AS, RA, EcoScience
			7.0, TVA, Ecoscience
Presence of str	essor affecting assessment area (Y/N)	YES	
Processor Field	Assessment Form (Y/N)	NO	
Method in the	gulatory considerations (Y/N)	YES	
Welland is inter	nsively managed (Y/N)	NO	
vvetland may be	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	Summary		
Function	Sub-function	Metrics	5
Hydrology	Surface Storage and Retention	Condition	Rating
	Sub-surface Storage and Retention	n Condition	HIGH
Water Quality	Pathogen Change	Condition	HIGH
	•	Condition/Opportunity	LOW
			MEDIUM
	Particulate Change	Opportunity Presence (\)	(/N) YES
	3-	Condition	HIGH
		Condition/Opportunity	HIGH
	Soluble Change	Opportunity Presence (Y	(/N) YES
	- Juliango	Condition	HIGH
		Condition/Opportunity	HIGH
	Physical Change	Opportunity Presence (Y	/N) YES
	. Hydiodi Ghange	Condition	HIGH
		Condition/Opportunity	HIGH
	Pollution Change	Opportunity Presence (Y/	N) NO
	r ollution Change	Condition	X
		Condition/Opportunity	X
labitat	Physical Ct.	Opportunity Presence (Y/I	N) X
	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
unction Rating Summa	ary		
unction ydrology		Metrics	Rating
ater Quality		Condition	HIGH
ator Quality		Condition	HIGH
		Condition/Opportunity	
alatin d		Opportunity Presence (Y/N	HIGH
abitat		Condition	
verall Wetland Rat	ing HIGH		HIGH





	Wetland Site Na		Date	9/7/0 7
	Wetland Ty		Assessor Name/Organization	AS, RA, EcoScience
_	Level III Ecoregi		Nearest Named Water Body	Cross Creek
	River Ba		USGS 8-Digit Catalogue Unit	03030004
Ĥ	☐ Yes 🛛	No Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.126296, -78.924810
	Please circle and/or (for instance, within Hydrologic Surface an septic tank Signs of vo Habitat/pla	rors affecting the assessment area (main make note below if evidence of stressor 10 years). Noteworthy stressors include, all modifications (examples: ditches, damind sub-surface discharges into the wetles, underground storage tanks (USTs), hotegetation stress (examples: vegetation mant community alteration (examples: mow	by not be within the assessment area) is is apparent. Consider departure from but are not limited to the following. In beaver dams, dikes, berms, ponds, eand (examples: discharges containing and lagoons, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
	Describe effects of Fort Bragg	stressors that are present.		
	☐ Anadromou ☐ Federally p ☐ NCDWQ ri ☐ Wetland ac ☑ Publicly ow	to the assessment area. us fish protected species or State endangered or parian buffer rule in effect djacent to or associated stream drains to a vned property	a Primary Nursery Area	
- 1 -		on of Coastal Management Area of Enviro on of Water Quality best usage classificat I NCNHP reference community	ion of SA or supplemental classifications	er) s of HQW, ORW, or Trout
	Blackwater Brownwate Tidal (if tida	r al, check one of the following boxes)	d, if any? (Check all that apply) Lunar Wind Both	
18	s the assessment a	area on a coastal island? 🔲 Yes 🛭	⊠ No	
Is	the assessment a	rea's surface water storage capacity o	r duration substantially altered by be	eaver? 🛛 Yes 🗌 No
1.	Check a box in a the assessment area GS VS	Condition/Vegetation Condition – asset each column. Consider alteration to the trea. Compare to reference wetland if appears on evidence of alteration. Not severely altered Severely altered over most of the assess sedimentation, fire-plow lanes, skidder alteration examples: mechanical disturbless diversity [if appropriate], artificial hy	e ground surface (GS) in the assessme oplicable (see User Manual v1.0). If a resemble (ground surface alteration extracks, bedding, fill, soil compaction, orbance, herbicides, salt intrusion [wheredrologic alteration)	eference is not applicable, then rate the xamples: vehicle tracks, excessive bivious pollutants) (vegetation structure e appropriate], exotic species, grazing,
2.	Check a box in (Sub). Consider b G) for North Carol	Surface Storage Capacity and Duration Bach column. Consider surface storage both increase and decrease in hydrology, lina hydric soils for the zone of influence a ditch > 1 foot deep is expected to a water storage capacity and duration are a water storage capacity or duration are a water storage capacity or duration are a change) (examples: intensive ditates as features)	e capacity and duration (Surf) and sub Refer to the NRCS Scope and Effect of ditches in hydric soils. A ditch ≤ 1 fo ffect both surface and sub-surface wa not altered. Itered, but not substantially (typically, no ubstantially altered (typically, alteration)	o-surface storage capacity and duration Guide (see User Manual v1.0 Appendix cot deep is considered to affect surface ater. Consider tidal flooding regime, if on sufficient to change vegetation).
3.	-	change) (examples: intensive ditching, f dams, stream incision, sewer lines, soil our face Relief – assessment area/wetlan	compaction). d type condition metric	
		ach column. Select the appropriate stora	age for the assessment area (AA) and th	ne wetland type (WT).
)	AA WT	> 50% of the wetland type with depression > 50% of the wetland type with depressions > 50% of wetland type with depressions > 50% of wetland type with depressions Depressions able to pond water < 3-inch	ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot able to pond water 3- to 6-inches deep	

€	4	Solot all that a substitution assessment area condition metric
		Select all that apply Did soil profile in the stand
		Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance).
_		Predominantly characterized by mother mineral soil (F6, F8, F12, TF10, S5, S6)
		Gleyed mineral soil (F2 S4)
•	/	⊠E Soil ribbon < 1 inch □F Soil ribbon ≥1 inch
		□G No peat or muck presence
		A peat or muck presence (A6, A7, A8, A9, A10, E1, E4)
		Cat of muck soil (nistosol or histic epipedon) (A1, A2, A3)
	5.	Discharge into Wetland – opportunity metric
		Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Surf Sub
		△A
		Noticeable evidence of pollutants of discharges entering the assessment area treatment capacity of the assessment area
		treatment capacity of the assessment area C C Noticeable evidence of pollutate or state of the assessment area.
		Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
	_	sedimentation)
	6.	Land Use – opportunity metric
		Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area and within the watershed draining to the assessment area and within the watershed draining to the assessment area.
		within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet with 12 miles
		Two stands and do reet wide in the Mountains.
		industrial commercial and birth stormwater Best Management Practices (BMPs) (land use examples)
		> 30% impervious surfaces without stormweller DAAP
		The Hard County of the State of
		C = C · O / Impervious surfaces
_		☐F ☐F New adjacent development
		Confined animal operations (or other local, consent to the
\ /		☐ ≥20% coverage of pacture with the first
		En., E Company of the control of the
	ĺ	□K □K ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer □L □L □L ≥20% coverage of maintained grass/herb
	[□M □M □M Silvicultural land with disturbance < 5 years add
	L	Little of 110 opportunity. Lack of opportunity may result of
7.		overbank flow from affecting the assessment area.
٠.	¥ Id	Wetland Acting as Vegetated Buffer – assessment area condition metric
	,	s the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
	S	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine
	W	riditis of channels/braids for a total stream width. □ ≤15-feet wide □ > 15-feet wide □ Not Applicable
	D	☐≤15-feet wide ☐> 15-feet wide ☐Not Applicable or orots of assessment area vegetation extend into the bank of the adjacent stream/open water? ☐Yes ☐No
	le	Yes No
	13	stream or other open water sheltered or exposed?
		☐ Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. ☐ Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.
8.	W	etialiu/Kiparian Buffer Width - assessment arga/wetland to a fine and a fine
	CI	heck a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex by present on one side of the assessment area (RB) (if applicable). Riparian buffer width is measured from the action of the assessment area (RB) (if applicable).
	(V)	VC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need lastomosed system. Make buffer inter-int
	an	by be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer based on dominant landscape feature. Record a note if a parties of the outer banks of the outer channels of an amoved or disturbed.
		a hotelli a portion of the buffer has been
	M.	Mappicable)
		C C C From 50 to < 80 feet
)		□ □□ □□ From 40 to < 50 feet
/		E
	\Box	H

2:	•	
9	. Inunc	lation Duration – assessment area condition metric
•	<u>Answ</u>	er for assessment area dominant landform.
	∐A □B	Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation
	⊠č	Evidence of long-duration inundation (7 to 30 consecutive days or more)
	0. Indica	ators of Deposition – assessment area condition metric
()	Consi	der recent deposition only (no plant growth since deposition)
	⊠a ⊟B	Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but not overwhelming the wetland.
	□č	Sediment deposition is excessive and is overwhelming the wetland.
1	1. Wetla	nd Size – wetland type/wetland complex condition metric
	Check	a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three concerts of the world and a second of the world and a
	OIL O	wice woulding type tay it, the size of the controllors well and compley (M/C), and the size of the sentiments for the controller in the co
		able, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column assessment area is clearcut, select "K" for EW column.
	WT. II WT	assessment area is olear-eat, select in 101 FW Column.
	□A	□A □A ≥ 500 acres
	⊠B □C	⊠B ⊠B From 100 to < 500 acres
	∐ŏ	☐C ☐C From 50 to < 100 acres ☐D ☐D From 25 to < 50 acres
	□E	☐E ☐E From 10 to < 25 acres
	□F □G	☐F ☐F From 5 to < 10 acres ☐G ☐G From 1 to < 5 acres
	□н	☐H ☐H From 0.5 to < 1 acre
		☐I ☐I From 0.1 to < 0.5 acre ☐J ☐J From 0.01 to < 0.1 acre
	⊟ĸ	□J □J From 0.01 to < 0.1 acre □K □K < 0.01 acre
12	. Wetlar	nd Intactness – wetland type condition metric (evaluate for Pocosins only)
	□A	Wetland type is the full extent (≥ 90%) of its natural landscape size
	□в	Wetland type is < 90% of the full extent of its natural landscape size.
13	. Conne	ctivity to Other Natural Areas – landscape condition metric
	Check	appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if
	appiop	riate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and ure), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the
	landsca WC	ape patch. LC
	ΠA	□A ≥ 500 acres
	⊠B	☐B From 100 to < 500 acres
		☐C From 50 to < 100 acres ☐D From 10 to < 50 acres
	□E	□E <10 acres
	□F	Wetland type has a poor or no connection to other natural habitats
	Uneck ☐Yes	Yes or No. □No Does wetland type have a surface hydrology connection to onen waters as tidal wetlands? () . (
	⊠Yes	 □No □No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) □No Is the assessment area subject to overbank flooding during normal conditions?
14.	Edge E	ffect – wetland type condition metric
	Estimat	e distance from wetland type boundary to artificial edges. Artificial edges include permanent feetures such as falls, devel
	tivo idile	e or larger roads (≥ 40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight ints of the compass.
	□A	No artificial edge within 150 feet in all directions
	□в ⊠c	No artificial edge within 150 feet in four to seven directions
15		An artificial edge occurs within 150 feet in more than four directions <u>or</u> assessment area is clear-cut
13.	Vegetat ⊠A	ive Composition – assessment area condition metric (skip for marshes and Pine Flat)
		Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
	□в	Vegetation is different from reference condition in species diversity or proportions, but still largely compand of patitive and all patitive a
		characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
	□с	vegetation severely aftered from reference in composition. Expected strata are unnaturally absent or dominated by exotic
		species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetat	ive Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	ΠA	Vegetation diversity is high and is composed primarily of native species.
•	□B □C	Vegetation diversity is low or has > 10% cover of exotics. Vegetation is dominated by exotic species.
	Ц	* Cyclation is adminiated by exerts executes.

17.	Vegetative Structure – assessment area/wetland type condition metric	
	✓ Vegetation present Evaluate percent coverage of vegetation for marshes only	
	☐A ≥ 25% coverage of vegetation	
	☐B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider	_
	structure in airspace above the assessment area (AA) and the wetland type (WT) separately.	Ĺ,
	AA WT ⊠A ⊠A Canopy closed, or nearly closed, with natural gaps associated with natural processes	
	☐B ☐B Canopy present, but opened more than natural gaps ☐C ☐C Canopy sparse or absent	
	☑A	
	☐C ☐C Mid-story/sapling layer sparse or absent	
	☐A ☐A Dense herb layer	
	□B □B Moderate density herb layer ☑C ☑C Herb layer sparse or absent	
	☐ Vegetation absent	
18.	Snags – wetland type condition metric	
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).□B Not A	
19.	Diameter Class Distribution – wetland type condition metric	
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.	
	Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. Most canopy trees are < 6-inches DBH or no trees.	
20.	Large Woody Debris – wetland type condition metric	
	Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). B Not A	_
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)	
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.	
22.	Habitat Uniqueness – wetland type condition metric	
	es No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"	
Not	es	

The state of the s	D-1-VVAIVIO I	Date of Assessment	9/7/07		
Wetland Type	Riverine Swamp Forest A	ssessor Name/Organization	AS, RA, EcoScience		
Presence of st	ressor affecting assessment area (Y/N)	YES			
	Assessment Form (Y/N)	NO			
	egulatory considerations (Y/N)	YES			
	ensively managed (Y/N)	NO	•		
	pe a high-quality riverine wetland (Y/N)				
	-				
Sub-function Rating	g Summary Sub-function	.			
Hydrology		Metrics	Rating		
riyarology	Surface Storage and Retention	Condition	HIGH		
Water Quality	Sub-surface Storage and Retention		HIGH		
Water Quality	Pathogen Change	Condition	LOW		
		Condition/Opportunity	MEDIUM		
	5 4 4 5	Opportunity Presence (Y/N) YES		
	Particulate Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
	-	Opportunity Presence (Y/N) YES		
	Soluble Change	Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence (Y/N) YES		
	Physical Change	Condition	LOW		
		Condition/Opportunity	LOW		
		Opportunity Presence (Y/N) NO		
	Pollution Change	Condition	X		
		Condition/Opportunity	X		
·		Opportunity Presence (//N) X		
łabitat	Physical Structure	Condition	LOW		
	Landscape Patch Structure	Condition	HIGH		
	Vegetation Composition	Condition	HIGH		
· · · · · · · · · · · · · · · · · · ·	Uniqueness	Condition	NO		
unction Rating Sum	nmary				
unction		Metrics	Rating		
ydrology		Condition	HIGH		
/ater Quality		Condition	HIGH		
		Condition/Opportunity	HIGH		
		Opportunity Presence (Y			
labitat		Condition	MEDIUM		

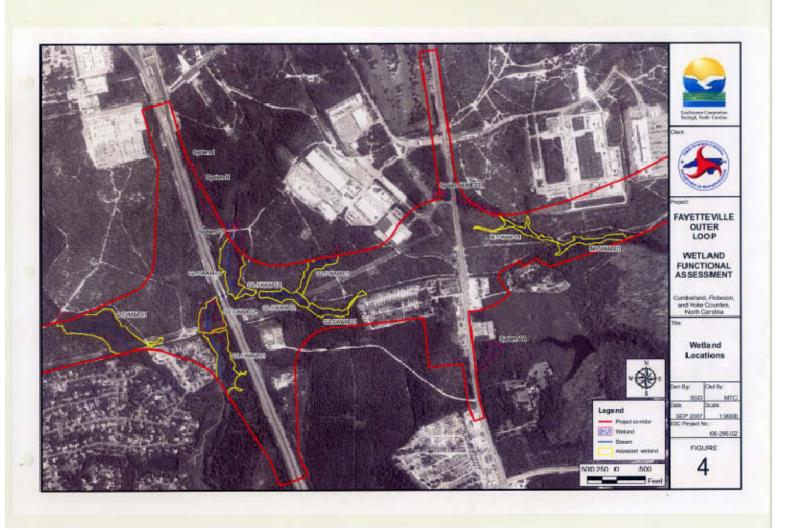
ĺ	Wetland Site Nar		Date	9/7/07
ı	Wetland Ty		Assessor Name/Organization	AS, RA, EcoScience
	Level III Ecoregi		Nearest Named Water Body	Bonnie Doone Lake
	River Bas ☐ Yes ⊠ I		USGS 8-Digit Catalogue Unit	03030004
才	Yes ⊠ I	No Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.119600, -78.945626
	Please circle and/or (for instance, within	r make note below if evidence of stres: 10 years). Noteworthy stressors inclu- cal modifications (examples: ditches, o nd sub-surface discharges into the w ks, underground storage tanks (USTs).	may not be within the assessment area) sors is apparent. Consider departure from de, but are not limited to the following. dams, beaver dams, dikes, berms, ponds, e tetland (examples: discharges containing of hog lagoons, etc.) in mortality, insect damage, disease, storm of nowing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past tc.) byvious pollutants, presence of nearby
	Regulatory Conside Select all that apply t	erations to the assessment area.		
		protected species or State endangered parian buffer rule in effect diacent to or associated stream drains		
	☑ Publicly ow☑ N.C. Divisio☑ N.C. Divisio	ned property on of Coastal Management Area of Eng	vironmental Concern (AEC) (including buffe cation of SA or supplemental classifications	er) s of HQW, ORW, or Trout
	⊠ Blackwater □ Brownwater □ Tidal (if tida	r al, check one of the following boxes)	and, if any? (Check all that apply)	
1	s the assessment a	area on a coastal island? 🔲 Yes	⊠ No	
1	s the assessment a	ırea's surface water storage capacit	y or duration substantially altered by be	aver? Yes No
1.	Check a box in ethe assessment area lessessment area lesses les l	based on evidence of alteration. Not severely altered Severely altered over most of the ass sedimentation, fire-plow lanes, skidd alteration examples: mechanical disless diversity [if appropriate], artificial	the ground surface (GS) in the assessmer applicable (see User Manual v1.0). If a research area (ground surface alteration exter tracks, bedding, fill, soil compaction, osturbance, herbicides, salt intrusion [where hydrologic alteration)	eference is not applicable, then rate the camples: vehicle tracks, excessive byious pollutants) (vegetation structure appropriate), exotic species, grazing,
2.	Surface and Sub-	-Surface Storage Capacity and Dura	tion – assessment area condition metric	<u>:</u>
	Check a box in e (Sub). Consider b G) for North Caroli	each column. Consider surface stor both increase and decrease in hydrolog lina hydric soils for the zone of influen	rage capacity and duration (Surf) and sub- gy. Refer to the NRCS Scope and Effect (ce of ditches in hydric soils. A ditch ≤1 fo o affect both surface and sub-surface wa	-surface storage capacity and duration Guide (see User Manual v1.0 Appendix
	□c □c □B □B	water storage capacity of duration are	e altered, but not substantially (typically, no e substantially altered (typically, alteration s g. fill, sedimentation, channelization, diversi	sufficient to result in vegetation
3.	Water Storage/Su	ırface Relief – assessment area/wetl	and type condition metric	
			torage for the assessment area (AA) and the	e wetland type (WT).
	AA WT	app. ap. ap.	5 S. Sa (5) and th	
)	⊠B ⊠B □c □c		ssions able to pond water 1 to 2 feet ns able to pond water 6 inches to 1 foot ns able to pond water 3- to 6-inches deep	

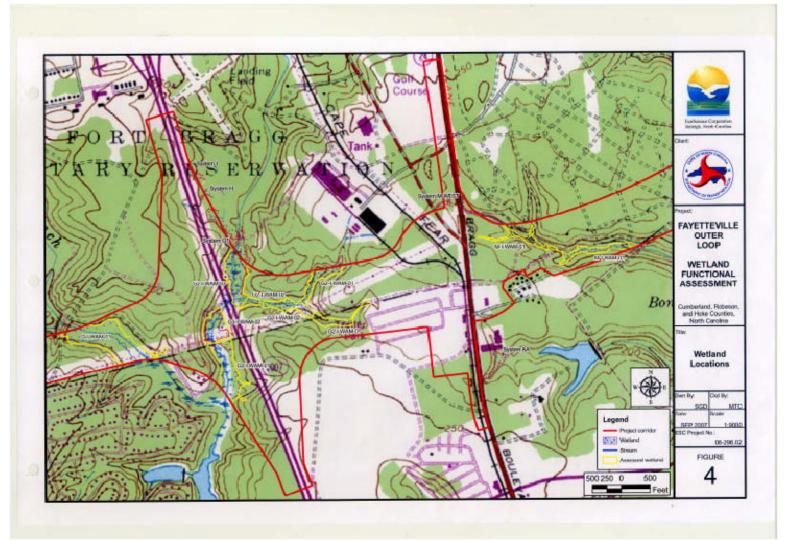
שי	4	Soil Tex	ture/Str	ucture -	assessment area condition metric
		Select a National	II that a Technica Sandy s Predom	pply. D al Comm soil inantly c	ig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ittee for Hydric Soils regional indicators are noted (use most recent guidance).
\bigcirc)	□C □D ⊠E □F	Gleyed i Soil ribb Soil ribb	mineral s oon < 1 in oon ≥1 in	included by other, mineral soil (no mottling) soil (F2, S4) soh soh
		□G ⊠H □I	A peat o	r muck p	presence presence (A6, A7, A8, A9, A10, F1, S1) I (histosol or histic epipedon) (A1, A2, A3)
:	5.	Discharg	je into W	etland -	- opportunity metric
		Surf	Sub		olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). lischarges include presence of nearby septic tank, underground storage tank (UST), etc.
		□в	⊠a □B	treatme	no evidence of pollutants or discharges entering the assessment area ble evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the nt capacity of the assessment area
		□с	□с	Noticea	ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
6		Land Use			
	; 	and within Plain and WS	the wate Piedmon 5M	ershed d it and 30 2M	luation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles raining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal feet wide in the Mountains.
	[_B [⊒в	□a □B	 > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential) > 30% impervious surfaces without stormwater BMPs
	Į r	_ :		⊠c □d	10 to 30% impervious surfaces
]E [⊒E	□E	< 10% impervious surfaces Old urban development (pink areas on USGS 7.5-minute quadrangles)
				□F □G	New adjacent development
]H [⊒H ∣	□Н	Confined animal operations (or other local, concentrated source of pollutants) ≥20% coverage of pasture without riparian buffer
				□J □I	≥20% coverage of pasture with effective riparian buffer
	Ē]K []K ∣	□́κ	≥20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer
				□L □M	≥20% coverage of maintained grass/herb Silvicultural land with disturbance < 5 years old
7]N []N [□N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
7.	is	the asse	cting as	Vegetat	red Buffer – assessment area condition metric
					in 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric
	w				is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine a total stream width.
	D	o roots of] ≤15-fee assessm]Yes = [et wide nent area ∃No	☐> 15-feet wide ☐Not Applicable vegetation extend into the bank of the adjacent stream/open water?
	ls	stream or	r other of Sheltere	oen wate	r sheltered or exposed? cent open water with width < 2500 feet <u>and</u> no regular boat traffic. ent open water with width ≥2500 feet <u>or</u> regular boat traffic.
8.	W	etland/Ri	parian B	Suffer Wi	idth – assessment area/wetland type/wetland complex metric
	(W on an	neck a bo √C), and t nly be pre	ox in eache riparion on the riparion of the riparion on the riparion of the ri	ch colur an buffer one side n. Make	mn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex rat the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need to of the water body. The riparian buffer is measured from the outside banks of the outer channels of an abuffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	W			B (if app	
	\boxtimes	B 🗀		=_	≥100 feet From 80 to < 100 feet
_			C []c i	From 50 to < 80 feet
)]D]E		_	From 40 to < 50 feet From 30 to < 40 feet
]F 🗀	lf 🗀	ĪF Ι	From 15 to < 30 feet
]G 1	From 5 to < 15 feet

,	, 9.	Injundation Duration – assessment area condition metric
		Answer for assessment area dominant landform. Answer for assessment area dominant landform. Answer for assessment area dominant landform.
		B Evidence of saturation, without evidence of inundation
	\ ^{10.}	Indicators of Deposition – assessment area condition metric
ζ.	/	Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels.
		LIB Sediment deposition is excessive, but not overwhelming the wetland
	11	work and a control with the work and .
		Wetland Size – wetland type/wetland complex condition metric Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the
		applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed boyler road forms
		a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column.
		WT WC FW (if applicable) □A □A ≥500 acres
		□B □B □B From 100 to < 500 acres
		□C □C From 50 to < 100 acres □D □D □D From 25 to < 50 acres
		□E □E From 10 to < 25 acres
		☐G ☐G From 1 to < 5 acres
		☐H ☐H From 0.5 to < 1 acre ☐I ☐I From 0.1 to < 0.5 acre
		□J □J From 0.01 to < 0.1 acre
	40	□K □K < 0.01 acre
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only) □A Wetland type is the full extent (≥90%) of its natural landscape size.
		B Wetland type is < 90% of the full extent of its natural landscape size.
	13.	Connectivity to Other Natural Areas – landscape condition metric
		Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and
)	agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the WC LC
		⊠A □A ≥500 acres
		□B □B From 100 to < 500 acres □C □C From 50 to < 100 acres
		□D □D From 10 to < 50 acres □E □E < 10 acres
		□F □F Wetland type has a poor or no connection to other natural habitats
		Check Yes or No.
		☐ Yes ☐ No ☐ Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐ Yes ☐ No ☐ Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐ Is the assessment area subject to overbank flooding during normal conditions?
		Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to ortificial odges. Artificial odges is shown as a condition of the
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass.
		□A No artificial edge within 150 feet in all directions ☑B No artificial edge within 150 feet in four to seven directions
		☐C An artificial edge occurs within 150 feet in more than four directions <u>or</u> assessment area is clear-cut
1		Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		□A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
		XIB Vegetation is different from reference condition in species diversity or proportions, but still largely composed of pative species
		characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
		Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
1	6.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
		☐A Vegetation diversity is high and is composed primarily of native species.☐B Vegetation diversity is low or has > 10% cover of exotics.
. 1		□C Vegetation is dominated by exotic species.

• <u>,</u> 1	7. V _e	getative	Structure	assessment	area/wetland t	ype conditio	n metric					
		Vegeta	tion prese	ent								
		Evalua	te percen	t coverage of v	egetation for n	narshes only	•					
		∐A □B		coverage of vege								
				coverage of vege		Francisco				_		
		structu	re ın aırsı	each column pace above the	assessment a	ium. Evalua rea (AA) and	te this p the wetl	oortion of and type	the metric (WT) separa	for non-ma tely.	arsh wetlands.	Consider
\ /		AA □A	WT □A	Canony closed	or poorly clos	od with notion		:				
		⊠B	⊠B	Canopy preser	l, or nearly clos nt, but opened r	nore than natur	ai gaps a ural nans	issociated	with natural i	processes		
		□с	□c	Canopy sparse		nore than hat	urur gaps	•				
		□A	□A	Dense mid-sto	ry/sapling laver							
		⊠B	⊠B	Moderate dens	sity mid-story/sa	pling layer						
		С	□c	Mid-story/sapli	ng layer sparse	or absent						
		ΠĀ	ΠĀ	Dense shrub la								
		□B ⊠C	□B ⊠C	Moderate dens Shrub layer sp								
		⊠A										
		□B	⊠a □B	Dense herb lay Moderate dens								
		□с	□c	Herb layer spa								
		Vegetat	ion absen	nt								
18	3. Sna	ags – wet	land type	condition met	ric							
	\Box A			(more than one)		12-inches DR	H or laro	e relative t	to enaciae nr	ecent and la	ndaaana atahiiit	
	⊠E	י ואטנ	А				11, 01 1419	je relative	to species pi	esent and la	nuscape stabilit	у).
19				bution – wetlan								
			st canopy t	trees have stem	s > 6-inches in	diameter at br	reast heig	ght (DBH);	many large t	rees (> 12-ir	nches DBH) are	
	⊠E	pres	sent.								,	
) Mos	st canopy t	trees have stem trees are < 6-inc	s between 6- ar thes DBH or no	ia 12-inches L trees	JBH, few	are > 12-i	nch DBH.			
20	lar			- wetland type								
				and natural del		IC						
		Larc	nan-maue re logs (m	ore than one) ar	oris piles. e present (> 12	-inches in dia	motor or	lorgo rolo	<u></u>			
	⊠B	Not	A	ore than one, a	o prosent (> 12	-inches in dia	meter, or	large rela	live to specie	s present ar	id landscape sta	ability).
21	. Ved	etation/0	nen Wate	r Dispersion	wotland type/s	non water e						
()	Sele	ect the fig	ure that h	er Dispersion -	o amount of in	bpen water co	onaition	metric (ev	aluate for N	on-Tidal Fr	eshwater Mars	h only)
	area	as indicate	vegetated	est describes th d areas, while so	olid white areas	ierspersion be indicate oner	eween v	egetation a	and open wa	ter in the gr	owing season.	Patterned
			ΠĂ	,	□В	maradio open	□C			Пρ		
							, Ō	*				
			الاجلاد		$\mathcal{I} \sim 1$					$M \mathcal{V} \Lambda$		
		(4) (1)	" ASI	V V		<i>K</i>),		$\mathcal{M}_{\mathcal{M}}$		
							SA.	A)				
						_	was here		444			
22.	Hab	itat Uniqu	ieness – v	wetiand type co	andition metric							
_							:6:	-l 41				
	. 00	2 110	1 103 1116 14	I.C. Environmen	tai Managemen	it Commission	i classifie	d the asse	ssment area	as "Unique	Wetlands" (UW	L)?"
0000000	MINETONIC PLANSAGE COMM	e e e e e e e e e e e e e e e e e e e	······································		······································	TO THE SECTION OF THE PROPERTY	PART CONTRACTOR OF THE SECOND CO.	Monthson construction and the second	Marrier	***************************************	****	
No	tes											THE RESERVE OF THE PERSON NAMED IN COLUMN 1
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<u> </u>	1.000.000.000.000.000.000.000.000.000.0	***************************************						*************************		***************************************		Marie Color
()												
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Wetland Site Name	L-I-WAM01	Date of Assessment	0/7/07
Wetland Type	Riverine Swamp Forest		
	Riverine Swamp Forest Assessor Name/Organization Assessment Form (Y/N) Assessor Name/Organization YES Sees affecting assessment area (Y/N) Sees a sees ment Form (Y/N) Assessor Name/Organization YES Sees affecting assessment area (Y/N) NO Idatory considerations (Y/N) Idatory considerations (Y/N) Idatory considerations (Y/N) Idatory considerations (Y/N) NO Idatory considerations (Y/N) Sub-quality riverine wetland (Y/N) Sub-function Condition Cond	AS, RA, EcoScience	
Presence of stre	essor affecting assessment area (V/N)	VEQ	
Notes on Field A	Assessment Form (Y/N)		
Sub-function Rating			
Function		Motrice	
Hydrology			Rating
			HIGH
Water Quality			HIGH
	and gon on ango		LOW
			MEDIUM
	Particulate Change		//N) YES
	a modulo oriange		HIGH
			HIGH
	Soluble Change		/N) YES
	Change		HIGH
			HIGH
	Physical Change		N) YES
	1 Hysical Change	Condition	HIGH
		Condition/Opportunity	HIGH
	Dollation O	Opportunity Presence (Y/	N) NO
	Pollution Change	Condition	X
		Condition/Opportunity	X
Habitat	Dhusia I O	Opportunity Presence (Y/	N) X
	Physical Structure	Condition	MEDIUM
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	MEDIUM
	Uniqueness	Condition	NO
unction Rating Summ	ary		
unction		Metrics	Rating
Hydrology		Condition	HIGH
Vater Quality		Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N	
labitat		Condition	HIGH





- ~			Date	9/7/07	
M-Alam	Site Name	M-I-WAM01	Assessor Name/Organization	AS, RA, EcoScience	
Welland	etland Type	Headwater Wetland	Nearest Named Water Body	Bonnie Doone Lake	
Levell	l Ecoregion	Southeastern Plains	USGS 8-Digit Catalogue Unit	03030004	
ECTO	River Basin	Cane Fear	Latitude/Longitude (deci-degrees)	35.114734, -78.956196	
Evidence Please ci (for instar	Yes ☑ No Precipitation within the assessment area (may not be within the assessment area) vidence of stressors affecting the assessment area (may not be within the assessment area) ease circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note below in reference, if appropriate, in recent past ease eitcle and/or make note is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note is apparent. Consider departure from reference, if appropriate, in recent past ease eitcle and/or make note is apparent. Consider departure from reference, if appropriate, in recent past ease ease eitcle and/or make note is apparent. Consider departure from reference, if appropriate, i				
Describe effects of stressors that are present. Road adjacent to wetland, vines and shrubs filling in from available light, Fort Bragg Regulatory Considerations Select all that apply to the assessment area. Anadromous fish Federally protected species or State endangered or threatened species NCDWQ riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HQW, ORW, or Trout Designated NCNHP reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Brownwater Both Is the assessment area on a coastal island? Yes No Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No				ouffer) tions of HQW, ORW, or Trout	
				ls the	assessment a
1. Gro	eck a box in assessment area VS	Condition/Vegetation Condition each column. Consider alteration area. Compare to reference wetlar based on evidence of alteration. Not severely altered Severely altered over most of the sedimentation, fire-plow lanes, alteration examples: mechanic less diversity [if appropriate], artistical examples.	n - assessment area condition metric on to the ground surface (GS) in the assessment area (ground surface altera skidder tracks, bedding, fill, soil compact cal disturbance, herbicides, salt intrusion tificial hydrologic alteration)	If a reference is not applicable, then rate the stricture rate is not applicable, then rate it is not examples: vehicle tracks, excessive tion, obvious pollutants) (vegetation structure [where appropriate], exotic species, grazing metric	
2. Su	rface and Su	b-Surface Storage Capacity and	Duration – assessment area condition	nd sub-surface storage capacity and durati	
CH (S G) wa ap Si E	neck a box in	teach column. Consider surface both increase and decrease in himolina hydric soils for the zone of it is a ditch > 1 foot deep is experient. Water storage capacity and durant transfer capacity or durant.	ydrology. Refer to the NRCS Scope and influence of ditches in hydric soils. A ditched to affect both surface and sub-surface are not altered. It is a called the substantially (typication are substantially altered (typically, altered to the substantially altered (typically, altered to the substantially altered (typically, altered to the substantially altered (typically, altered typically, sedimentation, channelization).	Effect Guide (see User Manual VI.0 Appendin ≤1 foot deep is considered to affect surface water. Consider tidal flooding regime cally, not sufficient to change vegetation).	
		dams, stream incision, sewer i	en/wetland type condition metric	71 A Promis	
3. V	Vater Storage	/Surface Relief – assessment ar	rea/wetland type condition metric priate storage for the assessment area (A/	A) and the wetland type (WT).	
J. ¥	hock a hox it	a each column. Select the applot	priate distance		
	A WT A A B B B C DC MD DE DE	> 50% of the wetland type wit	th depressions able to point water 1 to 2 fe th depressions able to pond water 1 to 2 fe epressions able to pond water 6 inches to expressions able to pond water 3- to 6-inches	et 1 foot	

4,		cture – assessment area of ply. Dig soil profile in the	condition metric a dominant assessment area landscape feature. Make soil observations within the top foot. a regional indicators are noted (use most recent guidance).
<u> </u>	□ Sandy sign □ Sandy sign □ Predomi □ Predomi □ Predomi □ Predomi □ Soil ribb □ Soil ribb □ No peat □ No peat □ Peat or	nantly characterized by monantly characterized by monantly characterized by oth hineral soil (F2, S4) on < 1 inch or muck presence r muck presence (A6, A7, Anuck soil (histosol or histic	ttled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) er, mineral soil (no mottling) A8, A9, A10, F1, S1) epipedon) (A1, A2, A3)
5.	Discharge into V	etland – opportunity met	tric er surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). presence of nearby septic tank, underground storage tank (UST), etc.
	Examples of sub-	surface discharges include	produced in the same of the sam
	Surf Sub	Noticeable evidence of potreatment capacity of the	ollutants or discharges entering the assessment area ollutants or discharges entering the wetland and stressing, but not overwhelming the assessment area assessment area ollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
6.	Land Use - opp	ortunity metric	this involves a CIS effort with field adjustment. Consider sources draining to assessment area
6. Land Use – opportunity metric Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment a within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 m within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coa Plain and Piedmont and 30 feet wide in the Mountains.			
	WS 5M □A □A	2M ☐A > 30% impervio	ous surfaces with stormwater Best Management Practices (BMPs) (land use examples.
	□B □B ⊠C ⊠C	☐B > 30% impervi	ous surfaces without stormwater bivins ervious surfaces
		D < 10% impervi	ous surfaces elopment (pink areas on USGS 7.5-minute quadrangles)
		☐F New adjacent	development pal operations (or other local, concentrated source of pollutants)
		☐H ≥20% coverage	ge of pasture without riparian buffer
	□l □l	☐J ≥20% coverage	ge of agricultural land (regularly plowed land) with effective riparian buffer ge of agricultural land (regularly plowed land) with effective riparian buffer
		□ ≥20% covera	ge of maintained grass/herb
	□M □M □N □N	□N Little or no on	nd with disturbance < 5 years old portunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or from affecting the assessment area.
7	. Wetland Actin		ssessment area condition metric stream or other open water? ("open water" does not include man-made ditches or canals) in to pext metric
	is the assessm ⊠Ye	ent area within 50 feet of a ,	ip to next metric w width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine width
	widths of chant	els/braids for a total stream	Width:
widths of channels/braids for a lotar stream. □ ≤15-feet wide □ Not Applicable Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water?		t wide Linot Applicable xtend into the bank of the adjacent stream/open water?	
⊠Yes ⊔No		s ∐No	aurand2
	⊠Sh □Ev	eltered – adjacent open wa oosed – adjacent open wat	rer with width ≥2500 feet or regular boat traffic.
ŧ	3. Wetland/Ripa	ian Buffer Width – asses	sment area/wetland type/wetland complex metric the appropriate width for the wetland type at the assessment area (WT), the wetland complex ssment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need
	/M/C) and the	riparian buller at the asset of on one side of the wate system. Make buffer judg	the appropriate width for the wetland type at the assessment area (NY), the distribution of the wetland responsible and need essment area (RB) (if applicable). Riparian buffer width is measured from the outside banks of the outer channels of an er body. The riparian buffer is measured from the outside banks of the outer channels of an ment based on dominant landscape feature. Record a note if a portion of the buffer has been ment based on dominant landscape feature.
	WT WC	RB (if applicable) ⊠∆ ≥100 feet	
	□B □B	B From 80 to	< 100 feet < 80 feet
		D From 40 to	< 50 feet
		From 15 to	< 30 feet
		' =	

4-	9.	Inundation Duration – assessment area condition metric		
		Answer for assessment area dominant landform.		
	☒A Evidence of short-duration inundation (< 7 consecutive days)☐B Evidence of saturation, without evidence of inundation			
	C Evidence of long-duration inundation (7 to 30 consecutive days or more)			
		Indicators of Deposition – assessment area condition metric		
$(\)$		Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels.		
		R Sediment deposition is excessive, but not overwhelming the wetland.		
		☐C Sediment deposition is excessive and is overwhelming the wetland.		
	11. Wetland Size – wetland type/wetland complex condition metric			
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A ≥500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres From 10 to < 25 acres From 5 to < 10 acres G G G From 1 to < 5 acres From 0.1 to < 0.5 acre		
		□J □J From 0.01 to < 0.1 acre □K □K □K < 0.01 acre		
	12	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)		
		□A Wetland type is the full extent (≥90%) of its natural landscape size.		
		□B Wetland type is < 90% of the full extent of its natural landscape size.		
	13.	Connectivity to Other Natural Areas – landscape condition metric Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if		
)	check appropriate box(es). This metric feters to the landscape patch, the contiguous middle fields (pasture and appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC MA		
		□E □E < 10 acres		
		F Wetland type has a poor or no connection to other natural habitats		
		Check Yes or No. ☐Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?		
	14.	Edge Effect – wetland type condition metric		
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fie two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old.			
main points of the compass.		main points of the compass.		
		□A No artificial edge within 150 feet in all directions □B No artificial edge within 150 feet in four to seven directions		
		An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut		
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)		
		Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.		
		Vegetation is different from reference condition in species diversity or proportions, but still largely composed of halive species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or characteristic of the wetland type.		
		Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.		
	16	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)		
	10.	Vogetation diversity is high and is composed primarily of native species.		
)	□ Vegetation diversity is low or has > 10% cover of exotics. □ C Vegetation is dominated by exotic species.		

+ 17.	Vegetative Structure – assessment area/wetland type condition metric ✓ Vegetation present Evaluate percent coverage of vegetation for marshes only □A ≥25% coverage of vegetation □B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT □A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes
	⊠B ⊠B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent □A □A Dense mid-story/sapling layer □B ⊠B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent ☑A ☑A Dense shrub layer
	□B □B Moderate density shrub layer □C □C Shrub layer sparse or absent □A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent Vegetation absent
18.	Snags – wetland type condition metric □ A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). □ B Not A
19.	Diameter Class Distribution – wetland type condition metric ☑A Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present. ☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees.
20.	Large Woody Debris – wetland type condition metric Include both man-made and natural debris piles. □ A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). □ B Not A
) 21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.
	. Habitat Uniqueness – wetland type condition metric Yes ⊠No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
No	ites

Wetland Site Name M-I-WAM01		Date of Assessment	9/7/07	
Wetland Type	Headwater Wetland	Assessor Name/Organization	AS, RA, EcoScience	
Presence of str	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	NO		
Presence of re	gulatory considerations (Y/N)	YES		
Wetland is inte	nsively managed (Y/N)	NO		
Wetland may b	e a high-quality riverine wetland (Y/N)			
Sub-function Rating				
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention		HIGH	
	Sub-surface Storage and Reter	ntion Condition	HIGH	
Water Quality	Pathogen Change	Condition	LOW	
		Condition/Opportunity	MEDIUM	
		Opportunity Presence		
	Particulate Change	Condition	MEDIUN	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
·	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Pollution Change	Condition	×	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
Habitat	Physical Structure	Condition	HIGH	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	MEDIUM	
	Uniqueness	Condition	NO	
Function Rating Su	mmary			
Function		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence		
Habitat		Condition	HIGH	

Г	Wetland Site Name	G2-I-WAM01	Date	9/7/07	
	Wetland Type	Headwater Wetland	Assessor Name/Organization	AS, RA, EcoScience	
	Level III Ecoregion		Nearest Named Water Body	Big Branch 03030004	
	River Basin	Cape Fear	USGS 8-Digit Catalogue Unit Latitude/Longitude (deci-degrees)	35.112232, -78.970543	
凊	☐ Yes 🗵 No				
	Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. Hydrological modifications (examples: ditches, dams, beaver dams, dikes, berms, ponds, etc.) Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs), hog lagoons, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm damage, salt intrusion, etc.) Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.)				
	Describe effects of str Fire Road Cuts through	essors that are present. wetland, Fort Bragg			
	NCDWQ ripar Wetland adjace Publicly owner N.C. Division of N.C. D	he assessment area. ish ected species or State endangered ian buffer rule in effect eent to or associated stream drains d property of Coastal Management Area of En of Water Quality best usage classifi		fer) ns of HQW, ORW, or T rout	
	_ , 0	CNHP reference community			
	What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Tidal (if tidal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No			peaver? □ Yes ⊠ No	
1	Check a box in ear the assessment are assessment area ba GS VS AA AA BB BB S	ch column. Consider alteration to a. Compare to reference wetland used on evidence of alteration. Not severely altered Severely altered over most of the ast redimentation, fire-plow lanes, skic	if applicable (see User Manual v1.0). If a ssessment area (ground surface alteration der tracks, bedding, fill, soil compaction, disturbance, herbicides, salt intrusion [wh	obvious pollutants) (vegetation structure	
2	. Surface and Sub-S	urface Storage Capacity and Dui	ration – assessment area condition met	ric	
-	Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable. Surf! Sub				
		Water storage capacity or duration a Change) (examples: intensive ditch dams, stream incision, sewer lines,	are altered, but not substantially (typically, are substantially altered (typically, alteratic ing, fill, sedimentation, channelization, dive soil compaction).	on sufficient to result in vegetation	
•	3. Water Storage/Sur	face Relief – assessment area/w	etland type condition metric	d the wetland type (WT)	
•	Check a box in ea	ch column. Select the appropriate	e storage for the assessment area (AA) and	u tile wetiand type (** i).	
)	AA WT A DA B DB C DC	> 50% of the wetland type with dep > 50% of the wetland type with dep	oressions able to pond water > 2 feet oressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches de	t	

· 4	Soil Texture/Structure – assessment area condition metric				
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil				
	B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)				
	☐C Predominantly characterized by other, mineral soil (no mottling) ☐D Gleyed mineral soil (F2, S4)				
	⊠E Soil ribbon < 1 inch				
	□F Soil ribbon ≥1 inch□G No peat or muck presence				
	□H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)				
	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)				
5.	Discharge into Wetland – opportunity metric				
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub				
	 ☑A ☑B 				
	Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)				
6.	Land Use - opportunity metric				
-	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains.				
	WS 5M 2M □A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)				
	□B □B > 30% impervious surfaces without stormwater BMPs				
	⊠C ⊠C 10 to 30% impervious surfaces □D □D □D < 10% impervious surfaces				
	☐E ☐E ☐E Old urban development (pink areas on USGS 7.5-minute quadrangles)				
_	☐F ☐F New adjacent development ☐G ☐G ☐G Confined animal operations (or other local, concentrated source of pollutants)				
	☐H ☐H ≥20% coverage of pasture without riparian buffer				
\ /	□I □I ≥20% coverage of pasture with effective riparian buffer □J □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer				
	□K □K ⊵20% coverage of agricultural land (regularly plowed land) with effective riparian buffer				
	□L □L ≥20% coverage of maintained grass/herb				
	□M □M Silvicultural land with disturbance < 5 years old □N □N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or				
	overbank flow from affecting the assessment area.				
7.					
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)				
	☐Yes ☑No If No, Skip to next metric Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine				
	widths of channels/braids for a total stream width.				
	□Yes □No				
	Is stream or other open water sheltered or exposed? ☐ Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. ☐ Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.				
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric				
-	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been				
	removed or disturbed. WT WC RB (if applicable)				
	⊠∆ ⊠A ∏A ≥100 feet				
	□B □B From 80 to < 100 feet				
_	☐C ☐C From 50 to < 80 feet ☐D ☐D ☐D From 40 to < 50 feet				
	⊟E From 30 to < 40 feet				
\ /	F From 15 to < 30 feet				
	☐G ☐G From 5 to < 15 feet ☐H ☐H ☐H < 5 feet				

*	9.	Inundation Duration – assessment area condition metric					
		Answer for assessment area dominant landform. A Evidence of short-duration inundation (< 7 consecutive days) B Evidence of saturation, without evidence of inundation C Evidence of long-duration inundation (7 to 30 consecutive days or more)					
		Indicators of Deposition – assessment area condition metric					
()		Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels. B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland.					
	11.	Wetland Size – wetland type/wetland complex condition metric					
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A					
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)					
		 □A Wetland type is the full extent (≥90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size. 					
	13.	Connectivity to Other Natural Areas – landscape condition metric					
C)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC MA A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 10 to < 50 acres E E < 10 acres WE Wetland type has a poor or no connection to other natural habitats					
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)					
	14.	Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,					
		wo-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut					
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)					
		 ✓ Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. ✓ Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓ Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species. 					
	16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
)	 ☐A Vegetation diversity is high and is composed primarily of native species. ☐B Vegetation diversity is low or has > 10% cover of exotics. ☐C Vegetation is dominated by exotic species. 					

15	17.	Vegetative Structure – assessment area/wetland type condition metric
		 ✓ Vegetation present Evaluate percent coverage of vegetation for marshes only
		□A ≥25% coverage of vegetation
		☐B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
)		structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
		 ☑A ☑A Canopy closed, or nearly closed, with natural gaps associated with natural processes ☐B ☐B Canopy present, but opened more than natural gaps ☐C ☐C Canopy sparse or absent
		 ☑A ☑A Dense mid-story/sapling layer ☐B ☐B Moderate density mid-story/sapling layer ☐C ☐C Mid-story/sapling layer sparse or absent
		□A Dense shrub layer □B Moderate density shrub layer □C Shrub layer sparse or absent
	10	☐ Vegetation absent Snags – wetland type condition metric
	10.	 □ A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). □ B Not A
	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
		□B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. □C Most canopy trees are < 6-inches DBH or no trees.
	20.	Large Woody Debris - wetland type condition metric
		Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). B Not A
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.
		□A □B □C □D
	22.	Habitat Uniqueness – wetland type condition metric
	ΠY	- White Add All Control of the Contr
	Note	98

Welland Site Name	GZ-I-VVAIVIU I	Date of Assessment s	11101
Wetland Type	Headwater Wetland As	ssessor Name/Organization	AS, RA, EcoScience
		VEC	
	ressor affecting assessment area (Y/N)	YES	
	Assessment Form (Y/N)	NO	
	gulatory considerations (Y/N)	YES	
	ensively managed (Y/N)	NO	
Wetland may b	be a high-quality riverine wetland (Y/N)		
Sub-function Rating		······································	
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	HIGH
	Sub-surface Storage and Retention	on Condition	HIGH
Water Quality	Pathogen Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y	/N) YES
	Particulate Change	Condition	HIGH
		Condition/Opportunity	X
		Opportunity Presence (Y	/N) X
	Soluble Change	Condition	MEDIUM
		Condition/Opportunity	HIGH
		Opportunity Presence (Y	/N) YES
	Physical Change	Condition	LOW
		Condition/Opportunity	LOW
		Opportunity Presence (Y	/N) YES
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y	/N) X
Habitat	Physical Structure	Condition	HIGH
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	MEDIUM
	Uniqueness	Condition	NO
Function Rating Su	mmarv		
Function		Metrics	Rating
Hydrology		Condition	HIGH
Water Quality		Condition	HIGH
·	•	Condition/Opportunity	HIGH
		Opportunity Presence (Y	
Habitat		Condition	HIGH

Overall Wetland Rating HIGH

Γ	Wetland Site Name	G2-I-WAM02	Date	9/7/07
	Wetland Type		Assessor Name/Organization	AS, RA EcoScience
ĺ	Level III Ecoregion	Southeastern Plains	Nearest Named Water Body	Big Branch
	River Basin		USGS 8-Digit Catalogue Unit	
1	☐ Yes ☐ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.112068, -78.972705
	Please circle and/or ma (for instance, within 10 • Hydrological r • Surface and septic tanks, to • Signs of vege • Habitat/plant of	ake note below if evidence of stress years). Noteworthy stressors include nodifications (examples: ditches, d sub-surface discharges into the wo underground storage tanks (USTs),	n mortality, insect damage, disease, storm lowing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby
		ressors that are present. ts through wetland, Fort Bragg		
ļ	Regulatory Considera Select all that apply to t Anadromous to	he assessment area.	or threatened species	
	NCDWQ riparWetland adjact	ian buffer rule in effect cent to or associated stream drains		
	□ N.C. Division	of Coastal Management Area of En	vironmental Concern (AEC) (including buf- ication of SA or supplemental classification	fer) is of HQW, ORW, or Trout
	-	•	land, if any? (Check all that apply)	
	☐ Brownwater ☐ Tidal (if tidal, o	check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both	
7		a on a coastal island? Yes		
i			ty or duration substantially altered by b	eaver?
L				
1	Check a box in each	ch column. Consider alteration to	assessment area condition metric the ground surface (GS) in the assessm if applicable (see User Manual v1.0). If a	ent area and vegetation structure (VS) in reference is not applicable, then rate the
	⊠A ⊠A M □B □B S S	edimentation, fire-plow lanes, skid	ssessment area (ground surface alteration lder tracks, bedding, fill, soil compaction, listurbance, herbicides, salt intrusion [who al hydrologic alteration)	obvious pollutants) (vegetation structure
2	. Surface and Sub-S	urface Storage Capacity and Dur	ation – assessment area condition met	ric
	(Sub). Consider bo G) for North Carolin water only, while a applicable.	th increase and decrease in hydrol a hydric soils for the zone of influe	orage capacity and duration (Surf) and su ogy. Refer to the NRCS Scope and Effect ence of ditches in hydric soils. A ditch ≤1 to affect both surface and sub-surface v	ct Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface
	□B □B V □C □C V	Vater storage capacity or duration a	are altered, but not substantially (typically, are substantially altered (typically, alteratio ing, fill, sedimentation, channelization, dive	n sufficient to result in vegetation
3	8. Water Storage/Sur	face Relief – assessment area/we	etland type condition metric	the method type (A/T)
	Check a box in eac	ch column. Select the appropriate	storage for the assessment area (AA) and	i the wetland type (WT).
)	AA WT A A B BB C C MD MD	> 50% of the wetland type with depress	ressions able to pond water > 2 feet ressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches dee	

			ig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ittee for Hydric Soils regional indicators are noted (use most recent guidance).
	⊠A Sa □B Pre	ndy soil edominantly o	characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) characterized by other, mineral soil (no mottling)
	□D Gle	eyed mineral	soil (F2, S4)
		il ribbon < 1 iı il ribbon ≥1 iı	
	☐G No	peat or muck	
			presence (A6, A7, A8, A9, A10, F1, S1) ill (histosol or histic epipedon) (A1, A2, A3)
5.	Discharge i	nto Wetland	- opportunity metric
		sub-surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). discharges include presence of nearby septic tank, underground storage tank (UST), etc.
	⊠A ⊠.	A Little o B Notice	r no evidence of pollutants or discharges entering the assessment area able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
	_c	C Notice potenti	ent capacity of the assessment area able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive entation)
6.	Land Use -	opportunity	metric
	within entire and within th	upstream wa ne watershed edmont and 3	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal 0 feet wide in the Mountains.
			> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)
	□B □I		> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces
		D □D	< 10% impervious surfaces
			Old urban development (pink areas on USGS 7.5-minute quadrangles) New adjacent development
	□G □	G ∏G	Confined animal operations (or other local, concentrated source of pollutants)
		H □H I □I	≥20% coverage of pasture without riparian buffer ≥20% coverage of pasture with effective riparian buffer
		J □J	≥20% coverage of agricultural land (regularly plowed land) without riparian buffer
			≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥20% coverage of maintained grass/herb
	□M □I	м 🗀м	Silvicultural land with disturbance < 5 years old
		N □N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
7.		-	tated Buffer – assessment area condition metric
		sment area wi Yes	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric
	Stream width	n (Stream wid	th is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine
		anneis/braids ≤15-feet wide	for a total stream width. e
			rea vegetation extend into the bank of the adjacent stream/open water?
		Yes	ater sheltered or exposed?
			djacent open water with width < 2500 feet <u>and</u> no regular boat traffic. jacent open water with width ≥2500 feet <u>or</u> regular boat traffic.
8.			Width – assessment area/wetland type/wetland complex metric
			blumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex
	only be pres	sent on one s d system. M	ffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	WT W		applicable)
	□A □,	A ⊠A	≥100 feet
	□B □		From 80 to < 100 feet From 50 to < 80 feet
		D 🔲 D	From 40 to < 50 feet
			From 30 to < 40 feet From 15 to < 30 feet
	ĞG □	G ∏G	From 5 to < 15 feet
	H D		< 5 feet

4s Soil Texture/Structure – assessment area condition metric

	9÷	Inundation Duration – assessment area condition metric Answer for assessment area dominant landform.
		Answer for assessment area dominant and form. Answer for assessment area dominant and form. Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation Evidence of long-duration inundation (7 to 30 consecutive days or more)
	10.	Indicators of Deposition – assessment area condition metric
(,)	Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels. B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland.
	11.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A ≥500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F From 10 to < 25 acres F F From 5 to < 10 acres G G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre I I I From 0.01 to < 0.5 acre J J J From 0.01 to < 0.1 acre
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
		□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.
	13.	Connectivity to Other Natural Areas – landscape condition metric
)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC MA MA ≥500 acres
		□B □B From 100 to < 500 acres □C □C From 50 to < 100 acres
		□D □D From 10 to < 50 acres
		□E □E < 10 acres □F □F Wetland type has a poor or no connection to other natural habitats
		Check Yes or No.
		 ☐Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?
	14.	Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,
		two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. ☑A No artificial edge within 150 feet in all directions
		□B No artificial edge within 150 feet in four to seven directions □C An artificial edge occurs within 150 feet in more than four directions <u>or</u> assessment area is clear-cut
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
		Use Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata.
		Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
	16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	`	□A Vegetation diversity is high and is composed primarily of native species.
ζ.)	□B Vegetation diversity is low or has > 10% cover of exotics. □C Vegetation is dominated by exotic species.

	(7) .	vegetative Structure – assessment area/wetianu type condition metric
		□ Vegetation present □ Vegetation
		Evaluate percent coverage of vegetation for marshes only
		□A ≥25% coverage of vegetation □B < 25% coverage of vegetation
		Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
		structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
. 1		AA WT
		A Canopy closed, or nearly closed, with natural gaps associated with natural processes
		☐C ☐C Canopy sparse or absent
		☐A ☐A Dense mid-story/sapling layer
		☐A ☐A Dense shrub layer ☐B ☐B Moderate density shrub layer
		□ □ □ □ □ □ □
		□A □A Dense herb layer
		☐C ☐C Herb layer sparse or absent
		☐ Vegetation absent
1	18.	Snags – wetland type condition metric
		△A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).
		□B Not A
1	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
		present.
		 ☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees.
		— ''
2	20.	Large Woody Debris – wetland type condition metric
		Include both man-made and natural debris piles.
		△A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability).□B Not A
ر .	27.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
		Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned areas indicate vegetated areas, while solid white areas indicate open water.
2	າ	Habitat Uniqueness – wetland type condition metric
_		· · · · · · · · · · · · · · · · · · ·
L]Y	es No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
West.	Sanan (enem	
٨	Vote	es establishment of the second

Wetland Site Name	G2-I-WAM02	Date of Assessment	9/7/07	
Wetland Type	Headwater Wetland	Assessor Name/Organization	AS, RA EcoScience	
Presence of str	essor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	NO		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	NO		
	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	Summary			
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	HIGH	
	Sub-surface Storage and Reten	tion Condition	HIGH	
Water Quality	Pathogen Change	Condition	LOW	
		Condition/Opportunity	MEDIUM	
		Opportunity Presence	(Y/N) YES	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
Habitat	Physical Structure	Condition	HIGH	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
Function Rating Sur	mmary			
Function		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence		
Habitat		Condition	HIGH	

Wetlan	d Site Name		Date	9/7/07
1	etland Type		Assessor Name/Organization	EcoScience
		Southeastern Plains	Nearest Named Water Body	Big Branch
·	River Basin es 🛛 No	Cape Fear Precipitation within 48 hrs?	USGS 8-Digit Catalogue Unit Latitude/Longitude (deci-degrees)	03030004 35.113715, -78.974279
	es 🖂 No	Precipitation within 46 hrs?	Latitude/Longitude (deci-degrees)	33.113713, -76.974279
Please cir (for instan	cle and/or moce, within 10 Hydrological Surface and septic tanks, Signs of vego Habitat/plant	ake note below if evidence of stres years). Noteworthy stressors inclumodifications (examples: ditches, of sub-surface discharges into the wunderground storage tanks (USTs)	n mortality, insect damage, disease, storm nowing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby
		wetland, beaver impacted, Fort Br	agg	
Select all	Anadromous Federally pro NCDWQ ripa Wetland adja Publicly owne N.C. Division N.C. Division	the assessment area. fish tected species or State endangered rian buffer rule in effect cent to or associated stream drains ad property of Coastal Management Area of Er	•	
What type ⊠	J	•	land, if any? (Check all that apply)	
	Brownwater			
	•	check one of the following boxes)	<u> </u>	
is the ass	essment are	ea on a coastal island? Yes	⊠ No	
Is the ass	essment are	ea's surface water storage capaci	ty or duration substantially altered by b	eaver? 🛛 Yes 🗌 No
Check the ass	a box in easessment area bayes VS A B B	ch column. Consider alteration to ea. Compare to reference wetland ased on evidence of alteration. Not severely altered Severely altered over most of the as sedimentation, fire-plow lanes, skic	assessment area condition metric the ground surface (GS) in the assessmif applicable (see User Manual v1.0). If a seessment area (ground surface alteration deer tracks, bedding, fill, soil compaction, disturbance, herbicides, salt intrusion [wheal hydrologic alteration)	reference is not applicable, then rate the examples: vehicle tracks, excessive obvious pollutants) (vegetation structure
2. Surfac			ration – assessment area condition met	ric
Check (Sub). G) for I	a box in ea Consider bo North Carolir only, while a ble. Sub	ach column. Consider surface stath increase and decrease in hydrol ha hydric soils for the zone of influence.	orage capacity and duration (Surf) and so logy. Refer to the NRCS Scope and Effect ence of ditches in hydric soils. A ditch ≤1 to affect both surface and sub-surface v	ub-surface storage capacity and duration at Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface
∏A ∏B ⊠C	□B □C	Nater storage capacity or duration a	are altered, but not substantially (typically, are substantially altered (typically, alteratio ing, fill, sedimentation, channelization, dive	n sufficient to result in vegetation
3. Water	Storage/Su	face Relief – assessment area/we	etland type condition metric	44.
Check	a box in ea	ch column. Select the appropriate	storage for the assessment area (AA) and	the wetland type (WT).
AA AB CODE	WT ABCODE	> 50% of the wetland type with dep	pressions able to pond water > 2 feet pressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches de	

4.	Soil Texture/Structure – assessment area condition metric			
	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). \[\begin{align*} \text{S} \\			
$\overline{}$	 □B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) □C Predominantly characterized by other, mineral soil (no mottling) □D Gleyed mineral soil (F2, S4) 			
	⊠E Soil ribbon < 1 inch □F Soil ribbon ≥1 inch			
	☐G No peat or muck presence ☑H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)			
	Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)			
5.	Discharge into Wetland – opportunity metric			
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub).		
	 ☑A			
	□C □C Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)			
6.	Land Use – opportunity metric			
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment are within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 mile and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coasta Plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M	s		
	□A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)			
	□B □B > 30% impervious surfaces without stormwater BMPs ☑C ☑C □C 10 to 30% impervious surfaces			
	□D □D < 10% impervious surfaces □E □E □E Old urban development (pink areas on USGS 7.5-minute quadrangles)			
	F F New adjacent development G G G Confined animal operations (or other local, concentrated source of pollutants)			
	☐H ☐H ☐H ≥20% coverage of pasture without riparian buffer			
` ′	 □I ≥20% coverage of pasture with effective riparian buffer □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer □K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer 			
	□K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer □L □L ≥20% coverage of maintained grass/herb			
	M ☐M Silvicultural land with disturbance < 5 years old ☐N ☐N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or	•		
-	overbank flow from affecting the assessment area.			
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric s the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)			
	⊠Yes □No If No, Skip to next metric Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine	۵		
	vidths of channels/braids for a total stream width.			
	☐≤15-feet wide			
	⊠Yes □No s stream or other open water sheltered or exposed?			
	Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.			
8.	Netland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric			
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complet WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been emoved or disturbed.	d n		
	NT WC RB (if applicable)			
	⊠A ⊠A ≥100 feet □B □B □B From 80 to < 100 feet			
	□C □C From 50 to < 80 feet			
	□E □E From 30 to < 40 feet			
•	□F □F □F From 15 to < 30 feet □G □G □G From 5 to < 15 feet			
	□H □H < 5 feet			

 9.	Inundation Duration – assessment area condition metric
ويد ع.	Answer for assessment area dominant landform.
	Answer for assessment area dominant landiom. Answer for assessment area dominant landiom. Carlot assessment area dominant landiom. Answer for assessment area dominant landiom.
	B Evidence of saturation, without evidence of inundation
	⊠C Evidence of long-duration inundation (7 to 30 consecutive days or more)
1 0.	. Indicators of Deposition – assessment area condition metric
	Consider recent deposition only (no plant growth since deposition).
` _	
	B Sediment deposition is excessive, but not overwhelming the wetland.
	☐C Sediment deposition is excessive and is overwhelming the wetland.
11.	Wetland Size – wetland type/wetland complex condition metric
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A So00 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres From 10 to < 25 acres F F From 5 to < 10 acres G G G From 10 to < 5 acres H H H From 0.5 to < 1 acre J J J From 0.01 to < 0.5 acre K K K K K K < 0.01 acre
40	
12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only) ☐A Wetland type is the full extent (≥90%) of its natural landscape size.
	□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.
12	Connectivity to Other Natural Areas – landscape condition metric
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A □A ≥500 acres
	☐B ☐B From 100 to < 500 acres ☐C ☐C From 50 to < 100 acres
	□D □D From 10 to < 50 acres
	□E □E <10 acres
	F F Wetland type has a poor or no connection to other natural habitats
	Check Yes or No. ☐ Yes ☐ No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐ Yes ☐ No Is the assessment area subject to overbank flooding during normal conditions?
14.	Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight
	two-lane or larger roads (≥40-leet wide), utility line comdors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass.
	☐A No artificial edge within 150 feet in all directions
	No artificial edge within 150 feet in four to seven directions
	C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area.
	 ✓ Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓ Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	□A Vegetation diversity is high and is composed primarily of native species.
	B Vegetation diversity is low or has > 10% cover of exotics.
•	C Vegetation is dominated by exotic species.

پ 17.	V _e getative Structure – assessment area/wetland type condition metric
	□ Vegetation present
	Evaluate percent coverage of vegetation for marshes only
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
\bigcirc	structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
	☐A ☐A Canopy closed, or nearly closed, with natural gaps associated with natural processes ☐B ☐B Canopy present, but opened more than natural gaps ☐C ☐C Canopy sparse or absent
	□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
	□A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent
	☐ Vegetation absent
18.	Snags – wetland type condition metric
	□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability).□B Not A
19.	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
	☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.
	☐C Most canopy trees are < 6-inches DBH or no trees.
20.	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). B Not A
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
	areas indicate vegetated areas, while solid white areas indicate open water.
•	
22	Habitat Uniqueness – wetland type condition metric
Y	—
٠.	23 10 That the title. Environmental management commission classified the assessment area as single violaties (CVL).
Note	9S

Wetland Site Name	G2-I-WAM03	Date of Assessment	9/7/07
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	EcoScience
Presence of str	ressor affecting assessment area (Y/N)	YES	
	Assessment Form (Y/N)	NO	
	gulatory considerations (Y/N)	YES	
	nsively managed (Y/N)	NO	
	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	g Summary		
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	LOW
	Sub-surface Storage and Reter	ntion Condition	HIGH
Water Quality	Pathogen Change	Condition	LOW
		Condition/Opportunity	LOW
		Opportunity Presence	(Y/N) YES
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
Habitat	Physical Structure	Condition	MEDIUM
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	LOW
	Uniqueness	Condition	NO
Function Rating Sur	mmary		
Function		Metrics	Rating
Hydrology		Condition	MEDIUM
Water Quality		Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
Habitat		Condition	MEDIUM

-		Site Name	G3-I-WAM01	Date	9/7/07		
		tland Type	Riverine Swamp Forest	Assessor Name/Organization Nearest Named Water Body	AS, RA, EcoScience Big Branch		
		Ecoregion	Southeastern Plains Cape Fear	USGS 8-Digit Catalogue Unit			
١	☐ Ye		Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.111304, -78.975669		
()	Please circl for instance • Hy • Si • Si • Hi	of stressors le and/or mae, within 10 ydrological rurface and eptic tanks, ugns of vege abitat/plant of	affecting the assessment area (make note below if evidence of stresso years). Noteworthy stressors include modifications (examples: ditches, dasub-surface discharges into the weunderground storage tanks (USTs), h	mortality, insect damage, disease, storm wing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby		
	Describe effects of stressors that are present. Four lane highway causeway, utility crossing, Fort Bragg						
	Select all the All All All All All All All All All Al	nadromous ederally prot CDWQ ripar letland adjacublicly owne .C. Division .C. Division esignated N of natural slackwater rownwater dal (if tidal, ssment are ssment are ssment are essment are estation and essment are estation and essment are estation and essment are estation and essment are estation and essment are estation and essment are estation and essment are	the assessment area. fish ected species or State endangered or in buffer rule in effect cent to or associated stream drains to d property of Coastal Management Area of Envor Water Quality best usage classific CNHP reference community stream is associated with the wetlancheck one of the following boxes) are on a coastal island? Yes the associated with the wetland on a coastal island? The action of the following boxes on a coastal island? The	o a Primary Nursery Area rironmental Concern (AEC) (including buf eation of SA or supplemental classification and, if any? (Check all that apply) Lunar	ns of HQW, ORW, or Trout		
	assessn GS A BB	VS ⊠A N ⊡B S	Not severely altered Severely altered over most of the ass sedimentation, fire-plow lanes, skido	sturbance, herbicides, salt intrusion [wh	examples: vehicle tracks, excessive obvious pollutants) (vegetation structure ere appropriate], exotic species, grazing,		
2.	Surface	and Sub-S	urface Storage Capacity and Dura	tion – assessment area condition met	ric		
	Check (Sub). (G) for N	a box in ea Consider bo lorth Carolir nly, while a	ach column. Consider surface stol th increase and decrease in hydrolo a hydric soils for the zone of influer	rage capacity and duration (Surf) and s gy. Refer to the NRCS Scope and Effec nce of ditches in hydric soils. A ditch ≤1	ub-surface storage capacity and duration of Guide (see User Manual v1.0 Appendix foot deep is considered to affect surface water. Consider tidal flooding regime, if		
	□A □B ⊠C	⊠A \	Nater storage capacity or duration and change) (examples: intensive ditchind dams, stream incision, sewer lines, s	re altered, but not substantially (typically, re substantially altered (typically, alteratio ig, fill, sedimentation, channelization, dive oil compaction).	n sufficient to result in vegetation		
3.	Water S	Storage/Sur	face Relief – assessment area/wet	lland type condition metric			
)	Check : AA ⊠A □B □C □D	a box in ead WT A B C C	ch column. Select the appropriate s > 50% of the wetland type with depre > 50% of the wetland type with depressions > 50% of wetland type with depressions	storage for the assessment area (AA) and essions able to pond water > 2 feet essions able to pond water 1 to 2 feet ons able to pond water 6 inches to 1 foot ons able to pond water 3- to 6-inches dee			

4.	Soil Texture/Structure – assessment area condition metric							
υ	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). Sandy soil							
	□B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) □C Predominantly characterized by other, mineral soil (no mottling) □D Gleyed mineral soil (F2, S4)							
	⊠E Soil ribbon < 1 inch □F Soil ribbon ≥1 inch							
	☐G No peat or muck presence							
	☑H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1)☐I Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)							
5.	Discharge into Wetland – opportunity metric							
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub							
	□A □A Little or no evidence of pollutants or discharges entering the assessment area □B □B Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the treatment capacity of the assessment area							
	Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)							
6.	Land Use – opportunity metric							
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal Plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M							
	□A □A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)							
	□B □B > 30% impervious surfaces without stormwater BMPs □C □C □C 10 to 30% impervious surfaces							
	D D < 10% impervious surfaces							
	□E □E □E Old urban development (pink areas on USGS 7.5-minute quadrangles) □F □F □F New adjacent development							
	□G □G □G Confined animal operations (or other local, concentrated source of pollutants) □H □H □H □H ≥20% coverage of pasture without riparian buffer							
	□I □I ≥20% coverage of pasture with effective riparian buffer							
	□J □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparian buffer □K □K □K ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer							
	□L □L ≥20% coverage of maintained grass/herb							
	M M M M Silvicultural land with disturbance < 5 years old N N N Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or							
	overbank flow from affecting the assessment area.							
7.	Wetland Acting as Vegetated Buffer – assessment area condition metric							
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) \[\textstyle \textstyl							
	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine							
	widths of channels/braids for a total stream width. □ ≤15-feet wide □ Not Applicable							
	Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water? ⊠Yes □No							
	Is stream or other open water sheltered or exposed?							
	⊠Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.							
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric							
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex							
	(WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed.							
	WT WC RB (if applicable)							
	□A □A ≥100 feet □B □B From 80 to < 100 feet							
	□C □C From 50 to < 80 feet							
	□ D □ D From 40 to < 50 feet □ E □ E From 30 to < 40 feet							
\ /	□F □F From 15 to < 30 feet							
	□G □G From 5 to < 15 feet □H □H < 5 feet							

	9.	Inundation Duration – assessment area condition metric					
		Answer for assessment area dominant landform.					
		☐A Evidence of short-duration inundation (< 7 consecutive days)					
		B Evidence of saturation, without evidence of inundation					
		Evidence of long-duration inundation (7 to 30 consecutive days or more)					
	10.	ndicators of Deposition – assessment area condition metric					
)	Consider recent deposition only (no plant growth since deposition).					
` /	,	☑A Sediment deposition is not excessive, but at approximately natural levels.					
		B Sediment deposition is excessive, but not overwhelming the wetland.					
		Sediment deposition is excessive and is overwhelming the wetland.					
	11.	Vetland Size – wetland type/wetland complex condition metric					
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the lize of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column with the floodplain and the following the following forms are a is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A ≥500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres F From 10 to < 25 acres F From 5 to < 10 acres G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre J D D Trom 0.1 to < 0.5 acre J From 0.1 to < 0.5 acre J From 0.1 to < 0.1 acre K K K K K K K C.0.01 acre					
		- -					
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)					
		☐A Wetland type is the full extent (≥90%) of its natural landscape size.☐B Wetland type is < 90% of the full extent of its natural landscape size.					
	13.	Connectivity to Other Natural Areas – landscape condition metric					
)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the andscape patch. NC LC A ≥500 acres					
		BB From 100 to < 500 acres CC From 50 to < 100 acres					
		D					
		TE TE < 10 acres					
		F DF Wetland type has a poor or no connection to other natural habitats					
		Check Yes or No.					
		Yes Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)					
		Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?					
	14.	Edge Effect – wetland type condition metric					
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development,					
		two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight					
		main points of the compass. □A No artificial edge within 150 feet in all directions					
		☐A No artificial edge within 150 feet in all directions ☐B No artificial edge within 150 feet in four to seven directions					
		An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut					
	15	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)					
	13.	☑A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate					
		species, with exotic plants absent or sparse within the assessment area.					
		Magnetation is different from reference condition in species diversity or proportions, but still largely composed of native species					
		characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or					
		clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic vegetation severely altered from reference in composition.					
		Vegetation severely altered from reference in composition. Expected strata are difficulting absent of species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.					
		species or composed of planted statios of non-origination and species of composed of planted statios of non-originate species of composed of planted statios of non-originate species of composed of planted statios of non-originate species of composed of planted statios of non-originate species of composed of planted statios of non-originate species of composed of planted statios of non-originate species of composed of planted statios of non-originate species of composed of planted stations of non-originate species of composed of planted stations of non-originate species of composed of planted stations of non-originate species of composed of the planted stations of the composed o					
	16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
		Vegetation diversity is high and is composed primarily of native species.					
()	B Vegetation diversity is low or has > 10% cover of exolics.					
-		TC Vegetation is dominated by exotic species.					

17. Vegetative Structure – assessment area/wetland type condition metric	
☐A ≥25% coverage of vegetation	
B < 25% coverage of vegetation	
Check a box in each column for each stratum. Evaluate this portion of the metric for non-ma	rsh wetlands. Consider
structure in airspace above the assessment area (AA) and the wetland type (WT) separately.	
AA WT □A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent	
□A □A Dense mid-story/sapling layer □B ☑B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent	
□A □A Dense shrub layer □B ☑B Moderate density shrub layer □C □C Shrub layer sparse or absent	
 ☑A ☑B ☐B ☐C ☐C ☐C ☐D 	
☐ Vegetation absent	
18. Snags – wetland type condition metric	
☑A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and lar☐B Not A	ndscape stability).
19. Diameter Class Distribution – wetland type condition metric	
 ✓A Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches present. ✓B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. 	nches DBH) are
C Most canopy trees are < 6-inches DBH or no trees.	
20. Large Woody Debris – wetland type condition metric	
Include both man-made and natural debris piles. ☑A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present ar ☐B Not A	nd landscape stability).
21. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Fr Select the figure that best describes the amount of interspersion between vegetation and open water in the grareas indicate vegetated areas, while solid white areas indicate open water.	
22. Habitat Uniqueness – wetland type condition metric	
☐Yes ☐No Has the N.C. Environmental Management Commission classified the assessment area as "Unique	: Wetlands" (UWL)?"
Notes	

Wetland Site Name	G3-I-WAM01	Date of Assessment	9/7/07	
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience	
Presence of str	essor affecting assessment area (V/N)	YES		
Presence of stressor affecting assessment area (Y/N) Notes on Field Assessment Form (Y/N)		NO		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	NO		
Wetland may be a high-quality riverine wetland (Y/N)				
Sub-function Rating Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	LOW	
.,	Sub-surface Storage and Reten		HIGH	
Water Quality	Pathogen Change	Condition	LOW	
•		Condition/Opportunity	LOW	
		Opportunity Presence		
	Particulate Change	Condition	HIGH	
	· .	Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Pollution Change	Condition	X	
	•	Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
-labitat	Physical Structure	Condition	MEDIUM	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
Function Rating Sur	nmary			
unction		Metrics	Rating	
Hydrology		Condition	MEDIUM	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
Habitat		Condition	HIGH	

			e G3-I-WAM02	Date	9/7/07
1	We	etland Site Nam		Assessor Name/Organization	AS, RA, EcoScience
l		Wetland Typ		Nearest Named Water Body	Big Branch
İ	Le	vel III Ecoregio		USGS 8-Digit Catalogue Unit	03030004
N		River Basi		Latitude/Longitude (deci-degrees)	35.111069, -78.976471
	Evid Plea (for i	se circle and/or nstance, within 1 • Hydrologica • Surface an septic tanks • Signs of ve • Habitat/plar	make note below if evidence of stres 10 years). Noteworthy stressors included modifications (examples: ditches, and sub-surface discharges into the vertical modifications.	may not be within the assessment area) sors is apparent. Consider departure from de, but are not limited to the following. dams, beaver dams, dikes, berms, ponds, evetland (examples: discharges containing), hog lagoons, etc.) on mortality, insect damage, disease, storm mowing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby
	BIODICHOTOCOPINA		Ab ab a second		
	Des Bea	cribe effects of ver impacted, Fo	stressors that are present. ort Bragg		
	Pog	ulatory Consid	erations	egensormen in ha woodstrop managementen musero va anno provincia de la companya d	
	Sele	ect all that apply	to the assessment area.		
		Anadromo	ue fieh	ed or threatened species	
		NODWO -	orotected species or State endangere iparian buffer rule in effect		·
	1	Wetland a	djacent to or associated stream drain	s to a Primary Nursery Area	··
		Publicly ov	vned property		ffer)
		N.C. Divisi	ion of Coastal Management Area of t	Environmental Concern (AEC) (including busification of SA or supplemental classification	ons of HQW, ORW, or Trout
		N.C. Divis	ion of Water Quality best usage class d NCNHP reference community	silication of of the supplemental transfer	
		Designate	d NCNHF reference community	etland if any? (Chack all that apply)	
				etland, if any? (Check all that apply)	
		Blackwate			
		Brownwat Tidal (if tid	el dal, check one of the following boxes)) 🗌 Lunar 🗍 Wind 📗 Both	
			area on a coastal island?		
	IS t	ne assessment	area's surface water storage capa	acity or duration substantially altered by	beaver? X Yes No
		Check a box in		 assessment area condition metric to the ground surface (GS) in the assess and if applicable (see User Manual v1.0). If 	ment area and vegetation structure (VS) in a reference is not applicable, then rate the
		GS VS	Not severely altered		this tracks oversive
		⊠A ⊠A □B □B	Severely altered over most of the sedimentation, fire-plow lanes, s alteration examples: mechanica less diversity [if appropriate], artif	icial hydrologic alteration)	here appropriate], exotic species, grazing,
	2.	Surface and S	ub-Surface Storage Capacity and I	Duration – assessment area condition m	etric
		Check a box i (Sub). Conside G) for North Ca water only, wh applicable.	in each column. Consider surface er both increase and decrease in hyd arolina hydric soils for the zone of infule iile a ditch > 1 foot deep is expect	storage capacity and duration (Sun) and drology. Refer to the NRCS Scope and Effluence of ditches in hydric soils. A ditched to affect both surface and sub-surface	sub-surface storage capacity and duration fect Guide (see User Manual v1.0 Appendix ≤1 foot deep is considered to affect surface water. Consider tidal flooding regime, if
		⊠A ⊠A □B □B □C □C	Water storage capacity or duration change) (examples: intensive did dams, stream incision, sewer lin	on are altered, but not substantially (typical on are substantially altered (typically, alteration, fill, sedimentation, channelization, ces, soil compaction).	y, not sufficient to change vegetation). tion sufficient to result in vegetation iversion, man-made berms, beaver
	•	Water Storage	e/Surface Relief – assessment area	a/wetland type condition metric	and the wetland type (WT)
	3.	water Storage	in each column. Select the appropri	iate storage for the assessment area (AA)	and the wetland type (WT).
_		AA WT	m each column colors	Lyssesians able to pend water > 2 feet	
)	A B B C C D D D D D D D D D D D D D D D D	> 50% of the wetland type with dep > 50% of wetland type with dep > 50% of wetland type with dep	depressions able to pond water > 2 feet depressions able to pond water 1 to 2 feet ressions able to pond water 6 inches to 1 for ressions able to pond water 3- to 6-inches r < 3-inches deep	oot deep
		-			

→ 4.	Soil Text	ure/Struc	ture – as:	soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot.			
	National Technical Committee for Hydric Soils regional indicators are noted (assumed to the soun						
	Predominantly characterized by mottled (redoxymorphic features), milleral soil (1.6, 1.6, 1.12, 1.1.15, 1.6, 1.7.7)						
	ПС	Predomin	antly char	racterized by other, mineral soil (no mouning)			
			ineral soil				
)			n < 1 inch n ≥1 inch				
	□G	No post o	or muck or	resence			
	⊠H	A peat or	muck pre	sence (A6, A7, A8, A9, A10, F1, S1) histosol or histic epipedon) (A1, A2, A3)			
	-			a colar compania			
5.				popportunity metric lumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub).			
	Fxamples	s of sub-s	urface dis	charges include presence of nearby septic tank, underground storage tank (UST), etc.			
	Surf	Sub		to the development of the assessment area			
	⊠a ⊟B	⊠A □B	Little or n	to evidence of pollutants or discriarges entering the assessment areasing, but not overwhelming the le evidence of pollutants or discriarges entering the wetland and stressing, but not overwhelming the			
	Пр		treatmen	t capacity of the assessment area (acthogon, particulate, or soluble) entering the assessment area and			
	□c	□c	Noticeab	le evidence of pollutants or discharges (partioger), particulate, or soldste) should be described by overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive			
			sediment	ation)			
6.	I and Us	e – oppo		And a			
0.							
	within en	tire upstr	eam wate	uation of this metric involves a GIS effort with field adjustment. Consider Southern Section 1. The state of the session of th			
	and withi	in the wat I Piedmo	tershed dr nt and 30	feet wide in the Mountains.			
	WS	5M	2M	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:			
	□A	□A	□A	industrial commercial and high-density residential)			
	□в	⊠в	⊠B	> 30% impervious surfaces without stormwater BMPS			
	⊠c	□c	□c	10 to 30% impervious surfaces < 10% impervious surfaces			
	□D □E	□D □E	□D □E	Old urban development (pink areas on USGS 7.5-minute quadrangles)			
	□F	□F	□F	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)			
	□G □H	□G □H	□G □H	>20% coverage of pasture without riparian buπer			
	片	님;'		> 200/ severage of posture with effective riparian DUITEF			
	□J	맖	□K □K	≥20% coverage of pasture with checker reparts between 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer			
	□k □L	□k □L	片.	>20% coverage of maintained grass/herb			
	\square M	Π̈́Μ	\square M	Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or			
	□N	□N	□N	overbank flow from affecting the assessment area.			
7	Wetland	d Actina	as Vegeta	And Buffor assessment area condition metric			
7.	ls the as	ssessmer	nt area wit	hin 50 feet of a stream or other open water? ("open water does not include man-made ditense of behave,			
	10 1110 01	⊠Yes	□No	If No, Skip to next metric this normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine			
	Stream widths o	width (St of channe	iream widi Is/braids f	or a total stream Wigth.			
		N .45	44	□ \ 15 feet wide			
	Do root	s of asse	ssment are ∐No	ea vegetation extend into the bank of the adjacent stream/open water?			
	Is strea	⊠Yes m or othe		ter sheltered or exposed?			
		Michal	torod ad	lier sheltered of exposed: jacent open water with width < 2500 feet <u>and</u> no regular boat traffic. acent open water with width ≥2500 feet <u>or</u> regular boat traffic.			
			D 66	weight accessment area/wetland type/wetland complex metric			
8.							
	(WC), a	and the ri	parian but	lumn. Select the appropriate width for the wetland type at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need from the assessment area (RB) (if applicable). Riparian buffer width is measured from the outside banks of the outer channels of an			
	only be	present	on one s	ffer at the assessment area (RB) (if applicable). Riparian buffer within a measured with the matter body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been			
	anasto	mosea sy ed or distu	rstem, ivi irbed.	ake puller judgment passa on dominara amazari			
	WT	WC	RB (if a	applicable)			
	□A	□A	\boxtimes A	≥100 feet From 80 to < 100 feet			
	⊟в ⊠c	⊟в ⊠с	□B □C	From 50 to < 80 feet			
	ΠD	□D	□D	From 40 to < 50 feet			
()	DE DF	므트		From 30 to < 40 feet From 15 to < 30 feet			
` '	□F □G	□F □G	□F □G	From 5 to < 15 feet			
	∐H	H	□н	< 5 feet			

Inundation Duration – assessment area condition metric Answer for assessment area dominant landform. A	
A	
10. Indicators of Deposition – assessment area condition metric Consider recent deposition is not excessive, but at approximately natural levels. A Sediment deposition is excessive, but at approximately natural levels. B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland. Sediment deposition is excessive, but at approximately natural levels. Sediment deposition is excessive, but at approximately natural levels. Sediment deposition is excessive, but at approximately natural levels. Sediment deposition is excessive and is approximately natural levels. Sediment deposition is excessive and is approximately natural levels. Sediment deposition is excessive, but at approximately natural levels. Sediment deposition is excessive and is overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland. Sediment	
10. Indicators of Deposition – assessment area condition metric Consider recent deposition only (no plant growth since deposition). ⊠A Sediment deposition is not excessive, but at approximately natural levels. Sediment deposition is excessive, but not overwhelming the wetland. □C Sediment deposition is excessive and is overwhelming the wetland. 11. Wetland Size – wetland type/wetland complex condition metric Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland size of the wetland type (WC), and the size of the contiguous, forested wetland size of the wetland type (WC), and the size of the contiguous, forested wetland size of the wetland type (WC), and the size of the contiguous forested wetland type (WC), and the size of the contiguous, forested wetland types are considered boundaries for a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) □A □A □A □A □S00 acres □B □B □B □B □From 10 to < 500 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C □C From 50 to < 100 acres □C □C □C	
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□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	
□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	
G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre I I I From 0.1 to < 0.5 acre J J J From 0.01 to < 0.1 acre K K K < 0.01 acre 12. Wetland Intactness – wetland type condition metric (evaluate for Pocosins only) A Wetland type is the full extent (≥90%) of its natural landscape size. B Wetland type is < 90% of the full extent of its natural landscape size.	
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☐ A Wetland type is the full extent (≥90%) of its natural landscape size. ☐ B Wetland type is < 90% of the full extent of its natural landscape size.	
☐ A Wetland type is the full extent (≥90%) of its natural landscape size. ☐ B Wetland type is < 90% of the full extent of its natural landscape size.	
13. Connectivity to Other Natural Areas – landscape condition metric Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open check appropriate box(es).	water (if
Check appropriate box(es). This metric refers to the landscape patch, and the landscape patch, and the landscapes, maintained fields (patch appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (patch appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (patch appropriate) that includes the wetland type is well-connected (WC) or loosely-connected (LC) agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC)	esture and LC) to the
landscape patch. WC LC	
⊠A □A ≥500 acres	
□B □B From 100 to < 500 acres □C □C From 50 to < 100 acres	
D D From 10 to < 50 acres	
☐E ☐E < 10 acres ☐F ☐F Wetland type has a poor or no connection to other natural habitats	
☐F ☐F Wetland type has a pool of no confidence and the confidence of the confidence	hes only)
Check Yes or No. ⊠Yes □No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marsh ⊠Yes □No Is the assessment area subject to overbank flooding during normal conditions?	
	velopment.
14. Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, develock two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old.	er the eight
main points of the compass. ☐ A No artificial edge within 150 feet in all directions ☐ B No artificial edge within 150 feet in four to seven directions ☐ B No artificial edge within 150 feet in more than four directions or assessment area is clear-cut	
570 An artificial edge occurs Within 150 leet in more than four an observe	
ust a markete faction for marking and Pille Flat	riate
Vegetation is close to reference condition in species present and their pre-	tivo species
Vegetation is different from reference condition in operation energies that develop after clear	arcutting or
the straight of the Welland Type. This may include sometimes at the expected straight	नात्र
alcoring It also inclines confillulations with exotics property and the area unpoturally absent or dominated	ed by exolic
Vegetation severely altered from reference in composition. Expected strata are unflaturally absent of vegetation severely altered from reference in composition. Expected strata are unflaturally absent of vegetation severely altered from reference in composition. Expected strata are unflaturally absent of severely altered from reference in composition. Expected strata are unflaturally absent of severely altered from reference in composition. Expected strata are unflaturally absent of severely altered from reference in composition.	
the appropriate area condition metric (evaluate for Non-tidal 1 comments	
	•
 ✓ A Vegetation diversity is high and is composed by the control of exotics. ✓ B Vegetation diversity is low or has > 10% cover of exotics. ✓ C Vegetation is dominated by exotic species. 	

	<u>1</u> 7.	Vegetative Structure – assessment area/wetland type condition metric
	•	∨ Vegetation present To the transport of the marches only.
		Evaluate percent coverage of vegetation for marshes only ⊠A ≥25% coverage of vegetation
		\Box B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
		structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
<i>.</i>)		AA WT \[\] A \[\] Canopy closed, or nearly closed, with natural gaps associated with natural processes \[\] B \[\] B \[\] Canopy present, but opened more than natural gaps
		C Canopy sparse or absent
		□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
		□A □A Dense shrub layer □B □B Moderate density shrub layer □C □C Shrub layer sparse or absent
		□A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent
		☐ Vegetation absent
	18.	Snags – wetland type condition metric □A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). □B Not A
	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are
		present. ☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. ☐C Most canopy trees are < 6-inches DBH or no trees.
	20.	Large Woody Debris – wetland type condition metric
		Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). Not A
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
()		Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
		areas indicate vegetated areas, while solid white areas indicate open water. A B C D D D D D D D D D D D D
		Habitat Uniqueness – wetland type condition metric Yes ⊠No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
	□Y	es Mino Has the N.C. Environmental Management Commission diagonal the discussion and discussion
	Note	98

Wetland Site Name	G3-I-WAM02	Date of Assessment	9/7/07	
Wetland Type	Non-Tidal Freshwater Marsh	Assessor Name/Organization	AS, RA,	EcoScience
• •				
Presence of st	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	NO		
	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	NO		
Wetland may b	e a high-quality riverine wetland (Y/N)			
O. I. C. attau Datin	S. C. C. C. C. C. C. C. C. C. C. C. C. C.			
Sub-function Rating	g Summary Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention			X
riyarology	Sub-surface Storage and Reter			X
Water Quality	Pathogen Change	Condition		X
Water Quality	r danogon on ango	Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
	Particulate Change	Condition		X
		Condition/Opportunity		X
		Opportunity Presence		X
	Soluble Change	Condition		X
		Condition/Opportunity		X
		Opportunity Presence		X
	Physical Change	Condition		X
	,	Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
	Pollution Change	Condition		X
	, and the second	Condition/Opportunity		X
		Opportunity Presence	(Y/N)	×
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		HIGH
	Vegetation Composition	Condition		HIGH
	Uniqueness	Condition		NO
Function Rating Su	ımmary	Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
Tratol Quality		Condition/Opportunity		X
	•	Opportunity Presence		×
11 12-4		Condition		HIGH
Habitat				

Overall Wetland Rating HIGH





	wetland Site Nan		Date	9/7/07			
	Wetland Ty		Assessor Name/Organization	AS, RA, EcoScience			
	Level III Ecoregio		Nearest Named Water Body	Big Branch			
	River Bas		USGS 8-Digit Catalogue Unit	03030004			
1	U Yes ⊠ N	lo Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.110646, -78.981095			
· 1	Evidence of otress	ore offertion the					
	Please circle and/or (for instance, within Hydrologic: Surface an septic tank: Signs of ve Habitat/plan		by not be within the assessment area) is is apparent. Consider departure from but are not limited to the following. In the season of the seaso	reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby			
	Select all that apply to the assessment area. Anadromous fish Federally protected species or State endangered or threatened species NCDWQ riparian buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Coastal Management Area of Environmental Concern (AEC) (including buffer) N.C. Division of Water Quality best usage classification of SA or supplemental classifications of HOW ORW or Treat						
	☐ Designated	n of Water Quality best usage classificat NCNHP reference community	ion of SA or supplemental classifications	of HQW, ORW, or Trout			
	⊠ Blackwater □ Brownwater □ Tidal (if tidal	, check one of the following boxes) \Box	Lunar Wind Both				
- 1		rea's surface water storage capacity o	No	• • • • • • • • • • • • • • • • • • • •			
				aver? 🗌 Yes 🖾 No			
1.	Check a box in e the assessment area b assessment area b GS VS ⊠A ⊠A □B □B	Condition/Vegetation Condition – assessed ach column. Consider alteration to the rea. Compare to reference wetland if appased on evidence of alteration. Not severely altered Severely altered over most of the assessed imentation, fire-plow lanes, skidder alteration examples: mechanical disturbles diversity [if appropriate], artificial hy	e ground surface (GS) in the assessment oplicable (see User Manual v1.0). If a result of the second surface alteration expresses, bedding, fill, soil compaction, or bance, herbicides, salt intrusion (where	eference is not applicable, then rate the kamples: vehicle tracks, excessive			
2.	Surface and Sub-	Surface Storage Capacity and Duratio	n – assessment area condition metric				
	2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, it suffaces the surface sub-surface water.						
	□C □C □R □B	Water storage capacity and duration are Water storage capacity or duration are a Water storage capacity or duration are s change) (examples: intensive ditching, f dams, stream incision, sewer lines, soil of	Itered, but not substantially (typically, no ubstantially altered (typically, alteration s ill, sedimentation, channelization, divers	sufficient to result in vagatation			
3.	Water Storage/Sur	rface Relief – assessment area/wetlan	d type condition metric				
		ch column. Select the appropriate stora		e wetland type (WT).			
)	□A □A □B □B ⊠C ⊠C □D □D	 > 50% of the wetland type with depressic > 50% of the wetland type with depressic > 50% of wetland type with depressions > 50% of wetland type with depressions Depressions able to pond water < 3-inch 	ons able to pond water 1 to 2 feet able to pond water 6 inches to 1 foot able to pond water 3- to 6-inches deep				

4.	. Sôil Texture/Structure – assessment area condition metric				
\bigcirc	Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top for National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). A Sandy soil B Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) C Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4) E Soil ribbon < 1 inch G No peat or muck presence H A peat or muck presence (A6, A7, A8, A9, A10, F1, S1) Peat or muck soil (histosol or histic epipedon) (A1, A2, A3)				
5.	5. Discharge into Wetland – opportunity metric				
Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc.					
	Sur Sub	K (001), etc.			
	□A □A Little or no evidence of pollutants or discharges entering the assessment area □B □B Noticeable evidence of pollutants or discharges entering the wetland and stressing				
		, but not overwhelming the			
	C Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble)	entering the assessment area and			
	potentially overwhelming the treatment capacity of the wetland (water discoloration	, dead vegetation, excessive			
_	sedimentation)				
6.	- Pharman				
	Check all that apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider within entire upstream watershed (WS), within 5 miles and within the watershed draining to the assessment area (2M). Effective riparian buffers are considered plain and Piedmont and 30 feet wide in the Mountains. WS 5M 2M	sment area (5M), and within 2 miles			
	□A □A > 30% impervious surfaces with stormwater Best Management Practices	(BMPs) (land use examples:			
	industrial, commercial, and high-density residential)	,			
	□B □B > 30% impervious surfaces without stormwater BMPs □C ☑C ☑C 10 to 30% impervious surfaces				
	☑D □D < 10% impervious surfaces				
	☐E ☐E ☐E Old urban development (pink areas on USGS 7.5-minute quadrangles) ☐F ☐F ☐F New adjacent development				
	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	nte)			
	☐H ☐H ≥20% coverage of pasture without riparian buffer	1115)			
\ /	ا ا ا ا ا ا ≥20% coverage of pasture with effective riparian buffer				
	□J □J □J ≥20% coverage of agricultural land (regularly plowed land) without riparia □K □K □K ≥20% coverage of agricultural land (regularly plowed land) with effective in the control of	n buffer			
	□L □L ≥20% coverage of maintained grass/herb	iparian buller			
	□N □N Little or no opportunity. Lack of opportunity may result from hydrologic mo overbank flow from affecting the assessment area.	odifications that prevent drainage or			
7.					
٠.	Wetland Acting as Vegetated Buffer – assessment area condition metric				
	Is the assessment area within 50 feet of a stream or other open water? ("open water" does not include ⊠Yes □No If No, Skip to next metric				
	Stream width (Stream width is normal flow width fordinary high water to ordinary high water). If the	e stream is anastomosed, combine			
	widths of channels/braids for a total stream width.	,			
	⊠Yes ∐No				
	Is stream or other open water sheltered or exposed?				
	⊠Sheltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. □Exposed – adjacent open water with width ≥2500 feet <u>or</u> regular boat traffic.				
8.	Wetland/Riparian Buffer Width – assessment area/wetland type/wetland complex metric				
**	Check a box in each column. Select the appropriate width for the wetland type at the assessme	ont one of CALTY Alexander			
	only be present on one side of the water body. The riparian buffer is measured from the outside anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note	easured from top of bank and need			
	removed or disturbed. WT WC RB (if applicable)				
	MA MA ≥100 feet				
	□B □B From 80 to < 100 feet				
_	□C □C From 50 to < 80 feet				
	□D □D From 40 to < 50 feet □E □E From 30 to < 40 feet				
	☐F ☐F From 15 to < 30 feet				
	☐G ☐G From 5 to < 15 feet				
	□H □H <5 feet				

	9.	Inundation Duration – assessment area condition metric				
		□A Evid	sessment area dominant landform. ence of short-duration inundation (< 7 consecutive days) ence of saturation, without evidence of inundation ence of long-duration inundation (7 to 30 consecutive days or more)			
	10.	Indicators of	Deposition – assessment area condition metric			
()	⊠A Sedi □B Sedi	nt deposition only (no plant growth since deposition). ment deposition is not excessive, but at approximately natural levels. ment deposition is excessive, but not overwhelming the wetland. ment deposition is excessive and is overwhelming the wetland.			
	11.	Wetland Size	- wetland type/wetland complex condition metric			
		size of the we applicable, see a boundary if	in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the tland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if a User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column ment area is clear-cut, select "K" for FW column. FW (if applicable) A ≥500 acres B From 100 to < 500 acres C From 50 to < 100 acres B From 25 to < 50 acres F From 5 to < 10 acres G From 1 to < 25 acres H From 0.5 to < 1 acre I From 0.1 to < 0.5 acre J From 0.01 to < 0.1 acre K < 0.01 acre			
	12.	Wetland Intac	tness – wetland type condition metric (evaluate for Pocosins only)			
			and type is the full extent (≥90%) of its natural landscape size. and type is < 90% of the full extent of its natural landscape size.			
	13.	Connectivity	to Other Natural Areas – landscape condition metric			
		appropriate) th	priate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if nat includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and ropen water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the ch. ≥500 acres From 100 to < 500 acres From 50 to < 100 acres From 10 to < 50 acres <p>< 10 acres</p> Wetland type has a poor or no connection to other natural habitats			
		Check Yes or				
		☐Yes ☐No	Is the assessment area subject to overbank flooding during normal conditions?			
	14.	Estimate distartwo-lane or lar main points of A No a B No a	wetland type condition metric note from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, ger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight the compass. tificial edge within 150 feet in all directions tificial edge within 150 feet in four to seven directions tificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut			
	15.	Vegetative Co	mposition – assessment area condition metric (skip for marshes and Pine Flat)			
		speci B Vege chara clear C Vege spec	tation is close to reference condition in species present and their proportions. Lower strata composed of appropriate es, with exotic plants absent or sparse within the assessment area. tation is different from reference condition in species diversity or proportions, but still largely composed of native species acteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or ing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. tation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic les or composed of planted stands of non-characteristic species or inappropriately composed of a single species.			
	16.		versity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)			
)	□A Vege	station diversity is high and is composed primarily of native species. Itation diversity is low or has > 10% cover of exotics. Itation is dominated by exotic species.			

•	[₽] 17.	Vegetative Structure – assessment area/wetland type condition metric				
		✓ Vegetation present				
		Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation				
		□A ≤25% coverage of vegetation				
)	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT				
		□ Canopy closed, or nearly closed, with natural gaps associated with natural processes □ B Canopy present, but opened more than natural gaps □ C Canopy sparse or absent				
		□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent				
		□A Dense shrub layer □B Moderate density shrub layer □C □C Shrub layer sparse or absent				
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent				
	40	•				
	18.	Snags – wetland type condition metric A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A				
	19.	Diameter Class Distribution – wetland type condition metric				
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are				
		present. Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH.				
		Most canopy trees are < 6-inches DBH or no trees.				
20. Large Woody Debris – wetland type condition metric						
	Include both man-made and natural debris piles.					
		□ A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). □ B Not A				
\	<i>j</i> 21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned				
		areas indicate vegetated areas, while solid white areas indicate open water.				
	22	Habitat Uniqueness – wetland type condition metric				
	Y∈					
		OWL)?				
	Note	S				

Wetland Site Name	O-I-WAM01	Date of Assessment	9/7/07
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience
	essor affecting assessment area (Y/N)	YES	
Notes on Field	Assessment Form (Y/N)	NO	
Presence of reg	gulatory considerations (Y/N)	YES	
	nsively managed (Y/N)	NO	
Wetland may be	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	Summary		
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	HIGH
	Sub-surface Storage and Reter	ntion Condition	MEDIUM
Water Quality	Pathogen Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N) YES
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N) YES
	Soluble Change	Condition	MEDIUM
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N) YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N) NO
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence (Y/N) X
Habitat	Physical Structure	Condition	LOW
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	HIGH
	Uniqueness	Condition	NO
Function Rating Sum	mary		
Function		Metrics	Rating
Hydrology		Condition	HIGH
Water Quality		Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence (Y	Y/N) YES
Habitat		Condition	MEDIUM
Overall Wetland F	Rating HIGH		

	Wetland	Site Name	N-I-WAM01	Date	9/1/07			
	We	tland Type	Riverine Swamp Forest	Assessor Name/Organization	AS, RA, EcoScience			
	Level III	Ecoregion	Southeastern Plains	Nearest Named Water Body	Big Branch			
	F	River Basin	Cape Fear	USGS 8-Digit Catalogue Unit	03030004 35.109776, -78.98 7 825			
	☐ Ye	s 🛛 No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.109776, -76.967625			
	Please circ (for instance • H • S • S • S • H	le and/or made, within 10 ydrological ruface and eptic tanks, igns of vege abitat/plant	ake note below if evidence of stress years). Noteworthy stressors include modifications (examples: ditches, di sub-surface discharges into the will underground storage tanks (USTs.)	n mortality, insect damage, disease, storm owing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby			
	Describe e Fort Bragg	Describe effects of stressors that are present. Fort Bragg						
	Select all the A A A A A A A A A A A A A A A A A A A	anadromous ederally pro- ICDWQ ripa Vetland adja Publicly owner of the pro- I.C. Division I.C. Division Pesignated North and Stackwater Brownwater Tidal (if tidal, essment are of the pro- Brown of the pro- Brow	the assessment area. fish tected species or State endangered rian buffer rule in effect cent to or associated stream drains and property of Coastal Management Area of Er of Water Quality best usage classif ICNHP reference community stream is associated with the wet check one of the following boxes) and a coastal island? Yes ea's surface water storage capaci condition/Vegetation Condition — a and column. Consider alteration to ea. Compare to reference wetland ased on evidence of alteration.	to a Primary Nursery Area avironmental Concern (AEC) (including bufication of SA or supplemental classification land, if any? (Check all that apply) Lunar	neaver? Yes No neent area and vegetation structure (VS) in reference is not applicable, then rate the			
	□В	⊟в	Severely altered over most of the assedimentation, fire-plow lanes, skid alteration examples: mechanical oless diversity [if appropriate], artifici		ere appropriate], exotic species, grazing,			
	2. Surfac	e and Sub-	Surface Storage Capacity and Du	ration – assessment area condition met	ric			
	(Sub). G) for water of applica Surf	Consider be North Caroli only, while a ble. Sub	oth increase and decrease in hydro	orage capacity and duration (Surf) and s logy. Refer to the NRCS Scope and Effectence of ditches in hydric soils. A ditch ≤1 to affect both surface and sub-surface of a report altered	ct Guide (see Oser Manual VT.0 Appendix I foot deep is considered to affect surface			
	⊠A □B □C	□B □C	Water storage capacity or duration Water storage capacity or duration change) (examples: intensive ditch dams, stream incision, sewer lines,	are altered, but not substantially (typically, are substantially altered (typically, alterationing, fill, sedimentation, channelization, diversoil compaction).	on sufficient to result in vegetation			
	3. Water	Storage/Su	rface Relief – assessment area/w	etiand type condition metric	the wetland type (M/T)			
	Check		ch column. Select the appropriate	storage for the assessment area (AA) and	tne wetland type (vv I).			
)	AA □B □C □D □E	WT □B □C ⊠D □E	> 50% of the wetland type with dep > 50% of the wetland type with depres	pressions able to pond water > 2 feet pressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches dec				

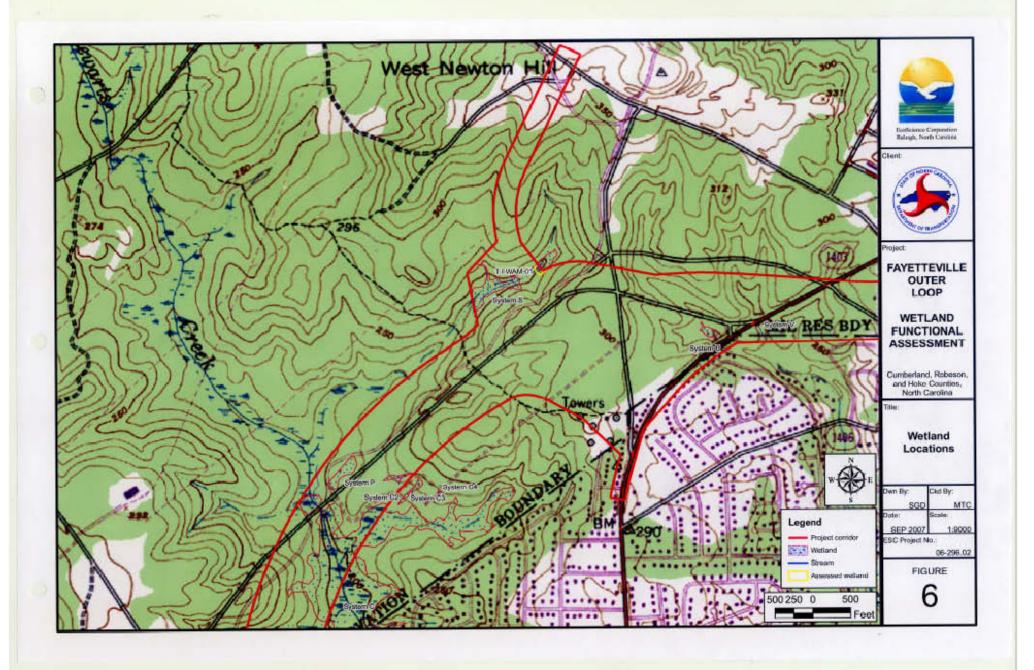
~ 4.	Soil Texture/Structure – assessment area condition metric						
Select all that apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations wind National Technical Committee for Hydric Soils regional indicators are noted (use most recent guidance). \[\textsqr{A} \text{Sandy soil} \]							
TB Predominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6							
	□D Gl						
	_	oil ribbon < oil ribbon ≥					
	☐G No	peat or m	nuck presence	ce e (A6, A7, A8, A9, A10, F1, S1)			
	⊠H A; □I Pe	eat or muck	k soil (histos	ol or histic epipedon) (A1, A2, A3)			
5.	Discharge i	into Wetla	nd – oppor	tunity metric	۱۵۰		
	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub						
	⊠A ⊠ □B □	lB Not	ticeable evid	tence of pollutants or discharges entering the assessment area tence of pollutants or discharges entering the wetland and stressing, but not overwhelming the city of the assessment area			
,	_c _	C Not	ticeable evid	dence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and whelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive			
6.	Land Use -	opportun	nity metric				
	within entire and within the Plain and Pi	e upstream he watersh iedmont ar	watershed ned draining nd 30 feet w	of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment at (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 mit to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coaside in the Mountains.	lies		
	WS 5N		A > 30° indus	% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: trial, commercial, and high-density residential)			
	⊠B ⊠ □C □			% impervious surfaces without stormwater BMPs 30% impervious surfaces			
]D □I	D < 10 ^o	% impervious surfaces			
			F New	rban development (pink areas on USGS 7.5-minute quadrangles) adjacent development			
	□G□]G □	G Conf	ned animal operations (or other local, concentrated source of pollutants) % coverage of pasture without riparian buffer			
	_H _]i 🔲	l ≥20°	% coverage of pasture with effective riparian buffer			
	□k □		J ≥209 K >209	% coverage of agricultural land (regularly plowed land) without riparian buffer % coverage of agricultural land (regularly plowed land) with effective riparian buffer			
]L 🔲	L ≥209	% coverage of maintained grass/herb			
	□M □] M[□ N[M Silvic N Little	cultural land with disturbance < 5 years old or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage	or		
			overt	pank flow from affecting the assessment area.			
7.	Wetland Ad	cting as V	egetated B	uffer – assessment area condition metric feet of a stream or other open water? ("open water" does not include man-made ditches or canals)			
	⋉	1Yes □	No	If No. Skip to next metric	-!		
				ormal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combal stream width	ne		
	∇	widths of channels/braids for a total stream width. □ ≤15-feet wide □ > 15-feet wide □ Not Applicable					
	Do roots of assessment area vegetation extend into the bank of the adjacent stream/open water? ⊠Yes □No						
	∇	1Sheltered	 adiacent 	ltered or exposed? open water with width < 2500 feet <u>and</u> no regular boat traffic. open water with width ≥2500 feet <u>or</u> regular boat traffic.			
8.	Wetland/Ri	iparian Bu	ıffer Width	assessment area/wetland type/wetland complex metric			
	Check a box in each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland comple (WC), and the riparian buffer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need only be present on one side of the water body. The riparian buffer is measured from the outside banks of the outer channels of a anastomosed system. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been removed or disturbed.						
	WT W	C RE	3 (if applicat				
		¶A ⊠]B □		0 feet n 80 to < 100 feet			
	□c □		C Fron	n 50 to < 80 feet			
]b []		n 40 to < 50 feet n 30 to < 40 feet			
ι /	□F □		Fror	n 15 to < 30 feet			
]G []H []G Fror]H < 5 l	n 5 to < 15 feet reet			

í,	9.	Inundation Duration – assessment area condition metric					
		Answer for assessment area dominant landform. An Evidence of short-duration inundation (< 7 consecutive days) B Evidence of saturation, without evidence of inundation C Evidence of long-duration inundation (7 to 30 consecutive days or more)					
	10.						
		Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels. B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland.					
	11.	11. Wetland Size – wetland type/wetland complex condition metric					
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A Sho acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D From 25 to < 50 acres From 10 to < 25 acres From 10 to < 25 acres From 5 to < 10 acres G G G From 1 to < 5 acres H H H H From 0.5 to < 1 acre I I I From 0.1 to < 0.5 acre K K K K K K < 0.01 acre					
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)					
		□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.					
	13.	Connectivity to Other Natural Areas – landscape condition metric					
)	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A Solo acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D D From 10 to < 50 acres E E E < 10 acres Wetland type has a poor or no connection to other natural habitats					
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)					
		Yes No Is the assessment area subject to overbank flooding during normal conditions?					
	14.	Edge Effect – wetland type condition metric					
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut					
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)					
		 ☐A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. ☐B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ☑C Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species. 					
	16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
)	 ☐A Vegetation diversity is high and is composed primarily of native species. ☐B Vegetation diversity is low or has > 10% cover of exotics. ☐C Vegetation is dominated by exotic species. 					

	° 17.	. Vegetative Structure – assessment area/wetland type condition metric
		Evaluate percent coverage of vegetation for marshes only ☐A ≥25% coverage of vegetation
		☐B < 25% coverage of vegetation
)	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
		□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
		□A Dense mid-story/sapling layer □B ☑B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
		□A Dense shrub layer □B ⊠B Moderate density shrub layer □C □C Shrub layer sparse or absent
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent
	18.	Snags – wetland type condition metric
		□A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). □Not A
	19.	Diameter Class Distribution – wetland type condition metric
		Most canopy trees have stems > 6-inches in diameter at breast height (DBH); many large trees (> 12-inches DBH) are present.
		Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH. Most canopy trees are < 6-inches DBH or no trees.
	20.	Large Woody Debris wetland type condition metric
_		Include both man-made and natural debris piles. A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability). Not A
	21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	,	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
		areas indicate vegetated areas, while solid white areas indicate open water.
	_	Habitat Uniqueness – wetland type condition metric
	∐Y€	es 🖾 No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
	Note	
	NOIG	

Welland Site Name	IN-I-VV AIVIO I	Date of Assessment	9///07
Wetland Type	Riverine Swamp Forest A	Assessor Name/Organization	AS, RA, EcoScience
Presence of str	ressor affecting assessment area (Y/N)	YES	
Notes on Field	Assessment Form (Y/N)	NO	
Presence of reg	gulatory considerations (Y/N)	YES	
Wetland is inte	nsively managed (Y/N)	NO	
Wetland may b	e a high-quality riverine wetland (Y/N)		
Sub-function Rating	1 Summary		
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	HIGH
	Sub-surface Storage and Retent	tion Condition	HIGH
Water Quality	Pathogen Change	Condition	LOW
		Condition/Opportunity	MEDIUM
		Opportunity Presence	(Y/N) YES
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Pollution Change	Condition	X
		Condition/Opportunity	X
		Opportunity Presence ((Y/N) X
Habitat	Physical Structure	Condition	MEDIUM
	Landscape Patch Structure	Condition	HIGH
	Vegetation Composition	Condition	LOW
	Uniqueness	Condition	NO
Function Rating Sur	mmary		
Function		Metrics	Rating
Hydrology		Condition	HIGH
Water Quality		Condition	HIGH
-		Condition/Opportunity	HIGH
		Opportunity Presence (Y/N) YES
Habitat		Condition	MEDIUM
Overall Wetland	Rating HIGH		





1		d Site Nam		Date	9/ 7 /07
İ		etland Typ		Assessor Name/Organization	AS, RA/ EcoScience
İ		li Ecoregio		Nearest Named Water Body	Stewart's Creek
		River Basi		USGS 8-Digit Catalogue Unit	03030004
<i>-</i> /⊢	<u> </u>	es 🗵 N	o Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35.108764, -79.014783
	Evidence Please cir (for instan	cice and/or in cee, within 1 Hydrologica Surface and septic tanks Signs of vegalabitat/planessment a leffects of septice tanks of the consideration of the c	rs affecting the assessment area (nake note below if evidence of stress 0 years). Noteworthy stressors includ all modifications (examples: ditches, day and sub-surface discharges into the wear, underground storage tanks (USTs), getation stress (examples: vegetation to community alteration (examples: moterea intensively managed? Yes stressors that are present. Trip rap and clay fill has caused ponding the assessment area. If it is the assessment area is fisch to create the community alteration of the associated stream drains to be deed property in of Coastal Management Area of Environments.	Latitude/Longitude (deci-degrees) may not be within the assessment area) ors is apparent. Consider departure from le, but are not limited to the following. ams, beaver dams, dikes, berms, ponds, e etland (examples: discharges containing ethog lagoons, etc.) mortality, insect damage, disease, storm e owing, clear-cutting, exotics, etc.) s	ass. 108764, -79.014783 reference, if appropriate, in recent past etc.) obvious pollutants, presence of nearby damage, salt intrusion, etc.)
V EVI I	Mhat type B B Ti	of natural lackwater rownwater dal (if tidal,	stream is associated with the wetla check one of the following boxes)		a right, or mode
/ ls	s the asse	ssment ar	ea on a coastal island? 🔲 Yes	⊠ No	
Į į	s the asse	ssment are	ea's surface water storage canacity	or duration substantially altered by be	aver? 🗌 Yes 🛛 No
1.	Check at the assessment of the	a box in earsessment area bands VS	ased on evidence of alteration. Not severely altered Severely altered over most of the assesedimentation, fire-plow lanes, skiddealteration examples: mechanical distess diversity [if appropriate], artificial in	the ground surface (GS) in the assessment applicable (see User Manual v1.0). If a research sessment area (ground surface alteration expert racks, bedding, fill, soil compaction, ourbance, herbicides, salt intrusion [where mydrologic alteration)	eference is not applicable, then rate the camples: vehicle tracks, excessive bvious pollutants) (vegetation structure a appropriate], exotic species, grazing,
2.	Surface	and Sub-S	urface Storage Capacity and Durat	ion – assessment area condition metric	
	Check a (Sub). C G) for No	Dox in eactorists in box in eactorists both Carolin ly, while a e. Sub □B □C □C □C □C □C □C □C □C □C □C □C □C □C	th column. Consider surface storath increase and decrease in hydrolog in hydric soils for the zone of influence ditch > 1 foot deep is expected to Vater storage capacity and duration are Vater storage capacity or duration are Vater storage capacity or duration are hange) (examples: intensive ditching	ge capacity and duration (Surf) and sub- y. Refer to the NRCS Scope and Effect (e of ditches in hydric soils. A ditch ≤1 for affect both surface and sub-surface wanter enot altered. altered, but not substantially (typically, no substantially altered (typically, alteration substantially altered (typically altered typically altered (typically altered typically altered t	-surface storage capacity and duration Guide (see User Manual v1.0 Appendix not deep is considered to affect surface ter. Consider tidal flooding regime, if
^	W. C	C	ams, stream incision, sewer lines, sol	compaction).	-,
3.			face Relief – assessment area/wetla		
		box in eac	th column. Select the appropriate sto	rage for the assessment area (AA) and th	e wetland type (WT).
)	AA B C D D E	□B > ⊠C > □D >		sions able to pond water 1 to 2 feet s able to pond water 6 inches to 1 foot s able to pond water 3- to 6-inches deep	

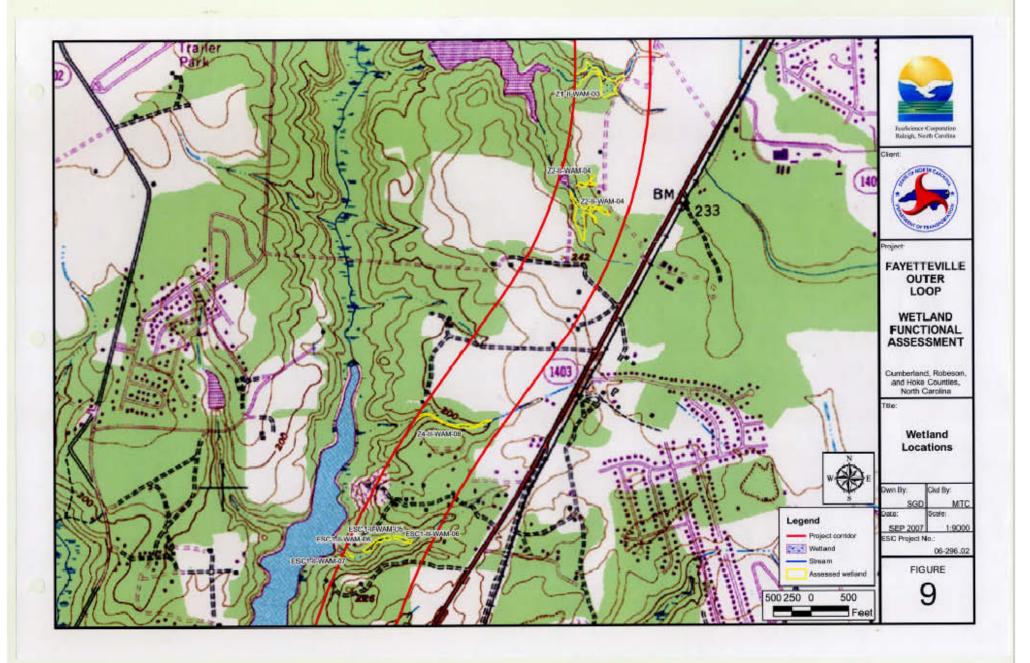
.4	. Soil	Texture/S	tructure	e – assessment area condition metric				
	Selec Natio ∐A	ct all that nal Techni Sandy	apply. ical Con / soil	Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. nmittee for Hydric Soils regional indicators are noted (use most recent guidance).				
	⊠B □C □E	Predominantly characterized by other, mineral soil (no mottling) Gleyed mineral soil (F2, S4)						
\ /	⊠F		bbon < ′ bbon ≥′					
	⊠G □H	No pe	at or mu	uck presence sk presence (A6, A7, A8, A9, A10, F1, S1)				
		Peat o	r muck	soil (histosol or histic epipedon) (A1, A2, A3)				
5.		narge into	Wetlan	d – opportunity metric				
	Surf	k a box i ples of sub Sub	in each o-surfac	n column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). e discharges include presence of nearby septic tank, underground storage tank (UST), etc.				
	⊠a ⊟B	⊠A □B	NOU	or no evidence of pollutants or discharges entering the assessment area ceable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ment capacity of the assessment area				
	□c	□с	Notic pote	ceable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ntially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive mentation)				
6.	Land I	Use – opp		·				
	Check	all that a	ipply. E	Evaluation of this metric involves a GIS effort with field adjustment. Consider courses desiring to a second and the second an				
	and wi Plain a	ithin the wand Piedma	atershe	vatershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles d draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal 30 feet wide in the Mountains.				
	WS □A	5M □A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples: industrial, commercial, and high-density residential)				
	⊟в ⊠с	□в ⊠c	∏в ⊠с	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces				
	\Box D	\Box D	\Box D	< 10% impervious surfaces				
	□E □F	□E □F	□E □F	Old urban development (pink areas on USGS 7.5-minute quadrangles) New adjacent development				
	□G	□G	□G	Confined animal operations (or other local, concentrated source of pollutants)				
		□H □I		≥20% coverage of pasture without riparian buffer ≥20% coverage of pasture with effective riparian buffer				
	□J	□J	□J	≥20% coverage of agricultural land (regularly plowed land) without riparian buffer				
	□k □L	□k	□K □L	≥20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥20% coverage of maintained grass/herb				
	\square M	\square M	□м	Silvicultural land with disturbance < 5 years old				
7.	□N	□N	□N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.				
٠.	Is the a	issessmen	as vege itarea w	etated Buffer – assessment area condition metric				
				vithin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric				
	Stream widths	width (St of channel	ream wi s/braids	idth is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine of for a total stream width.				
		<u> </u>	feet wid	e □> 15-feet wide □Not Applicable				
	Do roots	s of asses □Yes	sment a ∐No	area vegetation extend into the bank of the adjacent stream/open water?				
	ls strea	m or other	open w	vater sheltered or exposed?				
		∐Shelte □Expos	ered – a sed – ac	ldjacent open water with width < 2500 feet <u>and</u> no regular boat traffic. Ijacent open water with width ≥2500 feet <u>or</u> regular boat traffic.				
8.	Wetland			r Width – assessment area/wetland type/wetland complex metric				
	Check	a box in	each co	plumn. Select the appropriate width for the wetland type at the assessment area (MT), the wetland type at the assessment area (MT), the wetland type at the assessment area.				
	only be	present c	on one :	offer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an lake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been				
		a o. alotai.	oou.					
	WT ⊠A	WC ⊠A	RB (if∶ □A	applicable) ≥100 feet				
	□в	□B	⊟B	From 80 to < 100 feet				
		C	C	From 50 to < 80 feet				
	□D □E	□D □E	∐b □E	From 40 to < 50 feet From 30 to < 40 feet				
/	□F	□F	□F	From 15 to < 30 feet				
	□G	G	G	From 5 to < 15 feet				
	□н	□н	□н	< 5 feet				

		nundation Duration – assessment area condition metric					
		Answer for assessment area dominant landform. A Evidence of short-duration inundation (< 7 consecutive days) B Evidence of saturation, without evidence of inundation C Evidence of long-duration inundation (7 to 30 consecutive days or more)					
	10.	Indicators of Deposition – assessment area condition metric					
(Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels. B Sediment deposition is excessive, but not overwhelming the wetland. C Sediment deposition is excessive and is overwhelming the wetland.					
	11.	Wetland Size – wetland type/wetland complex condition metric					
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area. The size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT. If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A So0 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D D From 25 to < 50 acres E E From 10 to < 25 acres F F From 5 to < 10 acres G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre I I I From 0.1 to < 0.5 acre J D D J From 0.01 to < 0.1 acre K K K K K K < 0.01 acre					
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)					
		□A Wetland type is the full extent (≥90%) of its natural landscape size.□B Wetland type is < 90% of the full extent of its natural landscape size.					
	13.	Connectivity to Other Natural Areas – landscape condition metric Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if					
		check appropriate box(es). This metric felets to the landscape patch, the contegeration appropriate that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D D From 10 to < 50 acres E B E < 10 acres Wetland type has a poor or no connection to other natural habitats					
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only)					
		Yes ☐No Set and type have a suitable hydratisg fooding during normal conditions?					
	14.	Edge Effect – wetland type condition metric					
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut					
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)					
		 ✓ Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. ✓ Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓ Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species. 					
	16	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
		 ☐A Vegetation diversity is high and is composed primarily of native species. ☐B Vegetation diversity is low or has > 10% cover of exotics. ☐C Vegetation is dominated by exotic species. 					

	, 17.	Ve	etative Str	ucture -	assessment area/wet	land type c	ondition met	ric			
		\boxtimes	Vegetatio								
					coverage of vegetation	n for marsh	es only				
			==		verage of vegetation verage of vegetation						
_			_		each column for each	stratum.	Evaluate th	s portion of	the metric for ne	on-marsh wetlands.	Consider
)		structure	in airspa VT	ace above the assessn	nent area (A	AA) and the v	vetland type (WT) separately.		
			⊠B	⊠B	Canopy closed, or near Canopy present, but op Canopy sparse or abse	ened more t	ith natural gar than natural g	os associated v aps	with natural proces	ses	
			□в	⊒в	Dense mid-story/sapling Moderate density mid-s Mid-story/sapling layer s	tory/sapling					
			□B [⊒В	Dense shrub layer Moderate density shrub Shrub layer sparse or al	•					
			□B []B i]C i	Dense herb layer Moderate density herb l Herb layer sparse or ab						
			Vegetation								
	18.		_		condition metric						
		⊠A □B	Large Not A	snags (n	nore than one) are pres	ent (> 12-ind	ches DBH, or	large relative t	to species present a	and landscape stability	/) .
	19.	Dian	neter Class	Distrib	ution – wetland type c	ondition me	etric				
		⊠A	Most	anopy tr	ees have stems > 6-inc	nes in diame	eter at breast	height (DBH);	many large trees (2	> 12-inches DBH) are	
		□в	preser Most o		ees have stems betwee	n 6- and 12.	inches DRH	fow are > 12 i	nch DBU		
		□c	Most	anopy tr	ees are < 6-inches DBH	or no trees		16W ale > 12-1	HCH DBH.		
	20.	Larg	e Woody D	Debris -	wetland type condition	n metric					
					and natural debris piles.						
		⊠a □B	Large Not A	logs (mo	re than one) are presen	t (> 12-inche	es in diameter	, or large relat	tive to species pres	ent and landscape sta	bility).
	21.	Vege	tation/Ope	en Water	Dispersion – wetland	type/open	water condit	on metric (ev	/aluate for Non-Tid	dal Freshwater Marsh	nonly)
		Selec	ct the figure	that be	st describes the amour	t of interspe	ersion betwee	n vegetation a	and open water in	the growing season.	Patterned
		areas		egetated]A	areas, while solid white	areas indic		er.]C	Пυ		
		(
								1120			
	22.	Habit	at Uniquer	ness – w	etland type condition	metric					
	□Y€	es [⊠No Ha	as the N.	C. Environmental Mana	gement Cor	nmission clas	sified the asse	essment area as "U	nique Wetlands" (UWL	_)?"
	Note	S	PROFESTALLANDON SERVICE SERVIC	occocción de la participa de la participa de la participa de la participa de la participa de la participa de l			######################################	erre research de die in de research de research en en en en en en en en en en en en en	one primario primario de la compansión d	nii dan in maas ka maa saas saas ah maa ah maa ah maa ah maa ah maa ah maa ah maa ah maa ah maa ah maa ah maa a	
						-					

Wetland Site Name	T-I-WAM01	Date of Assessment	9/7/07	
Wetland Type	Headwater Wetland	Assessor Name/Organization	AS, RA/ EcoScience	
Presence of str	essor affecting assessment area (Y/N)	YES		
Notes on Field	Assessment Form (Y/N)	NO		
Presence of reg	gulatory considerations (Y/N)	YES		
	nsively managed (Y/N)	YES		
Wetland may be	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	Summary			
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	LOW	
	Sub-surface Storage and Reten	tion Condition	MEDIUM	
Water Quality	Pathogen Change	Condition	LOW	
		Condition/Opportunity	MEDIUM	
		Opportunity Presence	(Y/N) YES	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
	Physical Change	Condition	LOW	
		Condition/Opportunity	LOW	
		Opportunity Presence	(Y/N) YES	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
Habitat	Physical Structure	Condition	MEDIUM	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	LOW	
	Uniqueness	Condition	NO	
Function Rating Sun	nmary			
unction		Metrics	Rating	
Hydrology		Condition	LOW	
Water Quality		Condition	MEDIUM	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) YES	
Habitat		Condition	MEDIUM	





	•		V-1.	Dete	9-6-07
141.4	land Site Na	ame :	Z1-II-WAM03	Date Assessor Name/Organization	EcoScience MC/JW
Wet	Wetland T	vne l	Headwater Wetland	Nearest Named Water Body	Bones Creek
Lev	el III Ecores	noie	Southeastern Plains	USGS 8-Digit Catalogue Unit	03030004
	River Ba	asin	Cape Fear Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35 056307 -79.024511
vide:	ence of stresse circle and/ stance, with Hydrolog Surface sentic ta	ssors a for mak in 10 ye gical mo and su anks, ur	ffecting the assessment area e note below if evidence of streets) Noteworthy stressors includifications (examples ditches, ab-surface discharges into the inderground storage tanks (USTs.)	(may not be within the assessment area ssors is apparent Consider departure fror ude, but are not limited to the following. dams, beaver dams, dikes, berms, ponds, wetland (examples: discharges containings), hog lagoons, etc) on mortality, insect damage, disease, storm mowing, clear-cutting, exotics, etc)	etc.) g obvious pollutants, presence of nearby
le thi			Intensively managed?		
			essors that are present.		
	Anadro Federa NCDW Wettan Publicl N.C. D Design at type of na Blacky Brown Tidal (the assessment Ground Su Check a bo	iply to the importance of the	ne assessment area is in the coted species or State endanger and buffer rule in effect sent to or associated stream draw of Coastal Management Area of of Water Quality best usage class CNHP reference community stream is associated with the coheck one of the following boxe as on a coastal island?	ins to a Primary Nursery Area Environmental Concern (AEC) (including It is suffication of SA or supplemental classification of SA or supplemental classification wetland, if any? (Check all that apply) S	
	assessmen GS V ⊠A ⊠ ∐B □	tareat S JA JB	Not severely altered Severely altered over most of ti sedimentation, fire-plow lanes, alteration examples: mechani	he assessment area (ground surface altera , skidder tracks, bedding, fill, soil compac ical disturbance, herbicides, salt intrusion rtificial hydrologic alteration)	ution examples: vehicle tracks, excessive trion, obvious pollutants) (vegetation structur [where appropnate], exotic species, grazing
_		-4 e	Surface Storage Capacity and	d Duration – assessment area condition	metric
2.	Check a k (Sub) Co G) for Nor water only applicable Surf A DB	oox in nsider l th Card r, while Sub ⊠A ∐B	each column. Consider sunal coth increase and decrease in hina hydric soils for the zone of a ditch > 1 foot deep is experient water storage capacity and discrete the storage c	hydrology Refer to the NRCS Scope and influence of ditches in hydric soils. A ditched to affect both surface and sub-surfaction are not altered.	Effect Guide (see User Manual V1 or Appending 1 foot deep is considered to affect surface water Consider tidal flooding regime, cally, not sufficient to change vegetation)
		□c	change) (examples' intensive dams, stream incision, sewer	lines, soil compaction).	
3.	Water St	orage/	Surface Relief – assessment a	rea/wetland type condition metric opriate storage for the assessment area (A	A) and the wettand type (**1)
J.	Check a	box in			
	AA AB CB SBD SBD CE	WT A B C D E	> 50% of the wetland type w	ith depressions able to pond water 1 to 2 fe th depressions able to pond water 6 inches to depressions able to pond water 3- to 6-inch	eet 1 foot

4.	Soil T	exture/St	ructure	– assessment area condition metric
	□A	Sandy	soil	Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot. mittee for Hydric Soils regional indicators are noted (use most recent guidance)
		Gleyed	ninantiy	characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) characterized by other, mineral soil (no mottling) I soil (F2, S4)
	□F	Soil nb	bon ≥ 1	inch
	⊠G ∐H			ck presence presence (A6, A7, A8, A9, A10, F1, S1)
		Peat or	muck s	oil (histosol or histic epipedon) (A1, A2, A3)
5.				I – opportunity metric
	Check Examp Surf	a box in lies of sub Sub	n each -surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) discharges include presence of nearby septic tank, underground storage tank (UST), etc
	⊠A ∐B	⊠A □B	Notice	or no evidence of pollutants or discharges entenng the assessment area eable evidence of pollutants or discharges entening the wetland and stressing, but not overwhelming the
	□c	□c	Notice potent	nent capacity of the assessment area eable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and tially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
•	المعما	.	Seulm	entation)
6.		Jse – oppo all that a		
	and wit	hin the wa nd Piedmo	atershed ont and 3	valuation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area atershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective ripanan buffers are considered to be 50 feet wide in the Coastal 30 feet wide in the Mountains.
	WS □A	5M □A	2M □A	> 30% IMPERVIOUS SUrfaces with stormwater Boot Management Depth of Charles
				> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential)
	□B □C	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces
	⊠D □E	⊠D	⊠D	< 10% impervious surfaces
	□F	□E □F	□E □F	Old urban development (pink areas on USGS 7 5-minute quadrangles) New adjacent development
	□G	□G	□G	Confined animal operations (or other local, concentrated source of pollutants)
	DH.			≥ 20% coverage of pasture without nparian buffer ≥ 20% coverage of pasture with effective riparian buffer
	□J	□J	□J	≥ 20% coverage of agricultural land (regularly plowed land) without gnarian huffer
	⊠ĸ □L	⊠ĸ □L	⊠ĸ □L	≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥ 20% coverage of maintained grass/herb
	□м	□м	□м	Silvicultural land with disturbance < 5 years old
7	□N	_N 	□N	Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.
7.	Is the as	u Acting 8 ssessment	ıs vegei Larea wi	tated Buffer – assessment area condition metric
		D 103	L110	ithin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric
	Stream widths o	width (Str of channels	eam wid s/braids	of the stream is anastomosed, combine for a total stream with a first stream is anastomosed, combine for a total stream width
		⊠≤ 15-f	eet wide	D □> 15-feet wide □Not Applicable
	Do roots	of assess ⊠Yes	sment ar ⊟No	rea vegetation extend into the bank of the adjacent stream/open water?
	Is stream	n or other	open wa	ater sheltered or exposed?
		⊠Shelte □Expos	ered – ad sed – ads	djacent open water with width < 2500 feet <u>and</u> no regular boat traffic lacent open water with width ≥ 2500 feet <u>or</u> regular boat traffic.
8.	Wetland			Width – assessment area/wetland type/wetland complex metric
	Check a	a box in e	each co	lumn. Select the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width for the wetland type at the appropriate width the a
	*. \\ <i>j</i> , \\\	TO GIO IIPE	וטען וופויג	incligating assessment area (RB) of annicanie). Ringman huffer width in magazinal from the left bell and in the
	anastom removed	osed syst	em Ma ed	ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	WT □A	WC □A	RB (if a ⊠A	pplicable) ≥ 100 feet
	⊠в	⊠в	□В	From 80 to < 100 feet
	□с	□c	□c	From 50 to < 80 feet
		□D □E	□Đ □E	From 40 to < 50 feet From 30 to < 40 feet
	□F	□F	□F	From 15 to < 30 feet
	<u>□</u> G	□G	□G	From 5 to < 15 feet

_	, Lastandatio	on Duration – assessment area condition metric
, 9 .	Answer f	
	⊠A	Evidence of short-duration into total days of pundation
	□B □C	Evidence of long-duration indication (1. 18 9 9 9
- 40		of Deposition – assessment area condition metric
10.	Consider	recent deposition only (no plant growth since deposition). recent deposition only (no plant growth since deposition).
	⊠A	Sediment deposition is not exactly but not everwhelming the wetland
	<u>□</u> B	Sediment deposition is excessive, but not overwhelming the wetland. Sediment deposition is excessive and is overwhelming the wetland.
	□c	the westland complex condition metric
11.	Chack	Size – wetland type/wetland complex condition metric box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland (FW) (if box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland (FW) (if box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland (FW) (if box in each column.) Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area. The wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland from the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if box in each column.) Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area. The wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous provided type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous provided type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous provided type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous provided type (WT), the size of the contiguous provided type (WT), the size of the contiguous provided type (WT), and the size of the contiguous provided type (WT), the size of the contiguous provided type (WT), and the size of the contiguous provided type (WT), the size of the contiguous provided type (WT), and the size of the contiguous provided type (WT), and the size of the contiguous provided type (WT), and the size of the contiguous provided type (WT), and the size of the contiguous provided type (WT), and the size of the contiguous provided type (WT).
	size of t	box in each column. Involves a GIS effort wettand complex (WC), and the size of the contiguous, forested was an extend type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested beaver point forms be wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested beaver point forms less than the size of the contiguous wetland complex (WC), and the size of the contiguous, forested beaver point forms less than the size of the contiguous wetland complex (WC), and the size of the contiguous, forested beaver point forms less than the size of the contiguous, forested beaver point forms less than the size of the contiguous, forested beaver point forms less than the size of the contiguous wetland complex (WC), and the size of the contiguous, forested beaver point forms less than the size of the contiguous wetland complex (WC), and the size of
	applicat	le, see User wartural) both entire width of the floodplain. Additionally, other wetland types are
	a bound wr. If	esessment area is clear-out, solors of
	WΤ	MC - LM (it abbitcage)
	□A □B	HC Hg From 100 to < 500 acres
	□c	C UC From 30 to 100 pages
	□D	HE HE From 10 to < 25 acres
		H는 HE From 5 to < 10 acres
	□G	G G From 1 to < 5 acres H GH From 0 5 to < 1 acre
	⊠H	⊠। From 0.1 to < 0.5 acre
	□¹ ⊠i	□J □J From 0.01 to < 0.1 acre
		☐K ☐K < 0.01 acre Indicatings - wetland type condition metric (evaluate for Pocosins only) Indicatings - wetland type condition metric (evaluate for Pocosins only)
1		
	□A □B	Wetland type is < 90% of the full extent of its natural and the second of the full extent of its natural and the second of the full extent of its natural and the second of the full extent of its natural and the second of the s
_	_	11 1 - Other Natural Areas - landscape condition metric
٦		
	аррго	c appropriate box(es). This metric reces to the appropriate box(es). This metric reces to the solution of the
	agrict	lture), or open water > 300 leet wide.
	WC	LC
		☐A ≥ 500 acres ☐B From 100 to < 500 acres
	B	ਜਿੰਨ From 50 to < 100 acres
	⊠D	D From 10 to < 50 acres
	E E F	Wetland type has a poor or no connection to other natural natural natural
		k Yas or No.
	⊠Y€	
	⊠Y€	
	14. Edg	Effect - wetland type condition metric ate distance from wetland type boundary to artificial edges Artificial edges include permanent features such as fields, development, that distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, and clear-cuts < 10 years old. Consider the eight
	Estir	nate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as hold, described the eight and clear cuts < 10 years old. Consider the eight and or larger roads (≥ 40-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight
	mair	points of the compass.
		No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions No artificial edge within 150 feet in more than four directions or assessment area is clear-cut
	⊠B □C	
	15. Vec	An artificial edge occurs water for the Analysis and Pine Flat) Stative Composition – assessment area condition metric (skip for marshes and Pine Flat) Lower strata composed of appropriate Vegetation is close to reference condition in species present and their proportions Lower strata composed of appropriate Vegetation is close to reference condition in species present and their proportions Lower strata composed of appropriate
		Vegetation is close to reference condition in species within the assessment area
	₽7c	species, with exotic plants absent or species diversity or proportions, but sail largely complete characteristics or proportions, but sail largely complete characteristics or proportions.
	⊠£	Vegetation is different from reference or This may include communities of weedy native species that develop allow characteristic of the wetland type. This may include communities of weedy native species that develop allow characteristic of the expected strata are unnaturally absent or dominated by exotic cleaning. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata communities are unnaturally absent or dominated by exotic cleaning. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata communities.
		characteristic of the wetland type. This may include community of the expected strata clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata are unnaturally absent or dominated by exotic clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata are unnaturally absent or dominated by exotic clearing. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic clearing it also includes communities with exotics present, but not dominant, over a large portion of the expected strata clearing it also includes communities with exotics present, but not dominant, over a large portion of the expected strata are unnaturally absent or dominated by exotic clearing it also includes communities with exotics present, but not dominant, over a large portion of the expected strata are unnaturally absent or dominated by exotic clearing it also includes communities with exotics present, but not dominant, over a large portion of the expected strata are unnaturally absent or dominated by exotic clearing it also includes communities with exotics present, but not dominant, over a large portion of the expected strata are unnaturally absent or dominated by exotic clearing it also includes a stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and the expected stratage present and th
		clearing It also includes communities with excitod processing. Expected strata are unnaturally absent of dominated systems. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated systems. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated systems. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated systems. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated systems. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated systems. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent of dominated systems. Vegetation severely altered from reference in composition.
		A TARAMINAN MAILING TOYOUT TO
_		getative Diversity – assessment area continuon metro (Vegetation diversity is high and is composed primarily of native species Vegetation diversity is low or has > 10% cover of exotics
		Vegetation diversity is low or has > 10% cover of exotics

17.	N
	Vegetative Structure – assessment area/wetland type condition metric
	Vegetation present
	Evaluate percent coverage of vegetation for marshes only ☐A ≥ 25% coverage of vegetation
	☐B < 25% coverage of vegetation
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	structure in airspace above the assessment area (AA) and the wetland type (WT) separately.
	AA WT ☑A ☑A Canopy closed, or nearly closed, with natural gaps associated with natural processes
	☐B ☐B Canopy present, but opened more than natural gaps
	☐C ☐C Canopy sparse or absent
	☐A ☐A Dense mid-story/sapling layer
	☑B ☑B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
	□A □A Dense shrub layer
	☑B ☑B Moderate density shrub layer
	☐C ☐C Shrub layer sparse or absent
	A Dense herb layer
	☑B ☑B Moderate density herb layer □C □C Herb layer sparse or absent
	☐ Vegetation absent
18.	Snags – wetland type condition metric
	☐A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability)
	□B Not A
19.	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
	present.
	☐B Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH ☐C Most canopy trees are < 6-inches DBH or no trees
'n	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debns piles
	A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability)
	□B Not A
!1.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
	areas indicate vegetated areas, while solid white areas indicate open water □A □B □C □D
22.	Habitat Uniqueness – wetland type condition metric
ΠY	es No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
Note	
Note Fran	nes 9884 and 9885
-	

	H 14/41402	Date of Assessment	9-6-07		
Wetland Site Name Wetland Type	Z1-II-WAM03 Headwater Wetland	ssessor Name/Organization	EcoScience MC/JW		
etland Type	Headwater Wetland				
Presence of st Notes on Field Presence of re Wetland is into	(V/N)	NO			
Presence of st	ressor affecting assessment area (Y/N)	YES			
Notes on Field	Assessment Form (Y/N)	NO			
Presence of re	egulatory considerations (Y/N)	NO			
Wetland is inte	ensively managed (Y/N)				
Wetland may	be a high-quality riverine wetland (Y/N)				
ub-function Ratin	ng Summary			Rating	
	Sub-function	Metrics		HIGH	
	Surface Storage and Retention		_	HIGH	
yaroregy	Sub-surface Storage and Reter	ntion Condition		HIGH	
Vater Quality	Pathogen Change	Condition	-	HIGH	
Water Quality		Condition/Opportunity		NO NO	
		Opportunity Presence	e (Y/N) _	HIGH	
	Particulate Change	Condition	-		
	<u> </u>	Condition/Opportunit		X	
		Opportunity Presence	e (Y/N)	X	
	Soluble Change	Condition		MEDIUM	
	Coldsid Change	Condition/Opportunit	y ,	HIGH	
		Opportunity Presence	e (Y/N)	YES	
	Physical Change	Condition		HIGH	
	Physical Onlingo	Condition/Opportuni	ty	HIGH	
		Opportunity Present		YES	
	D-Watter Change	Condition		X	
	Pollution Change	Condition/Opportun	ty	X	
		Opportunity Present		X	
	100000	Condition		HIGH	
Habitat	Physical Structure	Condition		LOW	
	Landscape Patch Structure	Condition		MEDIUM	
	Vegetation Composition	Condition		NO	
	Uniqueness				
Function Rating	Summary			Rating	
		Metrics		HIGH	
		Condition		HIGH	
-		Condition		HIGH	
.,		Condition/Opportu		YES	
		Opportunity Prese	nce (Y/N)	MEDIUN	
Habitat		Condition			

J	Wetland Site Name		Date	9-6-07							
	Wetland Type		Assessor Name/Organization	EcoScience JW/MC							
	Level III Ecoregion		Nearest Named Water Body	Bones Creek							
٦	River Basin		USGS 8-Digit Catalogue Unit	03030004							
۲	☐ Yes 🗵 No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35 052466 -79 025985							
ı	Please circle and/or n (for instance, within 10	septic tanks, underground storage tanks (USTs), hog lagoons, etc.)									
	Describe enects of a	Secure analta of anasaris rier ata biasair									
	Anadromous Federally pro NCDWQ npi Wetland adji Publicly own N.C. Division N.C Division	the assessment area. Ifish Interced species or State endangered Interced species or State endangered Interced species or State endangered Interced species or State endangered Interced species of State and Interced Interced species of State and Interced species Interced species of State and Interced specie	•	er) s of HQW, ORW, or Trout							
1		•	land, if any? (Check all that apply)								
		check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both								
	is the assessment ar	ea on a coastal island? Yes	⊠ No								
		-	ty or duration substantially altered by be	eaver? Yes Yo							
1.	. Ground Surface C	ondition/Vegetation Condition – a	ssessment area condition metric								
	Check a box in earthe assessment area basessment area basessment area bases ∨S ☑A ☑A ☑A □B □B	ach column. Consider alteration to ea. Compare to reference wetland in ased on evidence of alteration. Not severely altered. Severely altered over most of the as sedimentation, fire-plow lanes, skid	the ground surface (GS) in the assessment applicable (see User Manual v1 0). If a seessment area (ground surface alteration edge tracks, bedding, fill, soil compaction, esturbance, herbicides, salt intrusion (whe	reference is not applicable, then rate the examples. vehicle tracks, excessive obvious pollutants) (vegetation structure							
2.	. Surface and Sub-	Surface Storage Capacity and Dur	ation – assessment area condition metri	c							
	(Sub) Consider be G) for North Caroli water only, while a applicable	oth increase and decrease in hydrole na hydno soils for the zone of influe	orage capacity and duration (Surf) and sul ogy. Refer to the NRCS Scope and Effect nce of ditches in hydric soils. A ditch ≤ 1 to to affect both surface and sub-surface w	Guide (see User Manual v1 0 Appendix foot deep is considered to affect surface							
	□B □B □C □C	Water storage capacity or duration a change) (examples: intensive ditchind dams, stream incision, sewer lines, sewer lin	re altered, but not substantially (typically, n re substantially altered (typically, alteration ng, fill, sedimentation, channelization, diver soil compaction)	sufficient to result in vegetation							
3	. Water Storage/Su	rface Relief – assessment area/we	etiand type condition metric	the wetland type (WT)							
•	Check a box in ea	ch column. Select the appropriate	storage for the assessment area (1)								
	AA WT DB DB CD MD ME ME	> 50% of the wetland type with dep > 50% of the wetland type with dep	ressions able to pond water > 2 feet ressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches dee								

4.	Soil Tex	kture/Stru	icture – a	assessment area condition metric			
	Nationa □ A	l Technica Sandy s	d Commit oil	g soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot, ttee for Hydric Soils regional indicators are noted (use most recent guidance)			
	ØB □C □D	Predomi Gleyed	inantly ch mineral s	naracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) naracterized by other, mineral soil (no mottling) place (F2, S4)	^		
	⊠E □F		on < 1 ind on ≥ 1 ind				
	⊠G			presence presence (A6, A7, A8, A9, A10, F1, S1)			
	바			I (histosol or histic epipedon) (A1, A2, A3)			
5.	Discha	rge into V	Vetland -	- opportunity metric			
	Check Example Surf	Check a box in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). Examples of sub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc. Surf Sub					
	⊠A □B	⊠a □B	Noticea	no evidence of pollutants or discharges entering the assessment area able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ant capacity of the assessment area			
	□c	□c	Noticea potentia	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entening the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive intation)			
6.	Land U	se – oppo	ortunity r	netric			
	within e	ntire upst hin the wa	ream wat itershed o int and 30	aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective npanan buffers are considered to be 50 feet wide in the Coastal 0 feet wide in the Mountains			
	WS □A	5M □A	2M □A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples			
				industnal, commercial, and high-density residential)			
	□B □C	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces			
	□D	□D	<u> </u>	< 10% impervious surfaces			
		□E □F	□E □F	Old urban development (pink areas on USGS 7 5-minute quadrangles) New adjacent development	_		
	□G	□G	□G	Confined animal operations (or other local, concentrated source of pollutants)			
			BH B	≥ 20% coverage of pasture without ripanan buffer ≥ 20% coverage of pasture with effective npanan buffer			
	□J	□J	□J	≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer			
	⊠ĸ	⊠k □L	⊠ĸ	≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥ 20% coverage of maintained grass/herb			
	□м	□м	□м	Silvicultural land with disturbance < 5 years old			
	□и	□N	□N	Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area			
7.				ated Buffer – assessment area condition metric			
	Is the a		it area wi ∐No	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric			
	Stream	width (St	ream wid	of the stream is anastomosed, combine for a total stream width [ordinary high water]). If the stream is anastomosed, combine for a total stream width.			
		⊠≤ 15-	feet wide	n □> 15-feet wide □Not Applicable			
	Do root	s of asses ⊠Yes		rea vegetation extend into the bank of the adjacent stream/open water?			
	ls strea	m or othe	r open wa	ater sheltered or exposed?			
		⊠Shelt □Expo	ered – ad sed – adı	djacent open water with width < 2500 feet <u>and</u> no regular boat traffic jacent open water with width ≥ 2500 feet <u>or</u> regular boat traffic			
8.	Wetlan			Width – assessment area/wetland type/wetland complex metric			
	Check (WC), a only be anastor	a box in and the np	each co panan but on one s stem. Ma	slumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex ffer at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need side of the water body. The riparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been			
	WT	WC		applicable)			
	W1 ⊠A	⊠A	⊠A	≥ 100 feet			
	□в	□в	□в	From 80 to < 100 feet From 50 to < 80 feet			
				From 40 to < 50 feet			
		뿚	ΠE	From 30 to < 40 feet			
		□F		From 15 to < 30 feet From 5 to < 15 feet			
	∐G □H	□G □H	□G □H	< 5 feet			

~	9.	Inundation D	uration – ass	sessment area condition metric	
		Answer for as	sessment are	ea dominant landform	
				t-duration inundation (< 7 consecutive days)	
		=		ration, without evidence of inundation	
			erice or long-	duration inundation (7 to 30 consecutive days or more)	
	_\ 10.		•	- assessment area condition metric	
				only (no plant growth since deposition)	
				tion is not excessive, but at approximately natural levels	
				ion is excessive, but not overwhelming the wetland ion is excessive and is overwhelming the wetland	
	11.		_	<pre>/pe/wetland complex condition metric .mn. Involves a GIS effort with field adjustment. This metric evaluates three a</pre>	
		size of the we applicable, se a boundary if WT. If assess WT WC A A A B B B C C C C C C C C C C C C C	tland type (We User Manual textends acisment area is FW (if a)	AT), the size of the contiguous wetland complex (WC), and the size of the contigual) Boundaries are formed by uplands, four-tane roads, or urban landscapes ross the entire width of the floodplain. Additionally, other wetland types are conclear-cut, select "K" for FW column. pplicable) ≥ 500 acres From 100 to < 500 acres From 50 to < 100 acres From 25 to < 50 acres From 10 to < 25 acres From 5 to < 10 acres From 5 to < 10 acres From 1 to < 5 acres	guous, forested wetland (FW) (if An observed beaver pond forms
		□H □H	□н	From 0 5 to < 1 acre	
			₽.	From 0.1 to < 0.5 acre	
		□k □k □ì □i	□k □l	From 0.01 to < 0.1 acre < 0.01 acre	
	40		_		
	14,			and type condition metric (evaluate for Pocosins only)	
				e full extent (≥ 90%) of its natural landscape size 90% of the full extent of its natural landscape size.	
	13.	Connectivity		and the second s	
				ural Areas – landscape condition metric	
		Check appro	priate box(es nat includes the r open water ch. ≥ 500 ac From 100 From 10 < 10 acres	s). This metric refers to the landscape patch, the contiguous naturally vegine wetland type. Boundaries are formed by four-lane roads, urban landscapes r > 300 feet wide. Consider if the wetland type is well-connected (WC) or cres to c > 500 acres to c > 500 acres to c > 50 acres	. maintained fields (pasture and
		Check appropriate) the agriculture), or landscape pat WC LC A A B B B C C C D D D D F F F F Check Yes or	priate box(es hat includes the ropen water ch. ≥ 500 ac From 100 From 50 From 10 < 10 acre Wetland No.	s). This metric refers to the landscape patch, the contiguous naturally vegine wetland type. Boundaries are formed by four-lane roads, urban landscapes r > 300 feet wide. Consider if the wetland type is well-connected (WC) or cres to to < 500 acres to < 500 acres to < 50 acres es type has a poor or no connection to other natural habitats	, maintained fields (pasture and loosely-connected (LC) to the
		Check appro appropriate) ti agriculture), c landscape pat WC LC A A B B B C C D D D D E E F	priate box(es at includes the ropen water ch. ≥ 500 ac From 100 From 50 From 10 < 10 acre Wetland No. Does we	s). This metric refers to the landscape patch, the contiguous naturally vegine wetland type. Boundaries are formed by four-lane roads, urban landscapes r > 300 feet wide. Consider if the wetland type is well-connected (WC) or cres to to < 500 acres to < 50 acres to < 50 acres es	, maintained fields (pasture and loosely-connected (LC) to the
	14.	Check appropriate) the agriculture), colored appropriate) the agriculture, colored appropriat	priate box(es at includes the ropen water ch. ≥ 500 ac From 100 From 50 From 100 < 10 acre Wetland No. Does we be assembled.	s). This metric refers to the landscape patch, the contiguous naturally vegine wetland type. Boundaries are formed by four-lane roads, urban landscapes in > 300 feet wide. Consider if the wetland type is well-connected (WC) or cres to < 500 acres to < 100 acres to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es to < 50 acres es	, maintained fields (pasture and loosely-connected (LC) to the
	14.	Check appropriate) the agriculture), colored appropriate) the agriculture), colored appropriate, colored appropria	priate box(es nat includes the ropen water ch. ≥ 500 acc From 100 From 50 From 10 < 10 acre Wetland No. Does we lis the ass wetland type ger roads (≥ 4 the compass rufficial edge wettificial	s). This metric refers to the landscape patch, the contiguous naturally vegine wetland type. Boundaries are formed by four-lane roads, urban landscapes in > 300 feet wide. Consider if the wetland type is well-connected (WC) or cres to < 500 acres to < 100 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 50 acres to < 5	maintained fields (pasture and loosely-connected (LC) to the see (evaluate for marshes only) es such as fields, development, 0 years old Consider the eight
		Check approappropriate) the agriculture), or landscape path WC LC LC LC LC LC LC LC LC LC LC LC LC LC	priate box(es tat includes the ropen water ch. ≥ 500 ac From 100 From 50 From 100 < 10 acres Wetland No. Does we be assembled by the compass reficial edge wetlificial edge wetlificial edge of the ropen compass of the ropen compass reficial edge wetlificial edge of the ropen compass reficial e	s). This metric refers to the landscape patch, the contiguous naturally vegine wetland type. Boundaries are formed by four-lane roads, urban landscapes r > 300 feet wide. Consider if the wetland type is well-connected (WC) or cres to < 500 acres to < 500 acres to < 50 acres es type has a poor or no connection to other natural habitats etland type have a surface hydrology connection to open waters or tidal wetlands assessment area subject to overbank flooding during normal conditions? e condition metric land type boundary to artificial edges. Artificial edges include permanent feature 40-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 1 within 150 feet in all directions within 150 feet in four to seven directions	maintained fields (pasture and loosely-connected (LC) to the see (evaluate for marshes only) es such as fields, development, 0 years old Consider the eight
		Check approappropriate) the agriculture), or landscape path WC LC LC LC LC LC LC LC LC LC LC LC LC LC	priate box(es tat includes the ropen water ch. ≥ 500 ac From 100 From 50 From 10 < 10 acre Wetland No. Does we concer from wetland type acre ger roads (≥ 4) the compass refricial edge wetlificial edge of the romposition —	s). This metric refers to the landscape patch, the contiguous naturally vegine wetland type. Boundaries are formed by four-lane roads, urban landscapes in > 300 feet wide. Consider if the wetland type is well-connected (WC) or cres to < 500 acres to < 100 acres to < 50 acres es type has a poor or no connection to other natural habitats witland type have a surface hydrology connection to open waters or tidal wetlands sessment area subject to overbank flooding during normal conditions? The condition metric land type boundary to artificial edges. Artificial edges include permanent feature 40-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 1 within 150 feet in all directions within 150 feet in four to seven directions occurs within 150 feet in more than four directions or assessment area is clear-creasessment area condition metric (skip for marshes and Pine Flat)	maintained fields (pasture and loosely-connected (LC) to the see (evaluate for marshes only) es such as fields, development, 0 years old Consider the eight
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	15.	Check approappropriate) the agriculture), colored appropriate) the agriculture), colored appropriate, colored appropriate, colored appropriate, colored appropriate, colored approach a	priate box(es priate box(es pat includes the ropen water ch. ≥ 500 ac From 100 From 50 From 10 < 10 acre Wetland No. Does we be assembled by the compassion wetling and the compassion of the	s). This metric refers to the landscape patch, the contiguous naturally vegicle wetland type. Boundaries are formed by four-lane roads, urban landscapes in > 300 feet wide. Consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type have a surface hydrology connection to open waters or tidal wetlands is sessment area subject to overbank flooding during normal conditions? It is condition metric and type boundary to artificial edges. Artificial edges include permanent feature 40-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 1 within 150 feet in all directions within 150 feet in four to seven directions or assessment area is clear-considered in the condition metric (skip for marshes and Pine Flat) assessment area condition metric (skip for marshes and Pine Flat) are to reference condition in species present and their proportions. Lower strata or consists absent or sparse within the assessment area area from reference condition in species diversity or proportions, but still large the wetland type. This may include communities of weedy native species the cludes communities with exotics present, but not dominant, over a large portion elsy altered from reference in composition. Expected strata are unnaturally a seed of planted stands of non-characteristic species or inappropriately composed.	maintained fields (pasture and loosely-connected (LC) to the services (evaluate for marshes only) es such as fields, development, or years old. Consider the eight of the composed of appropriate services at develop after clearcutting or of the expected strata absent or dominated by exotic of a single species.
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	15.	Check approapproappropriate) the agriculture), colored appropriate) the agriculture), colored appropriate (approximate), colored appropriate (approximate), colored approach (approximate), colored approximate), colored appr	priate box(es priate box(es pat includes the ropen water ch. ≥ 500 ac From 100 From 50 From 100 < 10 acres Wetland No. Does we be list the assistance from wetland type and from wetland type and from the compass rufficial edge waterficial edg	s). This metric refers to the landscape patch, the contiguous naturally vegicle wetland type. Boundaries are formed by four-lane roads, urban landscapes in > 300 feet wide. Consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type is well-connected (WC) or consider if the wetland type have a surface hydrology connection to open waters or tidal wetlands is sessment area subject to overbank flooding during normal conditions? It is condition metric and type boundary to artificial edges. Artificial edges include permanent feature 40-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 1 within 150 feet in all directions within 150 feet in four to seven directions or assessment area is clear-considered in the condition metric (skip for marshes and Pine Flat) assessment area condition metric (skip for marshes and Pine Flat) are to reference condition in species present and their proportions. Lower strata or consists absent or sparse within the assessment area area from reference condition in species diversity or proportions, but still large the wetland type. This may include communities of weedy native species the cludes communities with exotics present, but not dominant, over a large portion elsy altered from reference in composition. Expected strata are unnaturally a seed of planted stands of non-characteristic species or inappropriately composed.	maintained fields (pasture and loosely-connected (LC) to the services (evaluate for marshes only) es such as fields, development, or years old. Consider the eight of the composed of appropriate services at develop after clearcutting or of the expected strata absent or dominated by exotic of a single species.

17.			- assessment area/wetland type condition metric
	☑ Verify	getation prese	ent t coverage of vegetation for marshes only
		A ≥ 25% c	coverage of vegetation
			coverage of vegetation each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	CI	heck a box in	pace above the assessment area (AA) and the wetland type (WT) separately.
	st A/		
	Z	IA ⊠A]B □B]C □C	Canopy closed, or nearly closed, with natural gaps associated with natural processes Canopy present, but opened more than natural gaps Canopy sparse or absent
]A □A]B □B IC ⊠C	Dense mid-story/sapling layer Moderate density mid-story/sapling layer Mid-story/sapling layer sparse or absent
			Dense shrub layer Moderate density shrub layer Shrub layer sparse or absent
]A □A]B □B]C ☑C	Dense herb layer Moderate density herb layer Herb layer sparse or absent
		egetation abso	
18.	Snags	s – wetland typ	be condition metric s (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability)
	□A ⊠B	Large snags Not A	s (more than one) are present (> 12-inches DBH, or large relative to species present
19.		eter Class Dist	ribution – wetland type condition metric
	⊠A	Most canop	y trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
			y trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH
	□B □C	Most canop	y trees are < 6-inches DBH or no trees
20.	Large	Woody Debri	s – wetland type condition metric
	□A MB	Large logs	nde and natural debns piles. (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability)
21.	Vege	tation/Open W	ater Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Calaa	the faure tha	t best describes the amount of interspersion between vegetation and open water in the growing season Patterned ated areas, while solid white areas indicate open water.
22	. Habi	tat Uniqueness	B – wetland type condition metric
	Yes	⊠No Has th	ne N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
No	tes	000 0003 (Northern fringe) 9888-9892 (Southern fringe)
Fr	ames 9	886 and 9887 (Moralett hinge/ 5555-5552 (5558-5111 hinge)

Welland Site Name	Z2-II-WAM04	Date of Assessment	9-6-07	
Wetland Type	Riverine Swamp Forest	Assessor Name/Organization	EcoScience JW/MC	
		-		
Presence of str	essor affecting assessment area (Y/N)	NO		
	Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	NO		
	nsively managed (Y/N)	NO		
Wetland may be	e a high-quality rivenne wetland (Y/N)			
Sub-function Rating	Summary			
Function	Sub-function	Metrics		
Hydrology	Surface Storage and Retention	Condition	Rating	
	Sub-surface Storage and Retent		HIGH	
Water Quality	Pathogen Change	Condition	MEDIUM	
		••	HIGH	
		Condition/Opportunity Opportunity Presence ()	HIGH	
	Particulate Change	Condition		
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y	HIGH	
	Soluble Change	Condition Condition		
		Condition/Opportunity	MEDIUM	
		•	HIGH	
	Physical Change	Opportunity Presence (Y Condition		
	.,,		HIGH	
		Condition/Opportunity	HIGH	
	Pollution Change	Opportunity Presence (Y. Condition		
			X	
		Condition/Opportunity	X	
Habitat	Physical Structure	Opportunity Presence (Y/		
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	LOW	
	Uniqueness		HIGH	
		Condition	NO	
Function Rating Sumr	nary		_	
Function Hydrology		Metncs	Rating	
•		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/I	V) YES	
Habitat		Condition	HIGH	

Г	Wetland Site Name Z4-II-WAN	08	Date _.	9-6-07
	Wetland Type Headwate		Assessor Name/Organization	EcoScience JW/MC
İ	Level III Ecoregion Southeast		Nearest Named Water Body	Bones Creek
. I	River Basin Cape Fear		USGS 8-Digit Catalogue Unit	03030004
٧	☐ Yes ☑ No Precipitat	ion within 48 hrs? Latitu	ide/Longitude (deci-degrees)	34 044415 -79.031989
	Evidence of stressors affecting the Please circle and/or make note below (for instance, within 10 years). Note: Hydrological modifications: Surface and sub-surface septic tanks, underground. Sugns of venetation stress.	ne assessment area (may not be well evidence of stressors is appropriately stressors include, but are (examples, ditches, dams, bear discharges into the wetland (examples: vegetation mortality (examples: vegetation mortality literation (examples mowing, cleans)	parent Consider departure from e not limited to the following. ver dams, dikes, berms, ponds, e camples: discharges containing ons, etc) , insect damage, disease, storm ear-cutting, exotics, etc)	obvious pollutants, presence of nearby
	Regulatory Considerations Select all that apply to the assessm Anadromous fish			
		es or State endangered or threat	ened species	
-	NCDWQ riparian buffer ru	le in effect sociated stream drains to a Pnm	ary Nursery Area	
	Publicly owned property N.C. Division of Coastal N	fanagement Area of Environmen ality best usage classification of	tal Concern (AEC) (including but SA or supplemental classification	fer) ns of HQW, ORW, or Trout
1	What type of natural stream is as		ny? (Check all that apply)	
	Blackwater Brownwater Tidal (If tidal, check one of			
1	Is the assessment area on a coas		1	
	is the assessment area's surface			peaver? Yes No
•	Check a box in each column. the assessment area Compar assessment area based on evid GS VS ☑A ☑A Not severely □B □B Severely alte sedimentation	e to reference wetland if applicatence of alteration altered ered over most of the assessmer on fire-plow lanes, skidder track	and surface (GS) in the assessment of the control of a surface (ground surface alteration of the compaction of the compa	nent area and vegetation structure (VS) in a reference is not applicable, then rate the examples vehicle tracks, excessive obvious pollutants) (vegetation structure lere appropriate), exotic species, grazing,
	2. Surface and Sub-Surface Sto	rage Capacity and Duration – a	ssessment area condition met	tric
	Check a box in each column (Sub) Consider both increase	Consider surface storage call and decrease in hydrology. Refuls for the zone of influence of dis-	pacity and duration (Surf) and s fer to the NRCS Scope and Effe tiches in hydric soils. A ditch ≤	sub-surface storage capacity and duration ct Guide (see User Manual v1 0 Appendix 1 foot deep is considered to affect surface water. Consider tidal flooding regime, if
		ge capacity or duretion are subst amples: intensive ditching, fill, so m incision, sewer lines, soil com	d, but not substantially (typically, antially altered (typically, alteration edimentation, channelization, div paction)	not sufficient to change vegetation) on sufficient to result in vegetation ersion, man-made berms, beaver
	3. Water Storage/Surface Relief	- assessment area/wetland ty	pe condition metric	d the wetland type (WT)
	Check a box in each column	Select the appropnate storage	for the assessment area (AA) an	d the menous the ()
_	AA WT □A □A > 50% of th □B □B > 50% of th □C □C > 50% of w	e wetland type with depressions e wetland type with depressions	able to pond water > 2 feet able to pond water 1 to 2 feet e to pond water 6 inches to 1 foo e to pond water 3- to 6-inches de	t

	Select all that	t apply. Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot
	National Techr	nical Committee for Hydric Soils regional indicators are noted (use most recent guidance).
	☐B Prede	ominantly characterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)
	<u>⊠</u> C Prede	ominantly characterized by other, mineral soil (no mottling)
		ed mineral soil (F2, S4) ribbon < 1 inch
	☐F Soil r	ribbon ≥ 1 ınch
		eat or muck presence
		at or muck presence (A6, A7, A8, A9, A10, F1, S1) or muck soil (histosol or histic epipedon) (A1, A2, A3)
5.		o Wetland – opportunity metric
٠.	_	in each column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub)
	Examples of su	ub-surface discharges include presence of nearby septic tank, underground storage tank (UST), etc
	⊠a ⊠a	Little or no evidence of pollutants or discharges entering the assessment area
	□в □в	Noticeable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
	□с □с	treatment capacity of the assessment area Noticeable evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and
		potentially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive sedimentation)
6.	Land Use – op	portunity metric
	Check all that	apply. Evaluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area
	within entire up	istream watershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles
	and within the \	watershed draining to the assessment area (2M) Effective ripanan buffers are considered to be 50 feet wide in the Coastal mont and 30 feet wide in the Mountains.
	WS 5M	2M
		□A > 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples.
	□в □в	industrial, commercial, and high-density residential) B > 30% impervious surfaces without stormwater BMPs
	□c □c	□C 10 to 30% impervious surfaces
		☑D <10% impervious surfaces
		☐E Old urban development (pink areas on USGS 7 5-minute quadrangles) ☐F New adjacent development
	□G □G	G Confined animal operations (or other local, concentrated source of pollutants)
		□I ≥ 20% coverage of pasture with effective nparian buffer □J ≥ 20% coverage of agnicultural land (regularly plowed land) without riparian buffer
	□K □K	□K ≥ 20% coverage of agricultural land (regularly plowed land) with effective ripanan buffer
		⊔L ≥ 20% coverage of maintained grass/herb
	□M □M ⊠N ⊠N	☐M Silvicultural land with disturbance < 5 years old ☐N Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or
		overbank flow from affecting the assessment area
7.	Wetland Acting	g as Vegetated Buffer – assessment area condition metric
	Is the assessme	ent area within 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
	⊠Yes Stream width (S	If No, Skip to next metric Stream width is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine
	widths of chann	eis/braids for a total stream width
		5-feet wide
	⊠Yes	essment area vegetation extend into the bank of the adjacent stream/open water?
	is stream or other	er open water sheltered or exposed?
	⊠She □Evo	eltered – adjacent open water with width < 2500 feet <u>and</u> no regular boat traffic losed – adjacent open water with width ≥ 2500 feet <u>or</u> regular boat traffic
8.		
0.		an Buffer Width assessment area/wetland type/wetland complex metric
	only be present	n each column. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex aparian buffer at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need to on one side of the water body. The ripanan buffer is measured from the outside banks of the outer channels of an ystem. Make buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been surbed.
	WT WC	RB (if applicable)
	□A ⊠A	⊠A ≥ 100 feet
		B From 80 to < 100 feet
		☐C From 50 to < 80 feet ☐D From 40 to < 50 feet
		□E From 30 to < 40 feet
		F From 15 to < 30 feet
	□G □G □H □H	☐G From 5 to < 15 feet ☐H < 5 feet
	٬٬۱ ،،ت	<u>.</u>

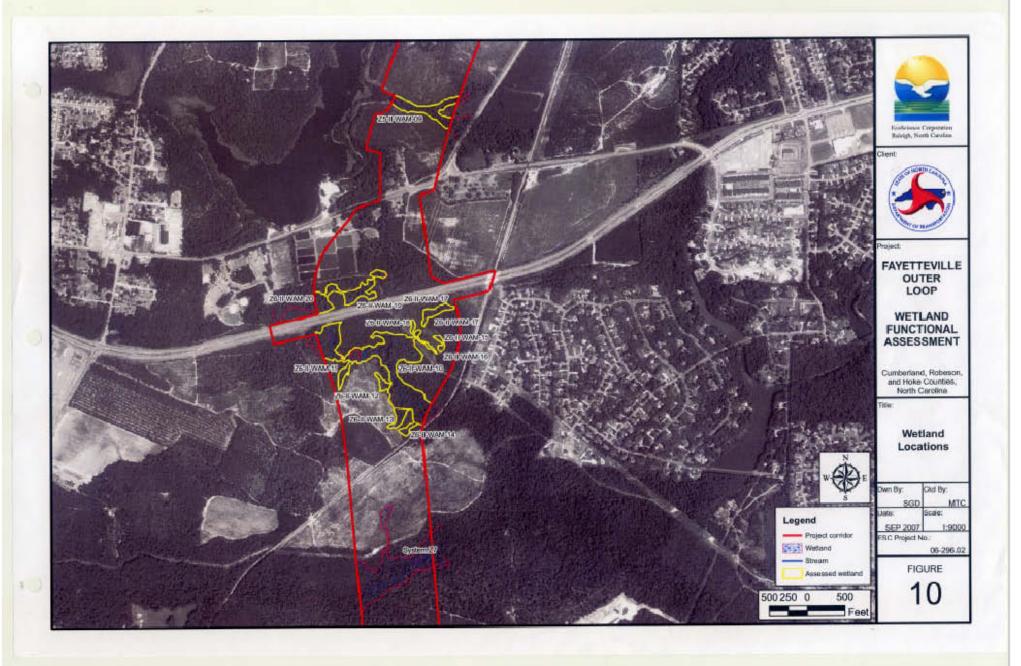
4. Soil Texture/Structure – assessment area condition metric

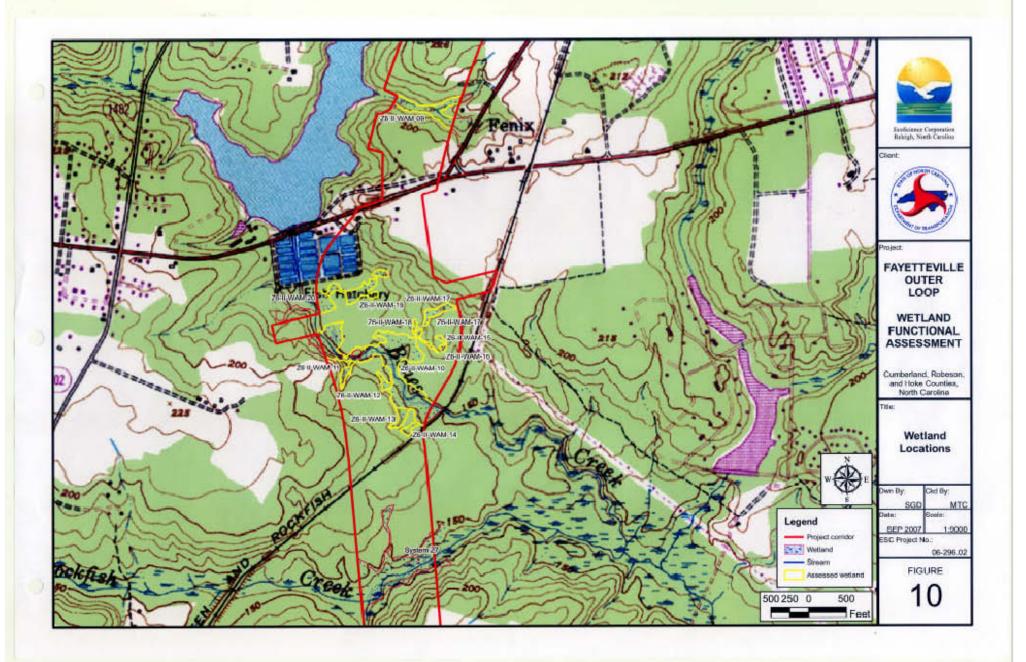
9.	Inundation Duration — assessment area condition metric
	Answer for assessment area dominant landform Answer for assessment area dominant landform Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation Evidence of long-duration inundation (7 to 30 consecutive days or more)
10.	Indicators of Deposition – assessment area condition metric
`	Consider recent deposition only (no plant growth since deposition) Sediment deposition is not excessive, but at approximately natural levels Sediment deposition is excessive, but not overwhelming the wetland Sediment deposition is excessive and is overwhelming the wetland
11.	Wetland Size – wetland type/wetland complex condition metric
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual) Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT If assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A So0 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres From 10 to < 25 acres F From 5 to < 10 acres G G G From 1 to < 5 acres H B H From 0 5 to < 1 acre I I I From 0 1 to < 0 5 acre J J J J From 0 0 1 to < 0 1 acre K K K K K K K K K K K K C M O 1 acre
12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
	 □A Wetland type is the full extent (≥ 90%) of its natural landscape size □B Wetland type is < 90% of the full extent of its natural landscape size
13.	Connectivity to Other Natural Areas – landscape condition metric
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥ 500 acres. B B From 100 to < 500 acres. C C From 50 to < 100 acres. D D From 10 to < 50 acres. E E E < 10 acres. Wetland type has a poor or no connection to other natural habitats.
	Check Yes or No.
	 Check res or No. □ Yes □ No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) □ Yes □ No Is the assessment area subject to overbank flooding dunng normal conditions?
14	. Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15	. Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	 ✓A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area ✓B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓C Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic vegetation severely altered strangs of non-characteristic species or inappropriately composed of a single species.
	Discribit accessment area condition metric (evaluate for Non-tidal Freshwater marsh only)
^ 1	6. Vegetative Diversity – assessment and composed primarily of native species A

17.	Veg	etative Structure – assessment area/wetland type condition metric	
	\boxtimes	Vegetation present	
		Evaluate percent coverage of vegetation for marshes only	
		□A ≥ 25% coverage of vegetation □B < 25% coverage of vegetation	
		Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately.	ır /
		AA WT AA WT Canopy closed, or nearly closed, with natural gaps associated with natural processes BB BB Canopy present, but opened more than natural gaps Canopy sparse or absent	
		☑A ☑A Dense mid-story/sapling layer ☐B ☐B Moderate density mid-story/sapling layer ☐C ☐C Mid-story/sapling layer sparse or absent	
		☑A ☑A Dense shrub layer ☐B ☐B Moderate density shrub layer ☐C ☐C Shrub layer sparse or absent	
		□A □A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent Vegetation absent	
18.	Sna	gs – wetland type condition metric	
	□A ⊠B	Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability)	
19.	Dia	neter Class Distribution – wetland type condition metric	
	ΠA	0 · (// // · · · · · · · · · · · · · · ·	
	□B ⊠C	present Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH Most canopy trees are < 6-inches DBH or no trees	
20.	Larg	je Woody Debris – wetland type condition metric	
		ide both man-made and natural debris piles	
21		etation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)	
21.	Sele	ct the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterners indicate vegetated areas, while solid white areas indicate open water.	t
22 . □Y		itat Uniqueness – wetland type condition metric ☑No Has the N C Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"	
		— Service of the serv	
Note			
		900 and 9901	

Wetland Site Name	Z4-II-WAM08	Date of Assessment	9-6-07	
Wetland Type	Headwater Wetland A	Assessor Name/Organization	EcoScience JW/MC	
	7	NO		
	ressor affecting assessment area (Y/N) Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	NO NO		
	nsively managed (Y/N)	NO		
	be a high-quality riverine wetland (Y/N)			
Wedand may b	e a night-quality hyonne wedand (1714)			
Sub-function Rating				
unction	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	HIGH	
	Sub-surface Storage and Reten		HIGH	
Water Quality	Pathogen Change	Condition	MEDIUM	
		Condition/Opportunity	MEDIUM	
		Opportunity Presence	· · · · · · · · · · · · · · · · · · ·	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence		
	Soluble Change	Condition	MEDIUM	
		Condition/Opportunity	MEDIUM	
		Opportunity Presence		
	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence	(Y/N) NO	
	Pollution Change	Condition	X	
		Condition/Opportunity	X	
		Opportunity Presence	(Y/N) X	
Habitat	Physical Structure	Condition	HIGH	
	Landscape Patch Structure	Condition	LOW	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	МО	
Function Rating Su	ımmary			
Function		Metrics	Rating	
Hydrology		Condition	HIGH	
Water Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence		
		Condition	HIGH	
Habitat				

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Wetland Type Level III Ecorgolo Southeastern Plains Yese Wo Precipitation within 48 hrs?		Wetland Site		Z5-II-WAM09	Date	9-7-07
Piece No Preplication within 48 hrs? Lattroducing turing (decled-garges) 303,941,179,035612 Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle auditor make note below of evidence of stressors is apparent. Consider degrature from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following . Hydrological modifications (examples: diches, dame, beared arians, disc) Surface and sub-surface discharges into the wetsland (examples discharges containing obvious pollutants, presence of nearby septe tensiks, underground storage tanks (USTs), hog lagons, etc) Signs of vegetation stress (examples: vegetation mortality, resect damage, disease, storm damage, salt infrusion, etc.)						
Yes No Precipitation within 48 hrs? LatitudefLongitude (dec-degrees) 35 035441-79 033612			_			
Evidence of stressors affecting the assessment area (may not be within the assessment area) Please cricle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for restance) and the properties of the prop	N		_			
Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. • Hydrological montifications (examples: dictabes, dams, beaver dams, dikes, berms, ponds, etc.) • Surface and sub-surface discharges into the welland (cyamples: discharges containing obvious pollutants, presence of nearby septic tents, underground storage tanks (USTs), hog lagoons, etc.) • Signate development in the greamples "expetition mortality, resect dames, disease, storm damage, salt intrusion, etc.) • Its the assessment area intensively managed? Yes No • Describe effects of stressors that are present Regulatory Considerations	-	Tes	X NO	Precipitation within 48 nrs?	Latitude/Longitude (deci-degrees)	35 035441 -79 035612
Select all that apply to the assessment area Andromous fish Federally protected species or State endangered or threatened species NcDWG npans buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N.C. Division of Water Quality beat usage classification of SA or supplemental classifications of HOW, ORW, or Trout Designated NCNIHP reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Tidd (if tidal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal of the following boxes Lunar Wind Both Is the assessment area on a coastal island? Yes No Is the assessment area on a coastal island? Yes No Is the assessment area condition with the savessment area on a coastal island? Yes No Is the assessment area condition. Secondary of the assessment area condition. Secondary of the assessment area condition of the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area based on evidence of alteration to the ground surface (GS) in the assessment area of the assessment area compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate the assessment area based on evidence of alteration Secondary of the assessment area compare to reference wetland if applicable (see User Manual v1.0). If a reference is not applicable, then rate the assessment area with the secondary of the assessment area (ground surface alteration examples which is a surface water with the secondary of the assessment area (ground surface alteration examples we have a surface water with the surface alteration (Sub) Secondary of the surface and sub-surface storage capacity and duration Secondary of the surface storage capaci	PI (fo	lease circle and or instance, with Hydroid Surface septic to Habitat	d/or matchin 10 yogical nee and stanks, uof veget/plant cent are	tke note below if evidence of stress years). Noteworthy stressors inclu- nodifications (examples: ditches, coub-surface discharges into the wanderground storage tanks (USTs), tation stress (examples vegetation community alteration (examples: maintensively managed?	sors is apparent. Consider departure from de, but are not limited to the following dams, beaver dams, dikes, berms, ponds, e etland (examples discharges containing a hog lagoons, etc.) n mortality, insect damage, disease, storm a nowing, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past stc.) obvious pollutants, presence of nearby
Blackwater Brownwater Tridal (if tidal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal Island? Yes No Is the assessment area's surface water storage capacity or duration substantially altered by beaver? Yes No I. Ground Surface Condition/Vegetation Condition - assessment area condition metric Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area Compare to reference wetland if applicable (see User Manual v1 0). If a reference is not applicable, then rate the assessment area based on evidence of alteration GS VS SA		elect all that ap Anadro Federa NCDW Wetland Publicly N C Di N C Di	ply to the mous fully prote Q ripand adjact y owned in the interest of the protect of the interest of the inte	ne assessment area ish ected species or State endangered an buffer rule in effect ent to or associated stream drains d property of Coastal Management Area of En of Water Quality best usage classifi	to a Pnmary Nursery Area	, ,
Is the assessment area's surface water storage capacity or duration substantially altered by beaver?		Blackwood Brownv Tidal (if	ater vater f tidal, c	check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both	
Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual v1 0). If a reference is not applicable, then rate the assessment area based on evidence of alteration. GS VS A Not severely altered over most of the assessment area (ground surface alteration examples vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples. mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], artificial hydrologic alteration). 2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric. Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1 0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch s 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable. Sub Sub Water storage capacity and duration are not altered. B B B Water storage capacity or duration are not altered. But not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples, intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric. Check a box in each column. Select the appropriate storage for the assessment area (AA) and the w				_		paver? ☐ Yes ☒ No
Check a box in each column. Consider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in the assessment area. Compare to reference wetland if applicable (see User Manual v1 0). If a reference is not applicable, then rate the assessment area based on evidence of alteration. GS VS A Not severely altered over most of the assessment area (ground surface alteration examples vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure alteration examples. mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, less diversity [if appropriate], artificial hydrologic alteration). 2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric. Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub). Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1 0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch s 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable. Sub Sub Water storage capacity and duration are not altered. B B B Water storage capacity or duration are not altered. But not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples, intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). 3. Water Storage/Surface Relief – assessment area/wetland type condition metric. Check a box in each column. Select the appropriate storage for the assessment area (AA) and the w	-					
Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub) Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1 0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable. Surf Sub A A Water storage capacity and duration are not altered. B B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples. intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction). **Water Storage/Surface Relief - assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT). AA WT AA So% of the wetland type with depressions able to pond water > 2 feet B B B So% of the wetland type with depressions able to pond water 1 to 2 feet Solve the capacity of wetland type with depressions able to pond water 3 to 6-inches deep.	1.	Check a box the assessment a assessment a GS VS	in eac ent area area bas N S S ai	ch column. Consider alteration to a Compare to reference wetland is sed on evidence of alteration tot severely altered everely altered over most of the as edimentation, fire-plow lanes, skid lteration examples. mechanical d	the ground surface (GS) in the assessment applicable (see User Manual v1 0). If a seessment area (ground surface alteration elder tracks, bedding, fill, soil compaction, listurbance, herbicides, salt intrusion [whe	examples vehicle tracks, excessive obvious pollutants) (vegetation structure
(Sub) Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1 0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable. Surf Sub MA Water storage capacity and duration are not altered B B Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation). Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples, intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction) **Water Storage/Surface Relief - assessment area/wetland type condition metric Check a box in each column. Select the appropriate storage for the assessment area (AA) and the wetland type (WT) AA WT AA Solve of the wetland type with depressions able to pond water > 2 feet B B B > 50% of the wetland type with depressions able to pond water 1 to 2 feet B B B > 50% of wetland type with depressions able to pond water 6 inches to 1 foot Sufficient to change vegetation.	2.	Surface and	Sub-Su	rface Storage Capacity and Dur	ation – assessment area condition metri	ic
Mater storage capacity and duration are not altered Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation) Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples. intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction) 3. Water Storage/Surface Relief – assessment area/wetland type condition metric Check a box in each column Select the appropriate storage for the assessment area (AA) and the wetland type (WT) AA WT A A > 50% of the wetland type with depressions able to pond water > 2 feet > 50% of the wetland type with depressions able to pond water 1 to 2 feet > 50% of wetland type with depressions able to pond water 6 inches to 1 foot > 50% of wetland type with depressions able to pond water 3- to 6-inches deep		(Sub) Consid G) for North (water only, w applicable	der bot Carolina hile a	h increase and decrease in hydrolo a hydric soils for the zone of influe	ogy Refer to the NRCS Scope and Effect nce of ditches in hydric soils A ditch ≤ 1	Guide (see User Manual v1 0 Appendix foot deep is considered to affect surface
Check a box in each column Select the appropriate storage for the assessment area (AA) and the wetland type (WT) AA WT AB Solvential Solventi		ØA ØA □B □B □C □C	N N cl d	/ater storage capacity or duration a /ater storage capacity or duration a nange) (examples. intensive ditchi ams, stream incision, sewer lines,	re altered, but not substantially (typically, nore substantially altered (typically, alteration ng, fill, sedimentation, channelization, diversoil compaction)	sufficient to result in vegetation
Check a box in each column Select the appropriate storage for the assessment area (AA) and the wetland type (WT) AA WT AB Solventian Solventi	3	Water Storag	ae/Surf	ace Relief – assessment area/we	stland type condition metric	
AA WT \[\begin{align*} \text{AA} & \text{WT} \\ \text{AA} & > 50\% of the wetland type with depressions able to pond water > 2 feet \[\begin{align*} \text{B} & \text{B} & > 50\% of the wetland type with depressions able to pond water 1 to 2 feet \[\begin{align*} \text{C} & \text{C}	٠.	Check a hov	in eac	h column Select the appropriate	storage for the assessment area (AA) and	the wetland type (WT)
			A > B > C >	50% of the wetland type with depi 50% of the wetland type with depress 50% of wetland type with depress	ressions able to pond water > 2 feet ressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foot sions able to pond water 3- to 6-inches deel	

4.	Soil T	exture/St	ructure -	- assessment area condition metric				
	Select Nation A B	Sandy	soil	Dig soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot nittee for Hydric Soils regional indicators are noted (use most recent guidance).				
		Gleyed	ninanuy	charactenzed by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) charactenzed by other, mineral soil (no mottling) soil (F2, S4)				
	□F	Soil rib	bon ≥ 1	nch				
	⊠G □H	No pea	or muck	k presence presence (A6, A7, A8, A9, A10, F1, S1)				
		Peat or	r muck s	presence (Ao, A7, A6, A8, A10, F1, S1) □I (histosol or histic epipedon) (A1, A2, A3)				
5.	Discha			- opportunity metric				
	Check Examp Surf	a box in les of sub Sub	n each -surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) discharges include presence of nearby septic tank, underground storage tank (UST), etc				
	⊠A □B	□B	Notice	or no evidence of pollutants or discharges entering the assessment area vable evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the ient capacity of the assessment area				
	□c	□c	Notice potent	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive entation)				
6.	Land U	lse – opp	ortunity	metric				
	Check within e and wit Plain ai	all that apentire upst hin the wand Piedmo	pply. Evaren was stershed	valuation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area itershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective ripanan buffers are considered to be 50 feet wide in the Coastal in the Mountains.				
	WS □A	5M □A	2M □A	> 30% importants surfaces with the same to D. 114				
				> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential)				
	□B □C	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces				
		□D	□D	< 10% impervious surfaces				
	□Ę □F	□E □F	□E □F	Old urban development (pink areas on USGS 7 5-minute quadrangles)				
	∐' _G	∐Ğ	∐G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)				
	□H	□н	□н	≥ 20% coverage of pasture without ripanan buffer	1			
				≥ 20% coverage of pasture with effective npanan buffer				
	□ĸ	⊟ĸ	□ĸ	≥ 20% coverage of agricultural land (regularly plowed land) without ripanan buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer				
	맖	맖	맖	≥ 20% Coverage of maintained grass/herb				
	□M ⊠N	□M ⊠N	□M ⊠N	Silvicultural land with disturbance < 5 years old				
7.		_		Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area. ated Buffer – assessment area condition metric				
	Is the as	sessment	t area wi	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)				
		23 1 03	L 1140	ii Ny. Skiu lu next metric				
	Stream widths o	Stream width (Stream width is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine widths of channels/braids for a total stream width						
		⊠≤ 15-f	eet wide	☐> 15-feet wide ☐Not Applicable				
	Do roots	of assess	sment ar	ea vegetation extend into the bank of the adjacent stream/open water?				
	ls stream	⊠Yes n or other		ter sheltered or exposed?				
		⊠Shelte □Expos	ered – ad sed – adj	jacent open water with width < 2500 feet <u>and</u> no regular boat traffic acent open water with width ≥ 2500 feet <u>or</u> regular boat traffic				
8.	Wetland	l/Riparlan	Buffer '	Width – assessment area/wetland type/wetland complex metric				
	only be anastom	present o osed syst	n one si em. Ma	umn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex fer at the assessment area (RB) (if applicable) Ripanan buffer width is measured from top of bank and need de of the water body. The npanan buffer is measured from the outside banks of the outer channels of an ke buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been				
	ICHIOACO	or uistuit	Jou.					
	M.	WC N		pplicable)				
	□A ⊠B	⊠A □B	⊠A □B	≥ 100 feet From 80 to < 100 feet				
		Β̈́c	iic iii	From 50 to < 80 feet	•			
	□D	□Þ	□D	From 40 to < 50 feet	9			
	□E	므트	圧	From 30 to < 40 feet				
	댦	□F □G	∏F □G	From 15 to < 30 feet From 5 to < 15 feet				
	□G □H	H	H	< 5 feet				

>	9.	nundation Duration – assessment area condition metric
		Answer for assessment area dominant landform. □A Evidence of short-duration inundation (< 7 consecutive days) □B Evidence of saturation, without evidence of inundation □C Evidence of long-duration inundation (7 to 30 consecutive days or more)
		Indicators of Deposition – assessment area condition metric
•		Consider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland
	11.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual) Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain Additionally, other wetland types are considered boundaries for column WT if assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A S 500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres F From 0 to < 25 acres F F From 5 to < 10 acres G G G G From 1 to < 5 acres F F From 0.5 to < 1 acre I H H From 0.5 to < 1 acre I F From 0 on to < 0.1 acre K K K C M K C O 01 acre
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
		 □A Wetland type is the full extent (≥ 90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size
	13.	Connectivity to Other Natural Areas – landscape condition metric
		Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundanes are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch WC LC A A ≥ 500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres From 10 to < 50 acres Wetland type has a poor or no connection to other natural habitats
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) Is the assessment area subject to overbank flooding during normal conditions?
	14.	Edge Effect – wetland type condition metric
		Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old Consider the eight main points of the compass □A No artificial edge within 150 feet in all directions □B No artificial edge within 150 feet in four to seven directions □C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
		 ✓ Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. ✓ Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. ✓ Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic strata are unnaturally absent or
		Discretive Discretive aggregation area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	16.	Vegetative Diversity – assessment and its composed primarily of native species A Vegetation diversity is high and its composed primarily of native species B Vegetation diversity is low or has > 10% cover of exotics C Vegetation is dominated by exotic species.

17.	wegetative Structure – assessment area/wetland type condition metric
	☑ Vegetation present Evaluate percent coverage of vegetation for marshes only
	☐A ≥ 25% coverage of vegetation
	☐B < 25% coverage of vegetation
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
	□A □A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
	□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C ☑C Mid-story/sapling layer sparse or absent
	 ☑A
	□A □A Dense herb layer ☑B ☑B Moderate density herb layer
	☐C ☐C Herb layer sparse or absent ☐ Vegetation absent
18.	Snags – wetland type condition metric
	Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability)
	B Not A
19.	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
	prosont,
	Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH Most canopy trees are < 6-inches DBH or no trees.
20.	Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles
	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landacens at the large
	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only) Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season Patterned areas indicate vegetated areas, while solid white areas indicate open water \$\B \B \B \B \B \B \B \B \B \B \B \B \B \
22.	Habitat Uniqueness – wetland type condition metric
∐Ye	<u> </u>
	"" " " " " " " " " " " " " " " " " " "
Notes	

-4-4b-- C4----4---

Wetland Site Name	Z5-II-WAM09	Date of Assessment	9-7-07	
Wetland Type	Headwater Wetland A	Assessor Name/Organization	EcoScience Allen and Cusack	
	essor affecting assessment area (Y/N)	NO		
	Assessment Form (Y/N)	NO		
	gulatory considerations (Y/N)	NO		
	nsively managed (Y/N)	NO		
Wetland may b	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	g Summary			
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition		HIGH
-	Sub-surface Storage and Reten	tion Condition		HIGH
Water Quality	Pathogen Change	Condition		MEDIUM
		Condition/Opportunity		MEDIUM
		Opportunity Presence	(Y/N)	NO
	Particulate Change	Condition		HIGH
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	Х
	Soluble Change	Condition		MEDIUM
		Condition/Opportunity		MEDIUM
		Opportunity Presence	(Y/N)	NO
	Physical Change	Condition		HIGH
	•	Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Pollution Change	Condition		Х
	_	Condition/Opportunity		Х
		Opportunity Presence	(Y/N)	Х
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		HIGH
	Vegetation Composition	Condition		MEDIUM
	Uniqueness	Condition		NO
Function Rating St	ımmarv			
Function Rating St	41-11-11-11-11-11-11-11-11-11-11-11-11-1	Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
		Condition/Opportunity	,	HIGH
		Opportunity Presence		YES
		Condition		HIGH

Overall Wetland Rating

HIGH

Wetland Site Name Wetland Type Level III Ecoregion	Z6-II-WAM19 Seep	Assessor Name/Organization	EcoScience Cusack/Allen			
Level III Ecoregion						
	Southeastern Plains	Nearest Named Water Body				
River Basin	Cape Fear	USGS 8-Digit Catalogue Unit	03030004			
🗌 Yes 🔯 No	Precipitation within 48 hrs?	Latitude/Longitude (decl-degrees)	35 028825 -79.038614			
ease circle and/or malor instance, within 10 y Hydrological m Surface and s septic tanks, u Signs of veget Habitat/plant c	ke note below if evidence of stress rears). Noteworthy stressors included including the conditions (examples of ditches, doub-surface discharges into the winderground storage tanks (USTs), ation stress (examples: vegetation ommunity alteration (examples. maintensively managed?	de, but are not limited to the following ams, beaver dams, dikes, berms, ponds, etland (examples: discharges containing hog lagoons, etc.) mortality, insect damage, disease, stormowing, clear-cutting, exotics, etc.)	etc.) obvious pollutants, presence of nearby			
egulatory Considerat	tions					
Anadromous f	ish					
	ected species or State endangered	or urreatened species				
] Wetland adjac	ent to or associated stream drains	to a Pnmary Nursery Area				
N.C Division of N.C. Division of	of Coastal Management Area of En of Water Quality best usage classif	overonmental Concern (AEC) (including building b	ffer) ns of HQW, ORW, or Trout			
		land. If any? (Check all that apply)				
Blackwater	(I gain is associated with the wor	italia, ii aliy i (oliook ali iila appiy)				
Brownwater		El . El Maria El Bath				
- '						
		_				
the assessment are	a's surface water storage capaci	ty or duration substantially altered by	beaver? Yes No			
Ground Surface Co	endition/Vegetation Condition – a	assessment area condition metric				
the assessment are assessment area ba	 a. Compare to reference wetland 	o the ground surface (GS) in the assessing fapplicable (see User Manual v1.0). If a	nent area and vegetation structure (VS) in a reference is not applicable, then rate the			
⊠A ⊠A N □B □B S	Severely altered over most of the as edimentation, fire-plow lanes, skit literation examples: mechanical of	dder tracks, bedding, fill, soil compaction disturbance, herbicides, salt intrusion (wh	i, obvious pollutants) (vegetation structure			
Surface and Sub-S	urface Storage Capacity and Du	ration – assessment area condition me	tric			
Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (Sub) Consider both increase and decrease in hydrology. Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix G) for North Carolina hydric soils for the zone of influence of ditches in hydroc soils. A ditch ≤ 1 foot deep is considered to affect surface water only, while a ditch > 1 foot deep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if applicable						
MA MA V	Vater storage capacity or duration Vater storage capacity or duration change) (examples intensive ditch dams, stream incision, sewer lines,	are altered, but not substantially (typically are substantially altered (typically, alterati- ing, fill, sedimentation, channelization, div- soil compaction)	on sufficient to result in vegetation			
Water Storage/Sur	face Relief – assessment area/w	etland type condition metric	ad the wetland type (M/T)			
Check a box in each	ch column. Select the appropnate	storage for the assessment area (AA) ar	na the wetiana type (** i).			
AA WT	> 50% of the wetland type with dep	oressions able to pond water > 2 feet oressions able to pond water 1 to 2 feet sions able to pond water 6 inches to 1 foo sions able to pond water 3- to 6-inches de	ot			
	r instance, within 10 y Hydrological m Surface and s septic tanks, u Signs of veget Habitat/plant c the assessment area escribe effects of stra egulatory Consideran elect all that apply to the Anadromous file of the NCDWQ npart Wethand adjact Publicly owner N.C. Division of the N.C. Division of the Common of	r instance, within 10 years). Noteworthy stressors inclue Hydrological modifications (examples: ditches, d Surface and sub-surface discharges into the wiseptic tanks, underground storage tanks (USTs), Signs of vegetation stress (examples: vegetation: Habitat/plant community alteration (examples. in the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area intensively managed? Year the assessment area become of the following boxes of the community managed of the publicly owned property N.C. Drivision of Water Quality best usage classification of the type of natural stream is associated with the wethous managed of the following boxes of the assessment area on a coastal island? Year the assess	septic tanks, underground storage tanks (USTs), hog lagoons, etc.) Signs of vegetation stress (examples: vegetation mortality, insect damage, disease, storm Habitat/plaint community alteration (examples, mowing, clear-cutting, exotics, etc.) the assessment area intensively managed?			

	4. Sc	oil Texture	Structure	- assessment area condition metric
	Se	elect all th	et apply.	Did soil profile in the desired
	Na	auonai ieci A San	inical Corr dv soit	Imittee for Hydric Soils regional indicators are noted (use most recent guidance).
		B Pred	dominantly	/ characterized by mottled (redox/morphic fonture)
		C Pred D Glev	dominantly red minera	r charactenzed by other, mineral soil (no mottling) al soil (F2, S4)
	\boxtimes	E Sorl	ribbon < 1	inch
			nbbon ≥ 1	ınch ck presence
		Н Аре	at or muci	K Dresence (A6, A7 A8 AQ A10 E1 G1)
_		ı Feai	or muck s	soli (histosol or histic epipedon) (A1, A2, A3)
5	i. Dis	scharge int	o Wetland	d - opportunity metric
	Exa	eck a box amples of s	∷i n each ⊔b-surface	column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub)
	Sür	T Sub		and the storage tank (UST), etc.
			Little Notice	or no evidence of pollutants or discharges entering the assessment area
	_	_	treatn	nent capacity of the assessment area
		C □C	NOTICE	Pable evidence of pollutants or discharges (5-44-5-5)
			sedim	tially overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive
6.	Lan	d Use – op	portunity	metric
	Che	ck all that	apply F	Valuation of the motor and the same
	and	in entire up Within the v	stream wa vatershed	atershed (WS), within 5 miles and within the watershed draining to the assessment area draining to the assessment area (2M). Effective marian buffers are considered to the assessment area (5M), and within 2 miles
	Pian	n and Pledr	nont and 3	draining to the assessment area (2M) Effective nparian buffers are considered to be 50 feet wide in the Coastal
	WS ⊟A	5M	2M □A	
				> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples:
	□B □C		□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces
	ΧÞ	⊠D	⊠D	< 10% impervious surfaces
	먊	□E □F	□E □F	Old urban development (pink areas on USGS 7 5-minute quadrangles) New adjacent development
	□G	□G	□G	Confined animal operations (or other local, concentrated accuracy of a till of a concentrated accuracy of a till of a concentrated accuracy of a till of a concentrated accuracy of a till of a concentrated accuracy of a till of a concentrated accuracy of a till of a concentrated accuracy of a till of a concentrated accuracy of a till of a concentrated accuracy of a conce
	맘		□H □	
		□JJ	Πı	≥ 20% coverage of pasture with effective riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer
	□k	□r □k	□k	
	MM	⊠M	⊠M	Silvicultural land with disturbance < 5 years and
	□и	□N	□N	Little or no opportunity. Lack of apportunity may require from the control of the
7.	Wetla	and Actina	as Veget:	overbank flow from affecting the assessment area ated Buffer – assessment area condition metric
	Is the	assessmer	nt area wit	hin 50 feet of a stream or other open water 2 (*)
	Stream	☐Yes	⊠No	hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric
	widths	of channe	ream wigi Is/braids fo	th is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine
		LJS 15-	166t Wide	(1> 15-feet wide
	50100	US UI asses □Yes	Sment are ☐No	a vegetation extend into the bank of the adjacent stream/open water?
	ls stre	am or other	open wat	er sheltered or exposed?
		☐Expo:	ereo – aoj sed – adia	acent open water with width < 2500 feet <u>and</u> no regular boat traffic. cent open water with width ≥ 2500 feet <u>or</u> regular boat traffic
3.	Wetla	nd/Riparia	Buffer V	Vidth – assessment area/wetland type/wetland complex metric
	(WC), anly hi	and the np	anan buffe	er at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need to fit the water body. The riparian buffer is measured from the cutated bank and need to fit the water body.
	anasto	mosed sys	tem. Mak	le of the water body. The npanan buffer is measured from the outside banks of the outer channels of an see buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	remove WT	ed or disturt WC	D e d.	reaction of the buffer has been
	ŬA	WC ⊠A	RB (if ap □A	plicable) ≥ 100 feet
	Дв	□В	□в	From 80 to < 100 feet
	⊠c □D			From 50 to < 80 feet From 40 to < 50 feet
	□E	□E	□E	From 30 to < 40 feet
	□F □G	□F □G	□F □G	From 15 to < 30 feet From 5 to < 15 feet
	∐Ĥ	Π̈́́	Π̈́	< 5 feet

,	9.	inundation Duration – assessment area condition metric					
		Answer for assessment area dominant landform Answer for assessment area dominant landform Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation Evidence of long-duration inundation (7 to 30 consecutive days or more)					
_		Indicators of Deposition – assessment area condition metric					
		Consider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland					
	11.	Wetland Size - wetland type/wetland complex condition metric					
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT if assessment area is clear-cut, select "K" for FW column WT. WC. FW (if applicable). A					
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only) □ A Wetland type is the full extent (≥ 90%) of its natural landscape size □ B Wetland type is < 90% of the full extent of its natural landscape size					
	13.	Connectivity to Other Natural Areas – landscape condition metric Check appropriete box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥ 500 acres B B B From 100 to < 500 acres C C From 50 to < 100 acres D D D From 10 to < 50 acres E < 10 acres Wetland type has a poor or no connection to other natural habitats					
		Check Yes or No. Yes No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) State assessment area subject to overbank flooding during normal conditions?					
	14.	Edge Effect – wetland type condition metric					
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, developed two-lane or larger roads (≥ 40-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 10 years old. Consider main points of the compass. ☑A No artificial edge within 150 feet in all directions. ☐B No artificial edge within 150 feet in four to seven directions. ☐C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut						
	15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)					
		Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or cleaning. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.					
		Washing Diversity - assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)					
	16.	Vegetative Diversity – assessment and composed primarily of native species. □ A Vegetation diversity is high and is composed primarily of native species. □ B Vegetation diversity is low or has > 10% cover of exotics □ C Vegetation is dominated by exotic species					

17.	Veg	etativ	e Structure	- assessment area/wetland type co	ondition metric		~
	_	Veger Evalu ∐A	tation pres late percer ≥ 25%	ent t coverage of vegetation for marsh coverage of vegetation			
		⊟B Chec		coverage of vegetation	Creativete this western at	Edler mad to the control of the cont	
		struc	ture in airs WT	pace above the assessment area (A	A) and the wetland type	f the metric for non-marsh wetlands. (WT) separately.	Consider
		□A □B ⊠C	□A □B ⊠C	Canopy closed, or nearly closed, wi Canopy present, but opened more to Canopy sparse or absent	th natural gaps associated han natural gaps	with natural processes	
		□A □B ⊠C	□A □B ⊠C	Dense mid-story/sapling layer Moderate density mid-story/sapling l Mid-story/sapling layer sparse or ab			
		⊠A □B □C	⊠A □B □C	Dense shrub layer Moderate density shrub layer Shrub layer sparse or absent			
		□A 図B □C	∏A ⊠B ∏C ation abse	Dense herb layer Moderate density herb layer Herb layer sparse or absent			
18		_		condition metric			
	□A ⊠B	L			hes DBH, or large relative	to species present and landscape stabilit	y)
19.	Dian	neter (Class Distr	bution - wetland type condition me	tric		
	ΠA	M	lost canopy			, many large trees (> 12-inches DBH) are	
	□B ⊠C	pi M	resent lost canopy	trees have stems between 6- and 12- trees are < 6-inches DBH or no trees		, ,	
20.	Larg	e Woo	dy Debris	- wetland type condition metric			
		de boti La	h man-mad	e and natural debris piles.	es in diameter, or large rela	ative to species present and landscape sta	ability)
21.	Vege	tation	/Open Wat	er Dispersion – wetland type/open v	vater condition metric (e	valuate for Non-Tidal Freshwater Mars	h anto
	Selec	ct the f	figure that I	pest describes the amount of interspe and areas, while solid white areas indica ☐B	rsion between vegetation	and open water in the growing season	Patterned
22.	Habit	tat Uni	queness –	wetland type condition metric			
□Y€		⊠No			mission classified the ass	essment area as "Unique Wetlands" (UW	L)?"
Note Phot		37-993	39				
•							

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Mark Con.

Wetland Site Name	Z6-II-WAM19	Date of Assessment	9-7-07	
Wetland Type	Seep	Assessor Name/Organization	EcoScience Cusack/Allen	
Presence of stressor affecting assessment area (Y/N)		NO		
	Assessment Form (Y/N)	YES		
	gulatory considerations (Y/N)	NO		
	nsively managed (Y/N)	NO		
Wetland may b	be a high-quality riverine wetland (Y/N)			
Sub-function Rating	g Summary			
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition		Х
	Sub-surface Storage and Reter	ntion Condition		X
Water Quality	Pathogen Change	Condition		X
		Condition/Opportunity	_	X
		Opportunity Presence	(Y/N)	X
	Particulate Change	Condition	·	Х
		Condition/Opportunity		Х
		Opportunity Presence	(Y/N)	Х
	Soluble Change	Condition		Х
		Condition/Opportunity		Х
		Opportunity Presence	(Y/N)	Х
	Physical Change	Condition		Х
		Condition/Opportunity		Х
		Opportunity Presence	(Y/N)	Х
	Pollution Change	Condition		Х
		Condition/Opportunity		Х
		Opportunity Presence	(Y/N)	X
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		MEDIUM
	Vegetation Composition	Condition		HIGH
	Uniqueness	Condition		NO
Function Rating Su	ımmarv			
Function		Metncs		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
•		Condition/Opportunity		Х
		Opportunity Presence	(Y/N)	X
Habitat		Condition		HIGH
Overali Wetland	d Rating HIGH			

		and Site Na		Z6-II-WAM20	Date	9-7-07
		Wetland T		Bottomland Hardwood Forest	Assessor Name/Organization	EcoScience Cusack/Allen
	Leve	I III Ecoreg	ilon	Southeastern Plains	Nearest Named Water Body	Bones Creek
	· –			Cape Fear	USGS 8-Digit Catalogue Unit	03030004
- 1		Yes ⊠	No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35 028515, -79 040211
	Evidend	e of stres	BOIS	affecting the assessment area /	may not be within the assessment area)	
	(for insta	ance, within Hydrologi Surface a septic tan Signs of v Habitat/pli	or man 10 y cal m and s ks, u reget ant c	Ke note below if evidence of stres years). Noteworthy stressors inclundifications (examples: ditches, caub-surface discharges into the winderground storage tanks (USTs), ation stress (examples: yegetation	sors is apparent. Consider departure from de, but are not limited to the following dams, beaver dams, dikes, berms, ponds, et etland (examples. discharges containing of hog lagoons, etc.) n mortality, insect damage, disease, storm discoving, clear-cutting, exotics, etc.)	reference, if appropriate, in recent past to) obvious pollutants, presence of nearby
				essors that are present	3 <u>M</u> No	
١	Regulate	ory Consid	erat	ions		
	Select al	I that apply	to th	e assessment area		
-	H	Anadromo				
-	Ħ	NCDWO n	note	cted species or State endangered an buffer rule in effect	or threatened species	
-	□	Wetland a	djace	ent to or associated stream drains	to a Primary Nurseny Area	
-	□	rublicly ov	vriea	property		
	片	N C. Divisi	on o	f Coastal Management Area of En	vironmental Concern (AEC) (including buffer	r)
		IN C DIVISI	011 U	r water Quality best usage classifi NHP reference community	cation of SA or supplemental classifications	of HQW, ORW, or Trout
- 1	_			To lord loc community		
1	wnat typ ⊠	e ot natura Blackwater	āi sti	eam is associated with the wet!	and, if any? (Check all that apply)	i
		Brownwate				
				neck one of the following boxes)	☐ Lunar ☐ Wind ☐ Both	
1						
				_	⊠ No	
Ľ	s the as:	sessment a	area'	s surface water storage capacit	y or duration substantially altered by bea	iver? 🗌 Yes 🖾 No
1.	Groun	nd Surface	Con	dition/Vegetation Condition – as	sessment area condition metric	
	the as	t a box in : sessment a	each area base	Column. Consider alteration to	the ground surface (GS) in the assessmen applicable (see User Manual v1.0) If a re	t area and vegetation structure (VS) in ference is not applicable, then rate the
	⊠B	⊟̈́β	Sev	verely altered over most of the ass	essment area (ground surface alteration ex	
			alte	ration examples. mechanical dis s diversity [f appropriate], artificial	er tracks, bedding, fill, soil compaction, obsturbance, herbicides, salt intrusion [where hydrologic alteration)	ovious pollutants) (vegetation structure appropriate), exotic species, grazing,
2.	Surfac	e and Sub	-Sur	face Storage Capacity and Dura	tion – assessment area condition metric	
	(Sub). G) for l water of applica	a box in Consider to North Carolonly, while ble	each ooth lina l	i column. Consider surface stori increase and decrease in hydrolog rydno soils for the zone of influence	age capacity and duration (Surf) and sub- gy Refer to the NRCS Scope and Effect G se of ditches in hydric soils. A ditch ≤ 1 for affect both surface and sub-surface water	surface storage capacity and duration Guide (see User Manual v1.0 Appendix
	Surf □A	Sub ⊠A	Wet	ter storage consort, and direct		
	□B	□B	Wat	ter storage capacity and duration a	re not altered.	
	⊠c	⊡с	cha	or are read arbacity of delation are	e altered, but not substantially (typically, not e substantially altered (typically, alteration si g, fill, sedimentation, channelization, diversion il compaction).	ufficient to many it be an
3.	Water	Storage/Su	ırfaç	e Relief – assessment area/wetl	and type condition metric	
			ach (column Select the appropnate st	orage for the assessment area (AA) and the	wetland type (WT)
•	AA T	WT		00/ -54641	alone able to another the Control	
		<u>∏</u> A		0% of the wetland type with depres		
	⊟в ⊠c	⊟в ⊠с			sions able to pond water 1 to 2 feet ns able to pond water 6 inches to 1 foot	
		□Ď			ns able to pond water 3- to 6-inches deep	
	ΞĔ	□Ē.		pressions able to pond water < 3-ir		
	_		•	•	-	

4.	Select all National T	that appearance	p ly. Dig Committe	sessment area condition metric soil profile in the dominant assessment area landscape feature Make soil observations within the top foot se for Hydric Soils regional indicators are noted (use most recent guidance)	
		Predomir Gleyed m Soil ribbo	antly cha antly cha ineral soi n < 1 inch	ractenzed by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) ractenzed by other, mineral soil (no mottling) (F2, S4)	
	□G I	No peat of	n ≥ 1 inch or muck p muck pre	n resence esence (A6, A7, A8, A9, A10, F1, S1) histosol or histic epipedon) (A1, A2, A3)	
_		a inta W	otland – 4	enportunity metric	
5.	Check a Examples	L 1-	each co urface dis	lumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) scharges include presence of nearby septic tank, underground storage tank (UST), etc	
	□A	⊠A □B	Noticeab	no evidence of pollutants or discharges entering the assessment area le evidence of pollutants or discharges entening the wetland and stressing, but not overwhelming the t capacity of the assessment area	
	СС	□c	h1-4	le evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and by overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive	
6.	Land Use	e – oppo	etunity m	atric	
U.	Check all within ent	I that ap tire upstr	p ly. Eval eam wate ershed dr	uation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area rshed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles along to the assessment area (2M) Effective riparian buffers are considered to be 50 feet wide in the Coastal feet wide in the Mountains.	
	WS	5M	2M	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples	
	□A	□A	□A	industrial, commercial, and high-density residential)	
	□в	Дв	□в	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces	
	∐C ⊠D	□c ⊠¤	□c ⊠d	< 10% impervious surfaces	
	□E	□E	□E	Old urban development (pink areas on USGS 7 5-minute quadrangles)	
	□F MC	∐F ⊠G	□F ⊠G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)	
	⊠G ΠH	H	∐H □H	> 20% coverage of pasture without riparian buffer	
			₽1.	≥ 20% coverage of pasture with effective npanan buffer ≥ 20% coverage of agricultural land (regularly plowed land) without nparian buffer	
		□k □ı	□k □ì	≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer	
	۵ï)			≥ 20% coverage of maintained grass/herb	
	□N □M	□M □N	□N □N	Silvicultural land with disturbance < 5 years old Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area	
7.	Wetland	Acting	as Vegeta	ated Buffer – assessment area condition metric	
	is the as	sessmen	t area wit	hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric	
	Stream widths of	f channel	ream wid Is/braids f	th is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine or a total stream width	
	Do roots	-15 ≥∐ of asses Yes⊠Yes	feet wide ssment an		
	ls stream		CODER MA	ter sheltered or exposed?	
		□Expo	sed – adj	lacent open water with width < 2500 feet <u>and</u> no regular boat traffic acent open water with width ≥ 2500 feet <u>or</u> regular boat traffic	
8.	Wetland	d/Riparia	n Buffer	Width – assessment area/wetland type/wetland complex metric	(
	(WC), a only be anaston	nd the rij present nosed sy	oarian but on one s stem. Ma	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex fer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need ide of the water body. The riparian buffer is measured from the outside banks of the outer channels of aroke buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been	1
		d or distu	rbed. PR (if :	applicable)	
	VT ΔΩ	WC ⊠A	ND (⊪ α ⊠A	≥ 100 feet	
	⊠A □B	⊠° B	Дв	From 80 to < 100 feet	
	Π̈́c	□c	□с	From 50 to < 80 feet From 40 to < 50 feet	
				From 30 to < 40 feet	
			□F	From 15 to < 30 feet	
	G DH	□G □H	□G □H	From 5 to < 15 feet < 5 feet	

9.	Inunda	tion Duration – assessment area condition metric			
		for assessment area dominant landform			
	⊠A ∏B	Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation			
C Evidence of long-duration inundation (7 to 30 consecutive days or more)					
~ 10.	Indicat	ors of Deposition – assessment area condition metric			
γ. (10.		er recent deposition only (no plant growth since deposition).			
	⊠A	Sediment deposition is not excessive, but at approximately natural levels.			
	□B	Sediment deposition is excessive, but not overwhelming the wetland.			
	□c	Sediment deposition is excessive and is overwhelming the wetland.			
11.		d Size – wetland type/wetland complex condition metric			
	size of t applicat a bound	a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area. the the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if she, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms larly if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column assessment area is clear-cut, select "K" for FW column. WC FW (if applicable) A ≥ 500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 25 to < 50 acres F From 10 to < 25 acres F From 5 to < 10 acres G G From 1 to < 5 acres H From 0.5 to < 1 acre H From 0.5 to < 1 acre H From 0.1 to < 0.5 acre			
	∐ĸ	□K □K <0.01 acre			
12.		I Intactness – wetland type condition metric (evaluate for Pocosins only)			
	□A	Wetland type is the full extent (≥ 90%) of its natural landscape size.			
	⊟в	Wetland type is < 90% of the full extent of its natural landscape size			
13.	Connec	tivity to Other Natural Areas – landscape condition metric			
	appropn agricultu landscal WC A B C D D E	appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if ate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and re), or open water > 300 feet wide			
	□F	F Wetland type has a poor or no connection to other natural habitats			
	Check Y ☐Yes	To so the stand time have a surface budgeton and the standards and the standards and the standards and the standards and the standards and the standards and the standards are standards and the standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards and the standards are standards are standards and the standards are standards are standards and the standards are			
	⊠Yes	No Is the assessment area subject to overbank flooding during normal conditions?			
14.	•	fect - wetland type condition metric			
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. A No artificial edge within 150 feet in all directions. No artificial edge within 150 feet in four to seven directions. An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut				
15.		ve Composition – assessment area condition metric (skip for marshes and Pine Flat)			
	□A	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate			
	□c	species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata Vegetation severely altered from reference in composition Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species			
40	Venetet	ive Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)			
10.	Vegetat ∐A	Vegetation diversity is high and is composed primarily of native species			
	⊟ŝ	Vegetation diversity is low or has > 10% cover of exotics			
	Пс	Vegetation is dominated by exotic species			

17. \	/eg	etativ	e Structure	- assessment area/wetland type condition metric
		Voce	tation pres	ent
			uate percen	t coverage of vegetation for marshes only coverage of vegetation
		HA		
		Chec		and a solution for each stratum. Evaluate this portion of the metric for non-major water
		struc	ture in airs	space above the assessment area (AA) and the wettand type (***) soparatory.
		AA □A	WT □A	Canopy closed, or nearly closed, with natural gaps associated with natural processes
		醫	⊠ß	Canopy present, but opened more than natural gaps
		□с	□c	Canopy sparse or absent
			<u>□</u> A	Dense mid-story/sapling layer Moderate density mid-story/sapling layer
			⊠B □C	Mid-story/sapling layer sparse or absent
		⊠A		Dense shrub layer
		□в	⊟в	Moderate density shrub layer
		□c	□c	Shrub layer sparse or absent
			□A □B	Dense herb layer Moderate density herb layer
		⊠c	⊠c	Herb layer sparse or absent
		Veg	etation abs	
18.	Sna	ags –	wetland typ	pe condition metric
				s (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability)
	Ø١		Not A	at at two condition matric
19.			r Class Dis	tribution – wetland type condition metric py trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
		Ą		
		В	Most canor	py trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH
	\boxtimes	С		py trees are < 6-inches DBH or no trees
20.	ì.a	rge W		is – wetland typs condition metric
			ooth man-ma	ade and natural debris piles (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability)
		ь.	Not A	, and the second second second second second second second second second second second second second second se
24				/ater Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
21.	0.	Jane 41	ha figure the	t best describes the amount of interspersion between vegetation and open water in the growing describes
	are	eas in	dicate veget	lated areas, while solid white areas indicate open watch
			LA Maria	
		1		
			-	
22.	На	abitat	Uniquenes	s - wetland type condition metric
	Yes		No Hast	the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
_				
No	tes			
		9940)-9942	

Wetland Site Name	Z6-II-WAM20	Date of Assessment	9-7-07
Wetland Type	Bottomland Hardwood Forest	Assessor Name/Organization	EcoScience Cusack/Allen
	essor affecting assessment area (Y/N) Assessment Form (Y/N)	NO YES	
Presence of reg	gulatory considerations (Y/N)	NO	
Wetland is inter	nsively managed (Y/N)	NO	
Wetland may b	e a high-quality riverine wetland (Y/N)		
Sub-function Rating) Summary		
Function	Sub-function	Metrics	Rating
Hydrology	Surface Storage and Retention	Condition	HIGH
	Sub-surface Storage and Reter	ntion Condition	MEDIUM
Water Quality	Pathogen Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Particulate Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) NO
	Soluble Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) YES
	Physical Change	Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence	(Y/N) NO
	Pollution Change	Condition	x
		Condition/Opportunity	X
		Opportunity Presence	(Y/N) X
Habitat	Physical Structure	Condition	LOW
	Landscape Patch Structure	Condition	LOW
	Vegetation Composition	Condition	MEDIUM
	Uniqueness	Condition	NO
Function Rating Sun	nmary		
Function		Metrics	Rating
Hydrology		Condition	HIGH
Water Quality		Condition	HIGH
		Condition/Opportunity	HIGH
		Opportunity Presence ((Y/N) YES
Habitat		Condition	LOW

Overall Wetland Rating

HIGH

1	Wetland :	Site Name	Z6-II-WAM10	Date	9-7-07	
	Wet	land Type	Bottomland Hardwood Forest	Assessor Name/Organization	EcoScience Cusack/Allen	
	Level III F	Ecoregion		Nearest Named Water Body	Bones Creek	
	Ri	iver Basin		USGS 8-Digit Catalogue Unit		
_	☐ Yes	⊠ No	Precipitation within 48 hrs?	Latitude/Longitude (deci-degrees)	35 027068 -79 040021	
F (Please circle for instance • Hy • Su se • Sk • Ha	e and/or ma e, within 10 drological r irface and s ptic tanks, i gns of vege abitat/plant o	lke note below if evidence of stresso years). Noteworthy stressors include nodifications (examples ditches, dar sub-surface discharges into the wet underground storage tanks (USTs), h	ms, beaver dams, dikes, berms, ponds, e land (examples: discharges containing og legoons, etc.) nortality, insect damage, disease, storm wng, clear-cutting, exotics, etc.)	etc) obvious pollutants, presence of nearby	
-						
ן נ	Jescribe ef JS 401 at u	fects of str pstream en	ressors that are present d of assessment area Runoff from n	oad ditched to assessment area	:	
	Regulatory	Considera	tions			
8	select all the	at apply to t	he assessment area			
ַן נ	⊒ <u>A</u> n	nadromous	fish	- 10		
ļ	- Fe		ected species or State endangered o ian buffer rule in effect	r threatened species		
	d ₩	etland adiad	cent to or associated stream drains to	a Primary Nursery Area		
١	j Pi	iblicly owne	d property			
	An Fe NO NO NO NO NO NO NO NO NO NO NO NO NO	C. Division	of Coastal Management Area of Envi	ironmental Concern (AEC) (including buff	fer)	
֪֝֝֞֞֜֞֝֓֞֓֓֞֜֝֡֓֓֓֓֡֡֓֡֓֓֡֓֡֓֡֡֡֡֡֜֝֡֓֡֡֡֡֡֓֡֝֡֡֡֡֡֡֡֡	⊒ <u>N</u> .	C Division	of Water Quality best usage classifications of the community of the commun	ation of SA or supplemental classification	is of HQVV, ORVV, or Trout	
- 1	 -		•			
			tream is associated with the wetla	nd, if any? (Check all that apply)		
		ackwater				
ا ا		ownwater	check one of the following boxes)	☐ Lunar ☐ Wind ☐ Both		
٠, -		•				
1	is the assessment area on a coastal island?					
1	s the asse	ssment are	a's surface water storage capacity	or duration substantially altered by b	eaver? Yes No	
4		Cumface C	ondition/Vegetation Condition – as	socement area condition metric		
1.	Check a	n box in ea essment area nent area ba VS ⊠A I □B	ch column. Consider alteration to to a. Compare to reference wetland if used on evidence of alteration. Not severely altered over most of the asset interestion, if the properties of the sesset interestion, if the properties of the sesset interestion.	the ground surface (GS) in the assessmapplicable (see User Manual v1 0). If a essment area (ground surface alteration er tracks, bedding, fill, soil compaction, sturbance, herbicides, salt intrusion [who	ent area and vegetation structure (VS) in reference is not applicable, then rate the examples: vehicle tracks, excessive obvious pollutants) (vegetation structure ere appropriate), exotic species, grazing,	
2.	Surface	and Sub-9	surface Storage Capacity and Dura	tion – assessment area condition met	ric	
**	Check a (Sub) (G) for Nowater or applicab Surf	a box in ea Consider bo orth Carolin nly, while a le Sub	tch column. Consider surface stor th increase and decrease in hydrologia a hydno soils for the zone of influen ditch > 1 foot deep is expected to	age capacity and duration (Surf) and sigy. Refer to the NRCS Scope and Effect ce of ditches in hydric soils. A ditch ≤ 1 confect both surface and sub-surface v	ub-surface storage capacity and duration tt Guide (see User Manual v1 0 Appendix foot deep is considered to affect surface water. Consider tidal flooding regime, if	
	⊠A □B		Nater storage capacity or duration ar	are not altered. e altered, but not substantially (typically, e substantially altered (typically, alteratio g, fill, sedimentation, channelization, dive	n sufficient to result in vegetation	
	□c	1	dams, stream incision, sewer lines, s	oil compaction)	,	
3			dams, stream incision, sewer lines, s	oil compaction)		
3			dams, stream incision, sewer lines, s	oil compaction)		
3		Storage/Su a box in ea	dams, stream incision, sewer lines, s face Relief – assessment area/wet ch column Select the appropriate s	oil compaction) iland type condition metric storage for the assessment area (AA) and		
3	. Water \$ Check : AA ∐A	Storage/Su a box in ea WT ∐A	dams, stream incision, sewer lines, so face Relief – assessment area/wet ch column Select the appropriate s > 50% of the wetland type with depre	oil compaction) cland type condition metric storage for the assessment area (AA) and essions able to pond water > 2 feet persons able to pond water 1 to 2 feet	d the wetland type (WT)	
3	. Water \$ Check a AA ∐A ∐B	Storage/Sur a box in ea WT □A □B	dams, stream incision, sewer lines, sinface Relief – assessment area/wet ch column Select the appropriate since 50% of the wetland type with depressions of the wetland type with depressions.	oil compaction) cland type condition metric storage for the assessment area (AA) and essions able to pond water > 2 feet essions able to pond water 1 to 2 feet	d the wetland type (WT)	
3	. Water \$ Check : AA ∐A	Storage/Su a box in ea WT ∐A	dams, stream incision, sewer lines, sinface Relief – assessment area/wet ch column Select the appropriate since 50% of the wetland type with depressions of the wetland type with depressions.	oil compaction) cland type condition metric ctorage for the assessment area (AA) and essions able to pond water > 2 feet essions able to pond water 1 to 2 feet ons able to pond water 6 inches to 1 foot ons able to pond water 3- to 6-inches de	d the wetland type (WT)	

4.	SOIL LOX	ture/Stru	icture – a	82688 Mail 8148 Condition made					
	<u>National</u>	Technica	I Committ	soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot ee for Hydric Soils regional indicators are noted (use most recent guidance)					
	□A □B	Sandy s	oil Bootly chi	aractenzed by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)					
	⊠c								
	□D	Gleyed r	nineral so	il (F2, S4)					
	⊠E		on < 1 inc						
	□F □G		on ≥ 1 inc or muck p						
	⊠H	A peat o	r muck pr	esence (A6, A7, A8, A9, A10, F1, S1)					
		Peat or I	muck soil	(histosol or histic epipedon) (A1, A2, A3)					
5.	Dischar	ge into V	Vetland -	opportunity metric					
	Example	es of sub-	each c o surface di	olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub). scharges include presence of nearby septic tank, underground storage tank (UST), etc.					
	Surf □A	Sub □A	Little or	no evidence of pollutants or discharges entering the assessment area					
	⊠̂β	⊟̂B	Noticeat	ble evidence of pollutants or discharges entenng the wetland and stressing, but not overwhelming the					
			treatmer	nt capacity of the assessment area ple evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and					
	□c	⊠c	potential sedimen	lly overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive					
6.	I and I is	80 - ODBO	ortunity m	·					
0.	Check a	all that ar	n niv Eva	luation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area					
	within or	ntira lineti	ream wate	arshed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and Within 2 miles					
	and with	in the wa	tershed d	raining to the assessment area (2M) Effective nparian buffers are considered to be 50 feet wide in the Coastal					
	Plain an WS	d Piedmo 5M	int and 30 2M	feet wide in the Mountains					
	□A	ŬA	ΠA	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples					
		—-		industrial, commercial, and high-density residential)					
	□B □C	□B □C	□B □C	> 30% impervious surfaces without stormwater BMPs 10 to 30% impervious surfaces					
	⊠ŏ	⊠ŏ	⊠ŏ	< 10% impervious surfaces					
	ПЕ	□E	□E	Old urban development (pink areas on USGS 7 5-minute quadrangles)					
		□F □G	□F □G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)					
	□G □H	⊟H	딾	≥ 20% coverage of pasture without riparian buffer					
				≥ 20% coverage of pasture with effective riparian buffer					
	□ĸ □j	□k □i	□ĸ □¹	≥ 20% coverage of agnoultural land (regularly plowed land) without ripanan buffer ≥ 20% coverage of agnoultural land (regularly plowed land) with effective ripanan buffer					
	Ħĵ.	片.	Hî.	≥ 20% coverage of maintained grass/herb					
	□м	□м	□м	Silvicultural land with disturbance < 5 years old					
	□и	□N	□N	Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area					
7	Wotland	d Acting	se Venets	ated Buffer – assessment area condition metric					
7.	Is the as	ssessmen	t area wit	hin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)					
	C4=====	☑Yes	No	If No, Skip to next metric this normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine					
	widths o	widin (Si of channel	ream widi Is/braids f	or a total stream width					
		∏≤ 15-	feet wide	⊠> 15-feet wide					
	Do roots		sment are ☐No	ea vegetation extend into the bank of the adjacent stream/open water?					
	ls strea	m or other	r open wa	ter sheltered or exposed?					
		⊠Shelt	ered – adj	jacent open water with width < 2500 feet <u>and</u> no regular boat traffic acent open water with width ≥ 2500 feet <u>or</u> regular boat traffic					
_	Mada			Width – assessment area/wetland type/wetland complex metric					
8.	Chack	o/Kiparia o boy in	n bumer t	lumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex					
	(WC), a	and the no	parian buf on one si	fer at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need de of the water body. The ripanan buffer is measured from the outside banks of the outer channels of an ike buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been					
		d or distu		me amor handware and an animate measure and a second and a barrier and a barrier and a second an					
	WT	WC	RB (if a	pplicable)					
	⊠A	⊠A	×Α	≥ 100 feet					
	⊟в	□B	B	From 80 to < 100 feet From 50 to < 80 feet					
				From 40 to < 50 feet					
	□E	□E	ΠE	From 30 to < 40 feet					
	□F	□F	먎	From 15 to < 30 feet From 5 to < 15 feet					
	□G □H	□G □H	□G □H	< 5 feet					
	₩		_						

9.	inundation Duration — assessment area condition metric
	Answer for assessment area dominant landform. A Evidence of short-duration inundation (< 7 consecutive days) Evidence of saturation, without evidence of inundation Evidence of long-duration inundation (7 to 30 consecutive days or more)
10.	Indicators of Deposition – assessment area condition metric
•	Consider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels Sediment deposition is excessive, but not overwhelming the wetland Sediment deposition is excessive and is overwhelming the wetland
11.	Wetland Size – wetland type/wetland complex condition metric
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT WC FW (if applicable) WT WC FW (if applicable) A A A > 500 acres B B B From 100 to < 500 acres C C C From 50 to < 100 acres C C From 50 to < 10 acres G G G From 10 to < 25 acres F F From 5 to < 10 acres G G G From 1 to < 5 acres H H H From 0 5 to < 1 acre I From 0.1 to < 0.5 acre J G G K K K C K < 0.01 acre
40	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
14.	□A Wetland type is the full extent (≥ 90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size
13.	Connectivity to Other Natural Areas – landscape condition metric
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC A A ≥ 500 acres B B From 100 to < 500 acres C C From 50 to < 100 acres D D From 10 to < 50 acres E C C TO acres Wetland type has a poor or no connection to other natural habitats
	Check Yes or No.
	 ☐ Yes ☐ No ☐ Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐ Yes ☐ No Is the assessment area subject to overbank flooding during normal conditions?
14	Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corndors wider than a two-lane road, and clear-cuts < 10 years old Consider the eight main points of the compass. No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15	. Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. □B Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. □C Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
44	The Discrete Assessment area condition metric (evaluate for Non-tidal Freshwater marsh only)
~ "	
	□ A Vegetation diversity is high and to construct the construction of the constr

17.	Vegetative Structure – assessment area/wetland type condition metric
	∇egetation present Evaluate percent coverage of vegetation for marshes only
	∏A ≥ 25% coverage of vegetation
	B < 25% coverage of vegetation Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider
	structure in airspace above the assessment area (AA) and the wetland type (WT) separatery.
	AA WT ☑A ☑A Canopy closed, or nearly closed, with natural gaps associated with natural processes ☐B ☐B Canopy present, but opened more than natural gaps ☐C ☐C Canopy sparse or absent
	□A □A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer □C □C Mid-story/sapling layer sparse or absent
	□A Dense shrub layer □B □B Moderate density shrub layer ☑C ☑C Shrub layer sparse or absent
	□A Dense herb layer □B □B Moderate density herb layer □C □C Herb layer sparse or absent □ Vegetation absent
49	Snags – wetland type condition metric
10.	☐B Not A
19.	Diameter Class Distribution – wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
	present ☐ Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH ☐ Most canopy trees are < 6-inches DBH or no trees.
20.	. Large Woody Debris – wetland type condition metric
	Include both man-made and natural debris piles A Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability) B Not A
21.	. Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
	areas indicate vegetated areas, while solid white areas indicate open water.
22.	. Habitat Uniqueness – wetland type condition metric
	Yes No Has the N C Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
No	ptes

Wetland Site Name	Z6-II-WAM10	Date of Assessment	9-7-07	
Wetland Type		ssessor Name/Organization	EcoScience Cusack/Allen	
Processes of st	ressor affecting assessment area (Y/N)	YES		
	Assessment Form (Y/N)	NO		
	guiatory considerations (Y/N)	NO		
	nsively managed (Y/N)	NO		
	be a high-quality nverine wetland (Y/N)			
Sub-function Ratin	a Summary			
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	Condition		HIGH
riyarology	Sub-surface Storage and Retent	tion Condition		
Water Quality	Pathogen Change	Condition		HIGH
Water adding	, canagam a	Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Particulate Change	Condition		HIGH
	Tarkosidis onenge	Condition/Opportunity		HIGH
		Opportunity Presence	(Y/N)	NO
	Soluble Change	Condition		HIGH
	Goldbie Change	Condition/Opportunity		HIGH
		Opportunity Presence		NO
	Physical Change	Condition	` -	HIGH
	Physical Change	Condition/Opportunity	,	HIGH
		Opportunity Presence		NO
	Bellution Change	Condition	` _	X
	Pollution Change	Condition/Opportunity		X
		Opportunity Presence		Х
Habitat	Physical Structure	Condition		MEDIUM
парцас	Landscape Patch Structure	Condition		HIGH
	Vegetation Composition	Condition		HIGH
	Uniqueness	Condition		NO
Function Rating S Function	ummary	Metrics		Rating
Hydrology		Condition		HIGH
Water Quality		Condition		HIGH
water quality		Condition/Opportunity	y —	HIGH
		Opportunity Presence		YES
		Condition		HIGH
Habitat				

Wetland Site Name Wetland Type Level III Ecoregion Southeastern Plans Wetland Type Level III Ecoregion River Basin Quite Same Plans Republication River Basin Republication River Basin Republication River Basin Republication River Basin Republication River Basin Republication River Basin Republication River Basin Republication Republication River Basin Republicatio	Assessor Name/Organization EcoScience Cusack/Allen Plains Nearest Named Water Body USGS 8-Digit Catalogue Unit 03030004			- 1
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Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent (for instance, within 10 years). Noteworthy stressors include, but are not limited to the following. Hydrological modifications (examples ditches, dams, beaver dams, dikes, bems, ponds, etc.) Surface and sub-surface discharges into the wetland (examples: discharges containing obvious pollutants, presence of meseptic tanks, underground storage tanks (USFS), hog lagoons, etc.) Signs of vegetation stress (examples. vegetation mortality, insect damage, disease, sform damage, salt intrusion, etc.) Habitat/plant community alteration (examples: mowing, clear-cutting, exotics, etc.) Is the assessment area intensively managed? Yes No Describe effects of stressors that are present Regulatory Considerations Select all that apply to the assessment area Anadromous fish Federally protected species or State endangered or threatened species NoDWO ripanan buffer rule in effect Wetland adjacent to or associated stream drains to a Primary Nursery Area Publicly owned property N C Division of Water Quality best usage classification of SA or supplemental classifications of HOW, ORW, or Trout Designated NCNHP reference community What type of natural stream is associated with the wetland, if any? (Check all that apply) Blackwater Brownwater Trid (if bdal, check one of the following boxes) Lunar Wind Both Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the assessment area on a coastal Island? Yes No Is the a				
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Severely altered over most of the assessment area (ground surface alteration examples—vehicle tracks, excessive sedimentation, fire-plow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation strue alteration examples—mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grades diversity [if appropriate], artificial hydrologic alteration) 2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity	nsider alteration to the ground surface (GS) in the assessment area and vegetation structure (VS) in reference wetland if applicable (see User Manual v1.0) If a reference is not applicable, then rate the of alteration	n column. Consider alteration to Compare to reference wetland it ed on evidence of alteration	the assessment area assessment area baseS	
alteration examples mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, gralless diversity [if appropriate], artificial hydrologic alteration) 2. Surface and Sub-Surface Storage Capacity and Duration – assessment area condition metric Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and duration (S	over most of the assessment area (ground surface alteration examples, vehicle tracks, avecages	verely altered over most of the ass	⊟B ⊟B S	
Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and dur (Sub) Consider both increase and decrease in hydrology Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appel G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch 5.1 feet does in applicated to 25 the considerable of the cons	e-piow lanes, skidder tracks, bedding, fill, soil compaction, obvious pollutants) (vegetation structure es mechanical disturbance, herbicides, salt intrusion [where appropriate], exotic species, grazing, opropriate], artificial hydrologic alteration)	eration examples mechanical dis s diversity [if appropriate], artificial	ai le	
Check a box in each column. Consider surface storage capacity and duration (Surf) and sub-surface storage capacity and dur (Sub) Consider both increase and decrease in hydrology Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appel G) for North Carolina hydric soils for the zone of influence of ditches in hydric soils. A ditch 5.1 feet does in applicated to 25.	Sapacity and Duration – assessment area condition metric	face Storage Capacity and Dura	Surface and Sub-Su	2.
application	nsider surface storage canacity and duration (Surf) and sub-surface storage consents and duration	n column. Consider surface stor increase and decrease in hydrolo hydric soils for the zone of influen	Check a box in each	
Water storage capacity and duration are not altered Water storage capacity or duration are altered, but not substantially (typically, not sufficient to change vegetation) Water storage capacity or duration are substantially altered (typically, alteration sufficient to result in vegetation change) (examples: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver dams, stream incision, sewer lines, soil compaction)	IBUTEASE IN INVITOIONAL Refer to the NRCS Scope and Effort Courts (and there is a second of the seco	•	G) for North Carolina water only, while a capplicable	
3. Water Storage/Surface Relief – assessment area/wetland type condition metric	Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface leep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if exactly and duration are not altered facility or duration are altered, but not substantially (typically, not sufficient to change vegetation) acity or duration are substantially altered (typically, alteration sufficient to result in vegetation intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver sion, sewer lines, soil compaction)	iter storage capacity and duration a ter storage capacity or duration ar- iter storage capacity or duration ar- inge) (examples: intensive ditchin- ms, stream incision, sewer lines, s	G) for North Carolina water only, while a capplicable Surf Sub	
Check a box in each column Select the appropriate storage for the assessment area (AA) and the wetland type (WT).	Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface leep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if eacity and duration are not altered acity or duration are altered, but not substantially (typically, not sufficient to change vegetation) acity or duration are substantially altered (typically, alteration sufficient to result in vegetation intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver sion, sewer lines, soil compaction)	ter storage capacity and duration a ter storage capacity or duration and ter storage capacity or duration and Inge) (examples: intensive ditchin- ms, stream incision, sewer lines, so	G) for North Carolina water only, while a capplicable Surf Sub ⊠A WA W □ B □ B W □ C □ C W	
AA WT	Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface leep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if eacity and duration are not altered acity or duration are altered, but not substantially (typically, not sufficient to change vegetation) acity or duration are substantially altered (typically, alteration sufficient to result in vegetation intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver sion, sewer lines, soil compaction)	ter storage capacity and duration a ter storage capacity or duration and ter storage capacity or duration and Inge) (examples: intensive ditchin- ms, stream incision, sewer lines, so	G) for North Carolina water only, while a capplicable Surf Sub ⊠A WA W □ B □ B W □ C □ C W	
He has been a sook as the westland type with depressions able to pond water 1 to 2 feet	Here as in hydrology Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface leep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if eacity and duration are not altered acity or duration are altered, but not substantially (typically, not sufficient to change vegetation) acity or duration are substantially altered (typically, alteration sufficient to result in vegetation intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver sion, sewer lines, soil compaction) Hessment area/wetland type condition metric of the assessment area (AA) and the wetland type (WT).	iter storage capacity and duration a ter storage capacity or duration are ter storage capacity or duration are inge) (examples: intensive ditchin- ms, stream incision, sewer lines, so ce Relief – assessment area/wet column Select the appropriate s	G) for North Carolina water only, while a capplicable Surf Sub A A W B B B W Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch	
この この > Engl of wetland type with depressions able to pond water o inches to 1 tool	Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface leep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if eacity and duration are not altered facity or duration are altered, but not substantially (typically, not sufficient to change vegetation) facity or duration are substantially altered (typically, alteration sufficient to result in vegetation is: intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver sion, sewer lines, soil compaction) **Ressment area/wetland type condition metric condition to the assessment area (AA) and the wetland type (WT). **Ressment depressions able to pond water > 2 feet and type with depressions able to pond water 1 to 2 feet.	iter storage capacity and duration a ter storage capacity or duration and ter storage capacity or duration and inge) (examples: intensive ditchin- ms, stream incision, sewer lines, si ce Relief – assessment area/wet column Select the appropriate s	G) for North Carolina water only, while a applicable Surf Sub A A W B B B W Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch	
	Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface leep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if eacity and duration are not altered facity or duration are altered, but not substantially (typically, not sufficient to change vegetation) facity or duration are substantially altered (typically, alteration sufficient to result in vegetation in intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver sion, sewer lines, soil compaction) **Resident area/wetland type condition metric condition to the assessment area (AA) and the wetland type (WT). **Resident area/wetland type condition metric condition to the assessment area (AA) and the wetland type (WT). **And type with depressions able to pond water > 2 feet and type with depressions able to pond water 1 to 2 feet type with depressions able to pond water 6 inches to 1 foot	ter storage capacity and duration a ter storage capacity or duration ar- ter storage capacity or duration ar- inge) (examples: intensive ditchin- ms, stream incision, sewer lines, s- ce Relief – assessment area/wet column Select the appropriate s 50% of the wetland type with depre-	G) for North Carolina water only, while a applicable Surf Sub □A □A W □C □C W Ch da Water Storage/Surfa Check a box in each AA WT □A □A > □B □B □B >	
□D □D > 50% of wedard type with depressions deep □E □E □E □E □E □E □E □E □E □E □E □E □E □	Refer to the NRCS Scope and Effect Guide (see User Manual v1.0 Appendix the zone of influence of ditches in hydric soils. A ditch ≤ 1 foot deep is considered to affect surface leep is expected to affect both surface and sub-surface water. Consider tidal flooding regime, if eacity and duration are not altered facity or duration are altered, but not substantially (typically, not sufficient to change vegetation) facity or duration are substantially altered (typically, alteration sufficient to result in vegetation in intensive ditching, fill, sedimentation, channelization, diversion, man-made berms, beaver sion, sewer lines, soil compaction) **Ressment area/wetland type condition metric** **Consider tidal flooding regime, if the properties of the substantially (typically, not sufficient to change vegetation) facility or duration are substantially altered (typically, not sufficient to change vegetation) facility or duration are substantially altered (typically, not sufficient to change vegetation) facility or duration are substantially altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typically, not sufficient to change vegetation) facility or duration are altered (typ	ter storage capacity and duration a ter storage capacity or duration ar- ter storage capacity or duration ar- inge) (examples: intensive ditchin- ms, stream incision, sewer lines, s- ce Relief – assessment area/wet column Select the appropriate s 50% of the wetland type with depre- 50% of the wetland type with depression of wetland type with depressions.	G) for North Carolina water only, while a applicable Surf Sub SA MA W SC Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch Ch	

	Select a	all that a	pply. Di	g soit profile in the dominant assessment area landscape feature. Make soil observations within the top foot. ittee for Hydnc Soils regional indicators are noted (use most recent guidance)
		Sandy s		illee for rydric soils regional indicators are noted (use most recent guidance)
	□В	Predom	inantly cl	naracterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6)
	⊠c			haractenzed by other, mineral soil (no mottling)
	□D D	•		ool (F2, S4)
	⊠E □F		on < 1 ın xon ≥ 1 ın	
	⊟Ġ			presence
	⊠Ĥ			riesence (A6, A7, A8, A9, A10, F1, S1)
		Peat or	muck so	il (histosol or histic epipedon) (A1, A2, A3)
5.	Dischar	rge into V	Vetland -	- opportunity metric
	Example	es of sub-		column. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) discharges include presence of nearby septic tank, underground storage tank (UST), etc
	Surf ⊠A	Sub ⊠A	Little or	r no evidence of pollutants or discharges entering the assessment area
	Β̈́β	Β̈́β		able evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the
	ш-			ent capacity of the assessment area
	□с	С	potentia	able evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and ally overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive entation)
e	Landill	88 – oppe		·
6.			-	
	within ei and with Plain an	ntire upst nin the wa	ream wat itershed (aluation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area tershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles draining to the assessment area (2M). Effective riparian buffers are considered to be 50 feet wide in the Coastal D feet wide in the Mountains.
	WS	5M	2M	CONV.
	□A	□A	□A	> 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential)
	□в	□в	□в	> 30% impervious surfaces without stormwater BMPs
	□с	□с	⊟c	10 to 30% impervious surfaces
	□D	□D	□D	< 10% impervious surfaces
		먇	므트	Old urban development (pink areas on USGS 7 5-minute quadrangles)
	□F □G		□F □G	New adjacent development Confined animal operations (or other local, concentrated source of pollutants)
	H	□G □H	□G □H	≥ 20% coverage of pasture without nparian buffer
	<u>≓</u> .	∃ï'	Bi.	≥ 20% coverage of pasture with effective ripanan buffer
	□J	□J		≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer
	□ĸ	□ĸ	□ĸ	≥ 20% coverage of agricultural land (regularly plowed land) with effective npanan buffer
				≥ 20% coverage of maintained grass/herb
	⊠M □N	⊠M □N	⊠M □N	Silvicultural land with disturbance < 5 years old Little or no opportunity Lack of opportunity may result from hydrologic modifications that prevent drainage or
	ш.,	٠٠٠	٠٠٠	overbank flow from affecting the assessment area
7.	Wetland	d Acting :	as Vacat	ated Buffer – assessment area condition metric
••		•	_	thin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals)
		□Yes	⊠No	If No, Skip to next metric
				th is normal flow width [ordinary high water to ordinary high water]) If the stream is anastomosed, combine
	widths c			for a total stream width
	Do mote		feet wide	□> 15-feet wide □Not Applicable rea vegetation extend into the bank of the adjacent stream/open water?
	D0 10018	⊓Yes	□No	ed regetation existing the bank of the adjacent stream open water
	ls strear			ater sheltered or exposed?
				fjacent open water with width < 2500 feet <u>and</u> no regular boat traffic
		∐Ехро	sea – aaj	acent open water with width ≥ 2500 feet <u>or</u> regular boat traffic
8.		•		Width – assessment area/wetland type/wetland complex metric
	(WC), a only be anaston	nd the rip present (апаn but on one s stem Ma	elumn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex offer at the assessment area (RB) (if applicable) Riparian buffer width is measured from top of bank and need note of the water body. The nparian buffer is measured from the outside banks of the outer channels of an ake buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been
	WT	WC		applicable)
	ΠA	□A		≥ 100 feet
	⊟̂	⊟Ĝ	⊟B	From 80 to < 100 feet
	ďς	□c	⊟c	From 50 to < 80 feet
	□D	□D	□D	From 40 to < 50 feet
	□E	□E		From 30 to < 40 feet
	<u>□</u> F	□ F	□F MC	From 15 to < 30 feet
	⊠G	⊠G	⊠G	From 5 to < 15 feet < 5 feet
	□н	□н	□н	- 0 1001

4. Soil Texture/Structure – assessment area condition metric

	9.	inundation Duration — assessment area condition metric
		Answer for assessment area dominant landform A
	10.	Indicators of Deposition – assessment area condition metric
		Consider recent deposition only (no plant growth since deposition) A Sediment deposition is not excessive, but at approximately natural levels B Sediment deposition is excessive, but not overwhelming the wetland C Sediment deposition is excessive and is overwhelming the wetland
	11.	Wetland Size – wetland type/wetland complex condition metric
		Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area: the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual) Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT if assessment area is clear-cut, select "K" for FW column. WT WC FW (if applicable) A A A > 500 acres B B From 100 to < 500 acres C C C From 50 to < 100 acres D D D D From 25 to < 50 acres F From 10 to < 25 acres F From 5 to < 10 acres G G G G From 1 to < 5 acres H H H H From 0 5 to < 1 acre II From 0 1 to < 0 5 acre II From 0 1 to < 0 5 acre II From 0 1 to < 0 5 acre
	12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
		 □A Wetland type is the full extent (≥ 90%) of its natural landscape size □B Wetland type is < 90% of the full extent of its natural landscape size.
	13.	Connectivity to Other Natural Areas – landscape condition metric
	•	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundanes are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch WC LC MA
		Yes ☐ No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐ Yes ☐ No Is the assessment area subject to overbank flooding during normal conditions?
		Edge Effect – wetland type condition metric Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line corridors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. □ A No artificial edge within 150 feet in all directions □ B No artificial edge within 150 feet in four to seven directions □ C An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
	45	
	13.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat) A Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate
		species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic
		species or composed of planted stands of non-characteristic species or inappropriately composed of a single species
_	16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	l	Vegetation diversity is high and is composed primary or native species.
		The state of the s
		C Vegetation is dominated by exotic species.

	Vegetative Structure – assessment area/wetland type condition metric
	✓ Vegetation present Evaluate percent coverage of vegetation for marshes only
	∏A ≥ 25% coverage of vegetation
	B < 25% coverage of vegetation
	Check a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider structure in airspace above the assessment area (AA) and the wetland type (WT) separately. AA WT
	□A Canopy closed, or nearly closed, with natural gaps associated with natural processes □B Canopy present, but opened more than natural gaps □C □C Canopy sparse or absent
	□A Dense mid-story/sapling layer □B □B Moderate density mid-story/sapling layer ☑C ☑C Mid-story/sapling layer sparse or absent
	□A □A Dense shrub layer □B □B Moderate density shrub layer ☑C ☑C Shrub layer sparse or absent
	- ·
18.	Snags – wetland type condition metric ☐A Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). ☐B Not A
19.	Diameter Class Distribution wetland type condition metric
	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
	present Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH
	☐ Most canopy trees are < 6-inches DBH or no trees
20	Large Woody Debris – wetland type condition metric
2.0.	to the target was do and natural dahrie niles
	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape statistics). Not A
21.	Vegetation/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select the figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterne areas indicate vegetated areas, while solid white areas indicate open water.
	areas indicate vegetated areas, while solid while stress and the solid while stress areas indicate vegetated areas, while solid while stress areas indicate vegetated areas, while solid while stress areas indicate vegetated areas, while solid while stress areas indicate vegetated areas, while solid while stress areas areas areas areas areas areas areas areas areas areas areas areas.
22.	. Habitat Uniqueness – wetland type condition metric
	Yes No Has the N.C Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
No	tes

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Wetland Site Name	Z6-II-WAM12	Date of Assessment	9-7-07	
Wetland Type	Seep	Assessor Name/Organization	EcoScience Cusack/Allen	
	ressor affecting assessment area (Y/N) Assessment Form (Y/N)	NO NO		
	gulatory considerations (Y/N)	NO		
	nsively managed (Y/N)	NO		
	e a high-quality riverine wetland (Y/N)			
Sub-function Rating	g Summary			
Function	Sub-function	Metrics		Rating
Hydrology	Surface Storage and Retention	n Condition		Х
	Sub-surface Storage and Rete	ntion Condition		Х
Water Quality	Pathogen Change	Condition		Х
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
	Particulate Change	Condition		X
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	Χ
	Soluble Change	Condition		X
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	Х
	Physical Change	Condition		Х
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
	Pollution Change	Condition		X
		Condition/Opportunity		Х
		Opportunity Presence		X
Habitat	Physical Structure	Condition		HIGH
	Landscape Patch Structure	Condition		EDIUM
	Vegetation Composition	Condition		HIGH
	Uniqueness	Condition		NO
Function Rating Su	mmary			
Function	2.00	Metrics		Rating
Hydrology		Condition	-	HIGH
Water Quality		Condition		HIGH
		Condition/Opportunity		X
		Opportunity Presence	(Y/N)	X
Habitat		Condition		HIGH
Overall Wetland	i Rating HIGH			

	Wetland Site N			Dat			
	Wetland T Level III Ecores			Assessor Name/Organization	n EcoScience Cusack/Allen		
_			ins	Nearest Named Water Bod	v Bones Creek		
	River B			USGS 8-Digit Catalogue Uni	t 03030004		
	☐ Yes 🔯	No Precipitation with	hin 48 hrs?	Latitude/Longitude (deci-degrees	35.024241, -79.036853		
	Evidence of stres	SOFS affecting the sees	PRMART STAGE				
	Evidence of stressors affecting the assessment area (may not be within the assessment area) Please circle and/or make note below if evidence of stressors is apparent. Consider devidence of stressors is apparent.						
	Please circle and/or make note below if evidence of stressors is apparent. Consider departure from reference, if appropriate, in recent past (for instance, within 10 years) Noteworthy stressors include, but are not limited to the following.						
	 Hydrological modifications (examples ditches, dams, beaver dams, dikes, berms, ponds, etc.) Surface and sub-surface discharges into the wetland (examples discharges containing obvious pollutants, presence of nearby septic tanks, underground storage tanks (USTs) had large to the influence to the following. 						
	septic tar	ks, underground storage	yes into the wells stanke (197a) ha	anu (examples discharges containin	g obvious pollutants, presence of nearby		
ı				nortality, insect damage, disease, stori			
ı	 Habitat/pl 	ant community alteration	n (examples: mou	ring, clear-cutting, exotics, etc)	n damage, salt intrusion, etc)		
- [mig, clear-cutting, exotics, etc.)			
	is the assessment	area intensively mana	ged? Yes	⊠ No			
	· · · · · · · · · · · · · · · · · · ·						
-	Describe effects of	f stressors that are pre	esent				
-		•					
-							
- 1	Regulatory Consid	lerations					
	Select all that apply	to the assessment area	1				
ŀ	Anadromo	us fish					
ı	Federally	protected species or Stat	te endangered or	threatened species			
	☐ NCDWQ r	ipanan butter rule in effe	ect				
İ	Federally NCDWQ r Wetland a Publicly or N.C Divis N.C Divis Designate	djacent to or associated	stream drains to a	a Primary Nursery Area			
-	Publicly or	vned property		-			
	N.C Divis	on of Coastal Manageme	ent Area of Enviro	onmental Concern (AEC) (including bu	ffer)		
	☐ N.C Divisi	OU OF AASTAL CASUITA DOZI	I USAGO Classificati	ion of SA or supplemental classification	IDS of HOW ORW or Trout		
1	□ Designate	NCNHP reference com	nmunity	, , , , , , , , , , , , , , , , , , , ,	in Si Tratt, Citty, or floor		
-	What type of natur	al stream is associated	with the wetler.	d, if any? (Check all that apply)			
1		,	MILLIO MCHAIL	o, ii any r (Check all that apply)			
	☐ Brownwate						
•		31. Check one of the follow					
1		al, check one of the follow		Lunar 🔲 Wind 🔲 Both			
		ai, check one of the follow Brea on a coastal island		Lunar ∐ Wind			
- 1	is the assessment	area on a coastal island	d? ☐ Yes D	☑ No	_		
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4.	Soil Tex	cture/Stru	icture – a	assessment area condition metric	
	Select a National A B C D S E G H G I I I I I I I I I I I I I I I I I	Technica Sandy s Predomi Predomi Gleyed r Soil ribb Soil nbb No peat A peat o	al Commit oil inantly ch mineral si on < 1 ind or muck p r muck p	g soil profile in the dominant assessment area landscape feature. Make soil observations within the top foot tree for Hydric Soils regional indicators are noted (use most recent guidance) areacterized by mottled (redoxymorphic features), mineral soil (F6, F8, F12, TF10, S5, S6) areacterized by other, mineral soil (no mottling) oil (F2, S4) ch ch presence resence (A6, A7, A8, A9, A10, F1, S1) I (histosol or histic epipedon) (A1, A2, A3)	
5.	Dischar	ge into W	etland –	opportunity metric	
	Check a Example Surf	a box in es of sub-s Sub	each c e surface da	olumn. Consider surface pollutants or discharges (Surf) and sub-surface pollutants or discharges (Sub) ischarges include presence of nearby septic tank, underground storage tank (UST), etc	
	⊠A □B	⊠A □B	Noticeal	no evidence of pollutants or discharges entering the assessment area ble evidence of pollutants or discharges entering the wetland and stressing, but not overwhelming the nt capacity of the assessment area	
	□c	□c	Noticeal	ble evidence of pollutants or discharges (pathogen, particulate, or soluble) entering the assessment area and Illy overwhelming the treatment capacity of the wetland (water discoloration, dead vegetation, excessive	
R	l and He			·,	
6.	Check a within en and with Plain and WS	ntire upstro in the wat d Piedmor 5M	ply. Eva earn wate ershed do nt and 30 2M	luation of this metric involves a GIS effort with field adjustment. Consider sources draining to assessment area ershed (WS), within 5 miles and within the watershed draining to the assessment area (5M), and within 2 miles raining to the assessment area (2M). Effective nparian buffers are considered to be 50 feet wide in the Coastal feet wide in the Mountains.	
	□A □B □C	□A □B □C	□A □B □C	 30% impervious surfaces with stormwater Best Management Practices (BMPs) (land use examples industrial, commercial, and high-density residential) 30% impervious surfaces without stormwater BMPs to 30% impervious surfaces 	
	D D D F	⊠D □E □F	⊠D □E □F	< 10% impervious surfaces Old urban development (pink areas on USGS 7 5-minute quadrangles) New adjacent development	
		□G □H □i	□G □H □i	Confined animal operations (or other local, concentrated source of pollutants) ≥ 20% coverage of pasture without πparian buffer ≥ 20% coverage of pasture with effective nparian buffer	
] K	 		≥ 20% coverage of agricultural land (regularly plowed land) without riparian buffer ≥ 20% coverage of agricultural land (regularly plowed land) with effective riparian buffer ≥ 20% coverage of maintained grass/herb	
	⊠M □N	⊠M □N	⊠M □N	Silvicultural land with disturbance < 5 years old Little or no opportunity. Lack of opportunity may result from hydrologic modifications that prevent drainage or overbank flow from affecting the assessment area.	
7.	Wetland	Acting as	s Vegeta	ted Buffer – assessment area condition metric	
		⊠Yes	∐No	nin 50 feet of a stream or other open water? ("open water" does not include man-made ditches or canals) If No, Skip to next metric h is normal flow width [ordinary high water to ordinary high water]). If the stream is anastomosed, combine	
	widths of	channels. ⊠≤ 15-fe	/braids fo eet wide	or a total stream width ☐> 15-feet wide ☐Not Applicable a vegetation extend into the bank of the adjacent stream/open water?	
		⊠Yes or other o	□No open wate	er sheltered or exposed?	
		☐ Expose	ed – adja	acent open water with width < 2500 feet <u>and</u> no regular boat traffic cent open water with width ≥ 2500 feet <u>or</u> regular boat traffic	
8.				Vidth – assessment area/wetland type/wetland complex metric	
	only be p	d the ripa present or psed syste	пап buffe n one sid em Mak	umn. Select the appropriate width for the wetland type at the assessment area (WT), the wetland complex or at the assessment area (RB) (if applicable). Riparian buffer width is measured from top of bank and need do of the water body. The ripanan buffer is measured from the outside banks of the outer channels of an ace buffer judgment based on dominant landscape feature. Record a note if a portion of the buffer has been	
	WT		RB (if ap	plicable)	
	□A	⊠A	□A	≥ 100 feet	
	⊠B	₽B	⊠B	From 80 to < 100 feet	
				From 50 to < 80 feet From 40 to < 50 feet	
	□b □E			From 30 to < 40 feet	
	땱	땱	냚	From 15 to < 30 feet	
	∐Ġ	Ğ	ĞĠ	From 5 to < 15 feet	
	□G □H	⊟H	⊟н	< 5 feet	

9.	mundation Duration – assessment area condition metric
	Answer for assessment area dominant landform. ☑A Evidence of short-duration inundation (< 7 consecutive days) ☐B Evidence of saturation, without evidence of inundation
	C Evidence of long-duration inundation (7 to 30 consecutive days or more)
1 0.	Indicators of Deposition – assessment area condition metric
	Consider recent deposition only (no plant growth since deposition). A Sediment deposition is not excessive, but at approximately natural levels Sediment deposition is excessive, but not overwhelming the wetland Sediment deposition is excessive and is overwhelming the wetland
11.	Wetland Size – wetland type/wetland complex condition metric
	Check a box in each column. Involves a GIS effort with field adjustment. This metric evaluates three aspects of the wetland area the size of the wetland type (WT), the size of the contiguous wetland complex (WC), and the size of the contiguous, forested wetland (FW) (if applicable, see User Manual). Boundaries are formed by uplands, four-lane roads, or urban landscapes. An observed beaver pond forms a boundary if it extends across the entire width of the floodplain. Additionally, other wetland types are considered boundaries for column WT WC FW (if applicable) WT WC FW (if applicable) WT WC FW (if applicable) B B B From 100 to < 500 acres C C C From 50 to < 100 acres E E E From 10 to < 25 acres F From 5 to < 10 acres G G G From 1 to < 5 acres H H H From 0.5 to < 1 acre J G G G From 0 to < 0.5 acre J G G G From 0 to < 0.5 acre
12.	Wetland Intactness – wetland type condition metric (evaluate for Pocosins only)
	 □A Wetland type is the full extent (≥ 90%) of its natural landscape size. □B Wetland type is < 90% of the full extent of its natural landscape size
13.	Connectivity to Other Natural Areas – landscape condition metric
	Check appropriate box(es). This metric refers to the landscape patch, the contiguous naturally vegetated area and open water (if appropriate) that includes the wetland type. Boundaries are formed by four-lane roads, urban landscapes, maintained fields (pasture and agriculture), or open water > 300 feet wide. Consider if the wetland type is well-connected (WC) or loosely-connected (LC) to the landscape patch. WC LC MA
	Check Yes or No.
	☐Yes ☐No Does wetland type have a surface hydrology connection to open waters or tidal wetlands? (evaluate for marshes only) ☐Yes ☐No Is the assessment area subject to overbank flooding during normal conditions?
14.	Edge Effect – wetland type condition metric
	Estimate distance from wetland type boundary to artificial edges. Artificial edges include permanent features such as fields, development, two-lane or larger roads (≥ 40-feet wide), utility line comdors wider than a two-lane road, and clear-cuts < 10 years old. Consider the eight main points of the compass. A No artificial edge within 150 feet in all directions No artificial edge within 150 feet in four to seven directions An artificial edge occurs within 150 feet in more than four directions or assessment area is clear-cut
15.	Vegetative Composition – assessment area condition metric (skip for marshes and Pine Flat)
	Vegetation is close to reference condition in species present and their proportions. Lower strata composed of appropriate species, with exotic plants absent or sparse within the assessment area. Vegetation is different from reference condition in species diversity or proportions, but still largely composed of native species characteristic of the wetland type. This may include communities of weedy native species that develop after clearcutting or clearing. It also includes communities with exotics present, but not dominant, over a large portion of the expected strata. Vegetation severely altered from reference in composition. Expected strata are unnaturally absent or dominated by exotic species or composed of planted stands of non-characteristic species or inappropriately composed of a single species.
16.	Vegetative Diversity – assessment area condition metric (evaluate for Non-tidal Freshwater Marsh only)
	MA Vegetation diversity is high and is composed primarily of native species.
	B Vegetation diversity is low or has > 10% cover of exotics
	C Vegetation is dominated by exotic species

17.	Vegetat	ive Structure – assessment area/wetland type condition metric
		getation present
	Eva	aluate percent coverage of vegetation for marshes only A ≥ 25% coverage of vegetation
	_ ≓í	
	Ch	eck a box in each column for each stratum. Evaluate this portion of the metric for non-marsh wetlands. Consider 🖊
		ucture in airspace above the assessment area (AA) and the wetland type (WT) separately.
	AA ⊠∕	
		B Canopy present, but opened more than natural gaps
		C Canopy sparse or absent
	₽.	
	⊠.	B ⊠B Moderate density shrub layer
	⊠.	= =
		getation absent
18.	Snags -	- wetland type condition metric
	∏A ⊠B	Large snags (more than one) are present (> 12-inches DBH, or large relative to species present and landscape stability). Not A
19.	Diamete	er Class Distribution – wetland type condition metric
	□A	Most canopy trees have stems > 6-inches in diameter at breast height (DBH), many large trees (> 12-inches DBH) are
	Пь	present Most canopy trees have stems between 6- and 12-inches DBH, few are > 12-inch DBH
	□B ⊠C	Most canopy trees are < 6-inches DBH or no trees
20.		Voody Debris – wetland type condition metric
	_	both man-made and natural debns piles.
	∏A ⊠B	Large logs (more than one) are present (> 12-inches in diameter, or large relative to species present and landscape stability) Not A
21.	Vegetat	ion/Open Water Dispersion – wetland type/open water condition metric (evaluate for Non-Tidal Freshwater Marsh only)
	Select t	he figure that best describes the amount of interspersion between vegetation and open water in the growing season. Patterned
	areas in	dicate vegetated areas, while solid white areas indicate open water ☐A ☐B ☐C ☐D
	Qy Q	
	V	
22.	Habitat	Uniqueness – wetland type condition metric
□Y	es 🔯	No Has the N.C. Environmental Management Commission classified the assessment area as "Unique Wetlands" (UWL)?"
Note		
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Wetland Site Name	Z6-II-WAM13	Date of Assessment	9-7-07	
Wetland Type	Headwater Wetland	Assessor Name/Organization	EcoScience Cusack/Allen	
Presence of str	essor affecting assessment area (Y/N)	NO		
	Assessment Form (Y/N)	YES		
Presence of reg	gulatory considerations (Y/N)	NO		
Wetland is inter	nsively managed (Y/N)	NO		
Wetland may be	e a high-quality riverine wetland (Y/N)			
Sub-function Rating				
Function	Sub-function	Metrics	Rating	
Hydrology	Surface Storage and Retention	Condition	HIGH	
	Sub-surface Storage and Retent	tion Condition	HIGH	
Water Quality	Pathogen Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/N) NO	
	Particulate Change	Condition	HIGH	
		Condition/Opportunity	X	
		Opportunity Presence (Y/N) X	
	Soluble Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/N) NO	
	Physical Change	Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence (Y/N) NO	
	Pollution Change	Condition	x	
		Condition/Opportunity	x	
		Opportunity Presence (
labitat	Physical Structure	Condition	HIGH	
	Landscape Patch Structure	Condition	HIGH	
	Vegetation Composition	Condition	HIGH	
	Uniqueness	Condition	NO	
unction Rating Sum	mary			
unction		Metrics	Rating	
łydrology		Condition	HIGH	
Vater Quality		Condition	HIGH	
		Condition/Opportunity	HIGH	
		Opportunity Presence ()	(/N) YES	
Habitat		Condition	HIGH	