

Waterbody point snok026b facing West and across



Waterbody point snok026b old dam facing Northwest

Survey Description	h			
Project Name:			Waterbody ID:	Date:
Southeast Reliability	UNT TO LITTLE WE		SNOK027	8/23/2014
State: County:	Company	:	Crew Member Initials	
Virginia Nottoway	W&C		JS, BG	106-5049 to 5051 U D X
Tract Number(s):	Nearest N	lilepost:	Associated W	etland ID(s):
12-027	229		WNOK019	
Survey Type: (check one)	e	□Access Road	□Other:	
Physical Attributes				
Stream Classification: (check one)	al DIntermittent	Perennial		
Waterbody Type: (check one) □River ⊠ Sti	ream 🗆 Ditch 🗆	Canal		
OHWM OHWM Indica Width: (check all that appl		line ⊠Shelvin	g ⊠Wrested	⊠Scouring □Water
<u>_7_ft.</u>	on bank		vegetation	staining
Height:     ⊠ Bent, I       _1_ft.     vegetation	matted, or missing   □Wrac on	k line ⊠Litter an debris	id □Abrupt plan community ch	
Width of Waterbody - Top of Width	of Waterbody - Toe of Slo			Depth of Water:
Bank to Top of Bank: to Toe	of Slope:	Water Edge:		(Approx.)
<u>ft.</u>	<u>8</u> ft.		<u>3</u> ft.	<u>0.5</u> ft. N/A□
	velocity:	Bank height		Bank slope
(check one) (Approx.)		Right:	0.4	Right:
	<u>0.2</u> fps	Left:	<u>2</u> ft.	<u>40</u> degrees Left:
Meandering N/A		·	<u>4</u> ft.	<u>60</u> degrees
Qualitative Attributes Water Appearance:				
		Sheen □Sur on surface scu	0	□Other:
	oulder 🛛 Cobble 🛛 Gr	avel 🛛 Sand 🛛	🛛 Silt/ clay 🛛 Organic	□ Other:
(check all that apply) % of Substrate: <u>NA</u> % <u>NA</u>	<u>% _NA_% _20_%</u>	<u>    60 </u> % _	<u>10_% _10_%</u>	<u>NA</u> %
Width of Riparian Zone: Vegetativ	e Layers:			
(check all tha	tapply) ⊠ Tre		Saplings/Shrubs:	⊠ Herbs
N/A (approx.)	l of Dominants: _ <u>10</u> _	in	_2_in.	
Dominant Bank Vegetation ( <i>list</i> ): ASH,MAPLE, PAWPAW, SPICEB	BUSH, IRONWOOD, JE	WELWEED,ROS	E	
Aquatic Habitats (ex: submerged or emerge RIFFLE/POOL COMPLEX, SOFT			ks, large submerged wood,	riffles, deep pools):
	SANDT SEDIMENT,	500D		
Aquatic Organisms Observed (list):				
FISH,WATER STRIDERS				
T&E Species Observed (list): NA				
Disturbances (ex: livestock access, manure		pipes):		
	in waterbody, waste discharge p	1 /		
AGRICULTURE, PLANTATION IN		1		
AGRICULTURE, PLANTATION IN Tributary is: (check one)			ılated	

Waterbody ID: SNOK027 High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man. Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man. Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man. Notes: SMALL PERENNIAL STREAM, SOME BANK EROSION AND SEDIMENTATION, TYPICAL PIEDMONT SMALL STREAM FOREST COMMUNITY. ASSOCIATED WITH FLOODPLAIN WETLAND WNOK019. Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) 150Ft 15057 INUKO19 DNA SNOKOH 3)(10) 5 C tu N



Waterbody point snok027 facing Southwest and upstream



Waterbody point snok027 facing Northeast and downstream



Waterbody point snok027 facing West and across

Survey Description	n	h						<b>1-</b> .
Project Name:		Waterbody Na				aterbody ID:		Date:
Southeast Reliability		LITTLE WES			S	NOK028		8/23/2014
State:	County:		Company:		Crew N	Member Initials:	Pho	tos:
Virginia	Nottoway		W&C		JS, B	G	106	6-5049 to 5051 U D X
Tract Number(s):	•		Nearest Mile	epost:	•	Associated We	etland ID(s	5):
12-029 and 12-030			230			NA		
Survey Type: (check one)		e □Re-F	Route	□Access Road		□Other:		
Physical Attributes								
Stream Classification: (check one)	Ephemera	al 🗆 Inter	mittent	⊠Perennial				
Waterbody Type:								
(check one)	River Str	eam 🗆 Dito	:h □Ca	anal 🗌 Other:				
OHWM Width: _15_ft.	OHWM Indica (check all that apply		⊠ Clear lir on bank	ne ⊠Shelving	g	⊠Wrested vegetation	⊠Sco	ouring ⊡Water staining
Height: _3_ft. N/A□	⊠Bent, r vegetatic	natted, or missin n	g   □Wrack li	ne ⊠Litter an debris	nd	□ Abrupt plant community cha		oil characteristic change
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to [	Depth of W	/ater:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(-	Approx.)	
<u>ft</u> .	-	<u>10</u> ft.			<u>10_</u> ft.		N/A□	<u>    1   </u> ft.
Sinuosity:	Water	velocity:		N/A□ Bank height			Bank slope	9
(check one)	(Approx.)	-		Right:			R	light:
_		<u>2</u> _fps		Left:	<u>5</u> ft.			<u>70</u> degrees Left:
Meanderir	ng N/A□				<u>6</u> ft.			60_degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	No water ⊠0	Clear □Turb		leen ⊡Sur surface scu		□Algal □ mats	]Other:	
	Bedrock 🛛 🖾 Bo	oulder 🛛 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ Othe	r:
(check all that apply) % of Substrate:	<u>40</u> % <u>20</u> %	% <u>10</u> %	<u> 10 </u> %	_20_%	<u>NA %</u>	<u>NA %</u>	<u>NA</u> %	
Width of Riparian Zone	e: Vegetative	a lavers:						
	(check all that	apply)	⊠ Trees	: 🛛 🛛	Saplir	ngs/Shrubs:	⊠ He	rbs
<u>&gt;100 ft</u> · N/A□	Avg. DBH (approx.)	of Dominants:	<u>_12_</u> in.	-	<u>2</u> in.			
Dominant Bank Vegeta	tion (list):							
IRON WOOD,HIGH	IBUSH BLUEB	ERRY,MOSS	S, FALSE N	IETTLE				
Aquatic Habitats (ex: su RIFFLE/POOL CON								
PACK Aquatic Organisms Ob	served (list):							
FISH, WATER STR	IDERS, MAYF	LY, FROGS						
T&E Species Observed	(list):							
NA								
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
ROCK DAM, ATV, I	LOGGING							
Tributary is: (check one)	□ Natural	□ Art	tificial, man-m	ade 🛛 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low				





Waterbody point snok028 facing Southwest and upstream



Waterbody point snok028 facing Northeast and downstream



Waterbody point snok028 facing West and across

Survey Description	n	her						1-
Project Name:		Waterbody Nar				aterbody ID:		Date: 8/23/2014
Southeast Reliability				CREEN		NOK029a		
State:	County:		Company:			lember Initials:	Photos:	
Virginia	Nottoway		W&C		JS, B			094 to 5096 U D X
Tract Number(s):			Nearest Mile	epost:		Associated Wet	land ID(s):	
12-032			230			NA		
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□ Access Road		□Other:		
Physical Attributes	S							
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	mittent	Perennial				
Waterbody Type: (check one)	River Str	eam 🗆 Ditc	h 🗆 Ca	anal 🛛 Other:				
онwм	OHWM Indicat							
Width: _3_ft.	(check all that apply	/)	⊠ Clear lir on bank	ie ⊠Shelvino	g	⊠Wrested vegetation	⊠Scourin	lg □Water staining
Height:		natted, or missin	g		d	□ Abrupt plant		characteristic change
_ <u>1_</u> ft. N/A□	vegetatio			debris		community char	0	
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - 1 of Slope:	Foe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to De	epth of Wate	r:
6_ft.		4 ft.		<b>--</b>	ft.			ft.
<u> </u>		<u>4_</u> 11.		N/A⊠	<u> </u>	N/	'A⊠	
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height		Ba	ank slope	4-
□Straight		fps			<u>2</u> ft.		Righ	<u>70</u> degrees
⊠Meanderir	ng N/A⊠			Left:	<u>2</u> ft.		Lef	t: <u>60</u> degrees
Qualitative Attribu	tes							
Water Appearance:								
(check one)	No water	Clear □Turb	-	een □Sur surface scu		□Algal □0 mats	Other:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🗆 Grave	el 🛛 Sand 🗌	□ Silt/ cl	lay 🛛 Organic	□ Other:	
% of Substrate:	<u>NA</u> % <u>NA</u> %	% <u>NA</u> %	<u>NA</u> %	<u>   80  </u> %	<u>NA </u> %	<u>20</u> %	<u>NA</u> %	
Width of Riparian Zone	: Vegetative							
<u>&gt;100 ft</u> ·	(check all that Avg. DBH	apply) of Dominants:	⊠ Trees _ <u>12_</u> in.		Saplin _ <u>2_</u> in.	ngs/Shrubs:	⊠ Herbs	
N/A□ Dominant Bank Vegeta	(approx.)		<u>_12</u> _111.	-	<u></u>			
SWEETGUM, HICK	( )	STEGIUM						
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pack	ks, large	submerged wood, ri	ffles, deep poo	ls):
NA								
Aquatic Organisms Ob	served (list):							
NA								
T&E Species Observed	(list):							
NA								
Disturbances (ex: livesto			discharge pipe	es):				
CLEARCUT NEAR	BY, ATV TRAIL							
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	ade 🛛 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	🗆 High		derate	⊠ Low				

	Waterbody ID: SNOK029a
<sup>a</sup> High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each s roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; div disturbance by livestock or man.	
<b>Moderate Quality:</b> Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active cl function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloud greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by lives	ly, submerged objects covered with
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural ve channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish mo severe disturbance from livestock or man.	eroding); water color is muddy and
Notes:	
EPHEMERAL STREAM PORTION. ATV TRAIL CROSSES STREAM. LOW QUALITY DUE	TO LACK OF WATER
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boun	dary, and IDs of associated features)
15-150Ft 150Ft	L _
	$\longrightarrow$
La Louister	
	+
	029B
Snok	29B
snok	Ø
	r
Forested	52
	)
Snok 029A	<b>^</b>   ۸
C C tu N	



Waterbody point snok029a facing South and upstream



Waterbody point snok029a facing North and downstream



Waterbody point snok029a facing West and across

Survey Description	n							
Project Name:		Waterbody Nar				aterbody ID:		Date:
Southeast Reliability	Ý	UNT TO LIT	ILE WEST	CREEK	SI	NOK029b		8/23/2014
State:	County:		Company:		Crew N	lember Initials	Photo	s:
Virginia	Nottoway		W&C		JS, B			5091 to 5093 U D X
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):	
12-030, 12-031, 12-	032		230			NA		
Survey Type: (check one)	⊠Centerline	□Re-F	Route	□ Access Road		□Other:		
Physical Attributes	S							
Stream Classification: (check one)	Ephemera	I ⊠Inter	mittent	Perennial				
Waterbody Type:								
(check one)	River Stre	eam 🗌 Ditc	h 🗆 Ca	anal 🗌 Other:				
OHWM Width: _5_ft.	OHWM Indicat (check all that apply		⊠ Clear lin on bank	le ⊠Shelving	g	⊠Wrested vegetation	⊠Scou	ring ⊟Water staining
<b>Height:</b> ft. N/A□	□Bent, n vegetatio	natted, or missin n	g	ne ⊠Litter an debris	nd	□ Abrupt plan community ch		l characteristic change
Width of Waterbody - T			Foe of Slope	Width of Waterbo	ody - W		Depth of Wa	ter:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:			(Approx.)	
<u>10_</u> ft.	-	<u>5_</u> ft.		N/A⊠	ft.		N/A⊠	ft.
Sinuosity:		velocity:		Bank height			Bank slope	
(check one)	(Approx.)			Right:			Riç	jht:
		fps		Left:	<u>8</u> ft.		L	<u>80</u> degrees eft:
Meanderir	ng N/A⊠				<u>8</u> ft.			<u>110</u> degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	<sup>]</sup> No water □C	Clear □Turb		een ⊡Sur surface scu		□Algal [ mats	□Other:	
	Bedrock 🛛 Bo	ulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🗌	∃ Silt/ c	lay 🗆 Organic	□ Other:	
(check all that apply) % of Substrate:	<u>′0</u> % <u>10</u> %	_5_%	<u>   5</u> %	<u> 10 </u> %	<u>NA %</u>	<u>NA</u> %	<u>NA</u> %	
Width of Riparian Zone	: Vegetative	Layers:						
_>100 ft-	(check all that	apply) of Dominants:	<sup>⊠</sup> Trees: _ <u>12_</u> in.		⊠ Saplin _ <u>2_</u> in.	ngs/Shrubs:	⊠ Herb	S
N/A 🗆	(approx.)		_ <u>12</u> _"".	-	_ <u></u> "".			
Dominant Bank Vegeta SWEETGUM, HICK	( )	PAWPAW, C	CHRISTMA	S FERN, MICF	ROSTI	EGIUM		
Aquatic Habitats (ex: su POOLS	bmerged or emerged	l aquatic vegetatior	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood,	riffles, deep p	ools):
Aquatic Organisms Ob	served (list):							
WATER BEETLES,	SALAMANDE	RS, CRAYFIS	SH					
T&E Species Observed	(list):							
NA								
Disturbances (ex: livesto		n waterbody, waste	discharge pipe	es):				
CLEARCUT NEAR	∃Y, AIV							
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	🗆 High	⊠ Mo	derate	□ Low				

		Waterbody ID:
_		SNOK029b
,	<sup>a</sup> High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each s roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; dive disturbance by livestock or man.	
	<b>Moderate Quality:</b> Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active cl function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloud greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by lives	ly, submerged objects covered with
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural ver channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (e turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish mo severe disturbance from livestock or man.	eroding); water color is muddy and

#### Notes:

INTERMITTENT STREAM PORTION. SOME POOLS PRESENT BUT NO FLOW. ATV TRAIL NEARBY AND CLEARCUTTING WITHIN RIPARIAN ZONE.





Waterbody point snok029b facing South and upstream



Waterbody point snok029b facing North and downstream



Waterbody point snok029b facing West and across

Survey Description	n	her						1-
Project Name:		Waterbody Nar				aterbody ID:		Date: 8/23/2014
Southeast Reliability				CREEN		NOK029a		
State:	County:		Company:			lember Initials:	Photos:	
Virginia	Nottoway		W&C		JS, B			094 to 5096 U D X
Tract Number(s):			Nearest Mile	epost:		Associated Wet	land ID(s):	
12-032			230			NA		
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□ Access Road		□Other:		
Physical Attributes	S							
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	mittent	Perennial				
Waterbody Type: (check one)	River Str	eam 🗆 Ditc	h 🗆 Ca	anal 🛛 Other:				
онwм	OHWM Indicat							
Width: _3_ft.	(check all that apply	/)	⊠ Clear lir on bank	ie ⊠Shelvino	g	⊠Wrested vegetation	⊠Scourin	lg □Water staining
Height:		natted, or missin	g		d	□ Abrupt plant		characteristic change
_ <u>1_</u> ft. N/A□	vegetatio			debris		community char	0	
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - 1 of Slope:	Foe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to De	epth of Wate	r:
6_ft.		4 ft.		<b>--</b>	ft.			ft.
<u> </u>		<u>4_</u> 11.		N/A⊠	<u> </u>	N/	'A⊠	
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height		Ba	ank slope	4-
□Straight		fps			<u>2</u> ft.		Righ	<u>70</u> degrees
⊠Meanderir	ng N/A⊠			Left:	<u>2</u> ft.		Lef	t: <u>60</u> degrees
Qualitative Attribu	tes							
Water Appearance:								
(check one)	No water	Clear □Turb	-	een □Sur surface scu		□Algal □0 mats	Other:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🗆 Grave	el 🛛 Sand 🗌	□ Silt/ cl	lay 🛛 Organic	□ Other:	
% of Substrate:	<u>NA</u> % <u>NA</u> %	% <u>NA</u> %	<u>NA</u> %	<u>   80  </u> %	<u>NA </u> %	<u>20</u> %	<u>NA</u> %	
Width of Riparian Zone	: Vegetative							
<u>&gt;100 ft</u> ·	(check all that Avg. DBH	apply) of Dominants:	⊠ Trees _ <u>12_</u> in.		Saplin _ <u>2_</u> in.	ngs/Shrubs:	⊠ Herbs	
N/A□ Dominant Bank Vegeta	(approx.)		_ <u>12</u> _III.	-	<u></u>			
SWEETGUM, HICK	( )	STEGIUM						
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pack	ks, large	submerged wood, ri	ffles, deep poo	ls):
NA								
Aquatic Organisms Ob	served (list):							
NA								
T&E Species Observed	(list):							
NA								
Disturbances (ex: livesto			discharge pipe	es):				
CLEARCUT NEAR	BY, ATV TRAIL							
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	ade 🛛 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	🗆 High		derate	⊠ Low				

	Waterbody ID: SNOK029a
<sup>a</sup> High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each s roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; div disturbance by livestock or man.	
<b>Moderate Quality:</b> Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active cl function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloud greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by lives	ly, submerged objects covered with
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural ve channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish mo severe disturbance from livestock or man.	eroding); water color is muddy and
Notes:	
EPHEMERAL STREAM PORTION. ATV TRAIL CROSSES STREAM. LOW QUALITY DUE	TO LACK OF WATER
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boun	dary, and IDs of associated features)
15-150Ft 150Ft	L _
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Snok	29B
snok	Ø
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Forested	52
	)
Snok 029A	<b>^</b>   ۸
C C tu N	



Waterbody point snok029a facing South and upstream



Waterbody point snok029a facing North and downstream



Waterbody point snok029a facing West and across

Survey Description	n							
Project Name:		Waterbody Nar				aterbody ID:		Date:
Southeast Reliability	Ý	UNT TO LIT	ILE WEST	CREEK	SI	NOK029b		8/23/2014
State:	County:		Company:		Crew N	lember Initials	Photo	s:
Virginia	Nottoway		W&C		JS, B			5091 to 5093 U D X
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):	
12-030, 12-031, 12-	032		230			NA		
Survey Type: (check one)	⊠Centerline	□Re-F	Route	□ Access Road		□Other:		
Physical Attributes	S							
Stream Classification: (check one)	Ephemera	I ⊠Inter	mittent	Perennial				
Waterbody Type:								
(check one)	River Stre	eam 🗌 Ditc	h 🗆 Ca	anal 🗌 Other:				
OHWM Width: _5_ft.	OHWM Indicat (check all that apply		⊠ Clear lin on bank	le ⊠Shelving	g	⊠Wrested vegetation	⊠Scou	ring ⊟Water staining
<b>Height:</b> ft. N/A□	□Bent, n vegetatio	natted, or missin n	g	ne ⊠Litter an debris	nd	□ Abrupt plan community ch		l characteristic change
Width of Waterbody - T			Foe of Slope	Width of Waterbo	ody - W		Depth of Wa	ter:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:			(Approx.)	
<u>10_</u> ft.	-	<u>5_</u> ft.		N/A⊠	ft.		N/A⊠	ft.
Sinuosity:		velocity:		Bank height			Bank slope	
(check one)	(Approx.)			Right:			Riç	jht:
		fps		Left:	<u>8</u> ft.		L	<u>80</u> degrees eft:
Meanderir	ng N/A⊠				<u>8</u> ft.			<u>110</u> degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	<sup>]</sup> No water □C	Clear □Turb		een ⊡Sur surface scu		□Algal [ mats	□Other:	
	Bedrock 🛛 Bo	ulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🗌	∃ Silt/ c	lay 🗆 Organic	□ Other:	
(check all that apply) % of Substrate:	<u>′0</u> % <u>10</u> %	_5_%	<u>   5</u> %	<u> 10 </u> %	<u>NA %</u>	<u>NA</u> %	<u>NA</u> %	
Width of Riparian Zone	: Vegetative	Layers:						
_>100 ft-	(check all that	apply) of Dominants:	<sup>⊠</sup> Trees: _ <u>12_</u> in.		⊠ Saplin _ <u>2_</u> in.	ngs/Shrubs:	⊠ Herb	S
N/A 🗆	(approx.)		_ <u>12</u> _"".	-	_ <u></u> "".			
Dominant Bank Vegeta SWEETGUM, HICK	( )	PAWPAW, C	CHRISTMA	S FERN, MICF	ROSTI	EGIUM		
Aquatic Habitats (ex: su POOLS	bmerged or emerged	l aquatic vegetatior	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood,	riffles, deep p	ools):
Aquatic Organisms Ob	served (list):							
WATER BEETLES,	SALAMANDE	RS, CRAYFIS	SH					
T&E Species Observed	(list):							
NA								
Disturbances (ex: livesto		n waterbody, waste	discharge pipe	es):				
CLEARCUT NEAR	∃Y, AIV							
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	🗆 High	⊠ Mo	derate	□ Low				

		Waterbody ID:
_		SNOK029b
,	<sup>a</sup> High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each s roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; dive disturbance by livestock or man.	
	<b>Moderate Quality:</b> Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active cl function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloud greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by lives	ly, submerged objects covered with
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural ver channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (e turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish mo severe disturbance from livestock or man.	eroding); water color is muddy and

#### Notes:

INTERMITTENT STREAM PORTION. SOME POOLS PRESENT BUT NO FLOW. ATV TRAIL NEARBY AND CLEARCUTTING WITHIN RIPARIAN ZONE.





Waterbody point snok029b facing South and upstream



Waterbody point snok029b facing North and downstream



Waterbody point snok029b facing West and across

Project Name: Waterbody Name: Waterbody ID:	
	Date:
Atlantic Coast Pipeline UNT to Deep Creek SNOM008	9/12/2014
State: County: Company: Crew Member Initials: Phot	:OS:
	33-3235, X U D
Tract Number(s): Nearest Milepost: Associated Wetland ID(s	):
12-038 230.91 NA	
Survey Type: (check one) Centerline CRe-Route Access Road Other:	
Physical Attributes	
Stream Classification:         (check one)          Ephemeral         Intermittent         Perennial	
Waterbody Type:	
(check one) □ River ⊠ Stream □ Ditch □ Canal □ Other:	
OHWM OHWM Indicator:	
Width:     (check all that apply)     □ Clear line     ⊠ Shelving     □ Wrested     ⊠ Scond       _2 ft.     on bank     vegetation	uring ⊠Water staining
	oil characteristic change
0.3 ft.     vegetation     debris     community change       N/A□	
Width of Waterbody - Top of Bank to Top of Bank:         Width of Waterbody - Toe of Slope to Toe of Slope:         Width of Waterbody - Water Edge to Water Edge:         Depth of W (Approx.)	ater:
	_0.1 ft.
	<u></u>
Sinuosity: Water velocity: Bank height Bank slope	)
⊠Straight Right R	ight: 60 degrees
Left:	Left
□ Meandering N/A □ <u>2.0_ft.</u>	45 degrees
Qualitative Attributes	
Water Appearance: (check one) □No water ⊠Clear □Turbid □Sheen □Surface □Algal □Other: on surface scum mats	
Substrate: □ Bedrock □ Boulder □ Cobble ⊠ Gravel ⊠ Sand ⊠ Silt/ clay ⊠ Organic □ Other	
(check all that apply) % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>15</u> % <u>45</u> % <u>30</u> % <u>10</u> % <u>NA</u> %	
Width of Riparian Zone: Vegetative Layers:	
(check all that apply)     ☑ Trees:     ☑ Saplings/Shrubs:     ☑ Her       _>100 ft.     Avg. DBH of Dominants:     10 in.     1 in.	bs
N/A (approx.)	
Dominant Bank Vegetation (list): RED MAPLE, WHITE OAK, RED OAK, TULIP TREE, MOCKERNUT HICKORY, IRONWOOD, BLU	EBERRY
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep	
NA	
Aquatic Organisms Observed (list):	
Aquatic Organisms Observed (list): CRAYFISH, FISH	
CRAYFISH, FISH	
CRAYFISH, FISH T&E Species Observed (list):	
CRAYFISH, FISH T&E Species Observed (list): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):	

Waterbody ID: SNOM008

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

## Notes:

FLOW IS TO THE SOUTHEAST, TIES INTO USGS MAPPED INTERMITTENT STREAM TO EAST AND OFF ROW. HIGHLY VARIABLE, BRAIDED FLOW AND LOW 15 FT WIDE BANKS IN SOME AREAS, OTHER AREAS NARROW/STEEPER. STREAM HAS STRETCHES (20FT +) OF SUB-SURFACE FLOW. VEGETATED SAND BARS BETWEEN BANKS NEAR CENTERLINE. BANKS AT CENTERLINE NEARLY A CONTINUED GRADIENT UP ADJACENT HILL SLOPES.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody point snom008 facing West and upstream



Waterbody point snom008 facing East and downstream



Waterbody point snom008 facing North and across

Survey Descrip	otion											
Project Name:			-						aterbody ID:			ate:
Atlantic Coast Pipeline UNT			UNT t	NT to Deep Creek				s	SNOM009			/12/2014
State:	Cοι	unty:		С	ompany:			Crew M	Member Initials	5:	Photos:	
Virginia	Not	ttoway		V	V&C			SG, E	В		3237-32	239, X U D
Tract Number(s):				N	earest Mile	epost:			Associated W	etland	ID(s):	
12-038				2	30.91				WNOM005	е		
Survey Type: (check one)		⊠Centerline	е	□Re-Ro	ute	□Ao	ccess Roa	ad	□Other:			
Physical Attrib	outes											
Stream Classificat (check one)	tion:	Ephemera	al	□ Interm	ittent	□Pe	erennial					
Waterbody Type: (check one)	□Rive	er 🛛 Sti	ream	□ Ditch	□ Ca	anal		er:				
OHWM Width: 2 ft.		OHWM Indica			⊠ Clear lir on bank	ne	⊠Shelv	ing	□Wrested vegetation	×	Scouring	⊠Water staining
Height: <u>0.3_</u> ft. N/A□		□Bent, r vegetatio		or missing	□Wrack li	ne	⊠Litter debris	and	□Abrupt plar community cł		□Soil ch	aracteristic change
Width of Waterboo	dy - Top c	of Width	of Water	rbody - To	e of Slope	Width	of Water	body - W	ater Edge to	Depth	of Water:	
Bank to Top of Ba	nk:	to Toe	of Slope				Edge:		0	(Approx.)		
<u>_7 ft</u> .		_	<u>2</u> ft.					<u>_1_</u> ft.			_	<u>0.1</u> ft.
0.						N/A□				N/A□		
Sinuosity: (check one)		Water (Approx.)	velocity			Bank	height Right:			Bank s	Right:	
⊠Strai	ght		(	0.1_ fps			-	<u>1_</u> ft.			•	<u>45</u> degrees
□Mear	ndering	N/A□	_				Left:	1.5_ ft.			Left	50 degrees
Qualitative Att	-							<u>o_</u>				<u> </u>
Water Appearance												
(check one)	□No v	water 🖂	Clear	□Turbid		ieen i surfac		Surface	□Algal mats	□Othe	r:	
Substrate:	□ Bec	drock 🛛 Bo	oulder		□ Grave	el 🛛	Sand	⊠ Silt/ c	lay 🛛 Organio	; □(	Other:	
(check all that apply) <b>% of Substrate:</b>	<u>NA %</u>	NA NA S	%	<u>NA</u> %	<u>NA</u> %	7	<u>5</u> %	<u>15_</u> %	<u> 10 </u> %	NA	<u>\</u> %	
Width of Riparian	Zone:	Vegetativ		:								
_>100 ft·		(check all that Avg. DBH		inants <sup>.</sup>	⊠ Trees	:			ngs/Shrubs:	$\boxtimes$	I Herbs	
<u>_&gt;100 n</u> . N/A□		(approx.)		mants.	<u>7</u> in.			_ <u>1_</u> in.				
CINNAMON FE	NHITE (	OAK, RED OWERING	<u>, DOGV</u>	<u>VOOD. I</u>	<u> HONÉYS</u>	UCKL	E					ENSITIVE FERN
Aquatic Habitats ( NA	ex: submei	rged or emerge	d aquatic	vegetation,	overhanging	banks/ro	oots, leaf p	acks, large	submerged wood	l, riffles,	deep pools	
Aquatic Organism	s Observ	ed (list):										
CRAYFISH												
T&E Species Obse NA	erved (list	):										
Disturbances (ex: NA	livestock ad	ccess, manure i	in waterbo	ody, waste d	lischarge pipe	es):						
Tributary is: (check one)		⊠ Natural		□ Artifi	cial, man-m	ade	□ Man	ipulated				
Stream Quality <sup>a</sup> : (check one)		□ High		□ Mode	erate		⊠ Low					

Waterbody ID: SNOM009

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

## Notes:

FLOW IS TO THE EAST, TIES INTO USGS MAPPED INTERMITTENT STREAM TO EAST AND OFF ROW. HIGHLY VARIABLE, LOW AND WIDE BANKS TOWARDS THE EAST ROW BOUNDARY. AREA NEAR NORTH EDGE OF ROW IS MORE NARROW/STEEPER WITH SOME COBBLES & BOULDERS. STREAM HAS STRETCHES (20FT +) OF SUB-SURFACE FLOW.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody point snom009 facing West and upstream



Waterbody point snom009 facing East and downstream



Waterbody point snom009 facing South and across

Survey Desc	ription											
Project Name:			Waterk				Naterbody ID:		Date:			
Atlantic Coast Pipeline			UNT	TO DEE	EP CREEK			SNOM010		9/12/2014		
State:	C	County:			Company:			Crew Member Initials: P				
Virginia	′irginia Nottoway				W&C S			6, EB 3265			67, X U D	
Tract Number(s):				Nearest Milepost:				Associated Wetland ID(s):				
12-043					231.23			WNOM006	f			
Survey Type: (check one)			nterline									
. ,		⊡Ce	ntenine	□Re-R	oute	Access R	Dau	□Other:				
Physical Attr Stream Classific												
(check one)		□Epl	hemeral	⊠Interr	nittent	Perennial						
Waterbody Type	:											
(check one)	□Ri	ver	Stream Stream	□ Ditcł	n 🗆 Ca	anal 🗌 Ot	ner:					
OHWM Width: 3 ft.			Indicator: that apply)									
		(Check all	тагарру)		☑ Clear line ☑ She on bank		ving	☐Wrested vegetation	Scouring Water staining			
Height:			Bent, matted, o	or missing	n. ⊡Wrack li	ne ⊠Litte	r and	□Abrupt plar	ht	□Soil cha	racteristic change	
<u>0.5</u> N/A□	ft.		getation			debris		community ch				
Width of Waterb	odv - Top	of	Width of Wate	rbody - T	oe of Slope	Width of Wat	erbody - V	Vater Edge to	Depth (	of Water:		
Bank to Top of E			o Toe of Slop			Water Edge:		J. J	(Approx.)			
4	<u>_ft.</u>		<u>3_ft</u> .				<u>2</u> ft.			_0	. <u>1</u> ft.	
0.1				-					N/A□			
Sinuosity: (check one)			Water velocity (Approx.)			Bank height Right			Bank s	Right:		
⊠Str	aight			<u>0.2_</u> fps		-	<u>1_</u> ft.			4	<u>5</u> degrees	
□Me	andering		N/A□			Left	: _ <u>1_</u> ft.			Left	50 degrees	
	44								<u> </u>			
Qualitative A Water Appearan		5										
(check one)		o water	⊠Clear	□Turbi		een □ surface	Surface scum	□Algal mats	□Other	:		
Substrate: (check all that apply)	□ B	edrock	□ Boulder		e 🗆 Grave	el 🛛 Sand	⊠ Silt/	clay 🗆 Organio	; □C	other:		
% of Substrate:	NA	<u>%</u>	<u>NA</u> %	<u>NA </u> %	<u>NA</u> %	<u>95</u> %	<u> 5 </u> %	<u>NA</u> %	NA	_%		
Width of Riparia	n Zone:	Veg	etative Layers	3:								
-	main of Riparian Zone.		ck all that apply)		⊠ Trees		🛛 Sapl	ings/Shrubs:	gs/Shrubs: ⊠ !		Herbs	
<u>&gt;100</u> N/A□	<u>ft</u> .	Avg (appr	J. DBH of Dom rox.)	inants:	<u>_10_</u> in.		<u>1</u> in.					
Dominant Bank	Vegetatio	n (list):										
RED MAPLE, REDBUD TRE Aquatic Habitats	EE. CHR	RISTMA	<u>AS FERN. S</u>	<u>EŃSITI'</u>	<u>VE FERN.</u>	<b>CINNAMO</b>	I FERN	<u>. FLOWEŔIN</u>	G DO	GWOOD	,	
	,	0	0 1	0	,	,	. , ,	0	i, iiiies, t	leep pools).		
Aquatic Organis	ms Obse	rved (list	t):									
CRAYFISH, F	ISH, FR	OGS										
T&E Species Ob	served (li	st):										
NA												
Disturbances (e>	c: livestock	access, m	nanure in waterbo	ody, waste	discharge pipe	es):						
NA												
Tributary is: (check one)			atural	□ Arti	ficial, man-m	ade 🗆 Ma	nipulated					
Stream Quality <sup>a</sup> (check one)			High 🗆 Mo		oderate 🗆 Low							

Waterbody ID: SNOM010

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:

FLOW IS TO THE SOUTH. STREAM CHARACTERISTICS ARE VARIABLE. OHWM AND BANK WIDTH ARE WIDER AND WATER IS DEEPER WITH MORE DEEP POOLS UPSTREAM FROM CENTERLINE. SNOM010 IS IDENTIFIED AS AN INTERMITTTENT STREAM ON THE USGS TOPO BUT IT APPEARED TO BE A PERENNIAL STREAM AT THE TIME OF THE SURVEY.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody point snom010 facing Northeast and upstream



Waterbody point snom010 facing Southwest and downstream


Waterbody point snom010 facing North and across

Survey Descrip	tion								<b>—</b>	
Project Name:	,						Waterbody ID:		Dat	
Southeast Relial	•	UNT	-				NOK103			6/2014
State:	County:			Company:			Member Initial		notos:	
Virginia	Nottaway	y			D & CURRAN	JD, SO				to 2405 x,u,d
Tract Number(s):				Nearest Mile	epost:		Associated W	etland ID	)	
12-044			4	232						
Survey Type: (check one)	⊠Cei	nterline	□Re-Re	oute	□Access Road	I	□Other:			
Physical Attrib	ute									
Stream Classificati (check one)		hemeral	□Intern	nittent	Perennial					
Waterbody Type: (check one)	□River	⊠ Stream	Ditch	n 🗆 Ca	anal 🛛 Other	:				
онwм		Indicator:								
Width: <u>5</u> ft.	(check all i	that apply)		⊠ Clear lin on bank	ie ⊡Shelvin	g	□Wrested vegetation	⊠S	couring	□Water staining
Height: ft. N/A□		Bent, matted, or getation	or missing	J □Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch		Soil chara	acteristic change
Width of Waterbod	y - Top of	Nidth of Wate	rbody - T	oe of Slope	Width of Waterb	ody - W	/ater Edge to	Depth of	Water:	
Bank to Top of Bar	ik: t	o Toe of Slop	e:		Water Edge:			(Approx.)		
<u>_16</u> ft.		<u> 5 </u> ft.			N/A⊠	<u>ft</u> .		N/A⊠		_ft.
Sinuosity:		Water velocity	/:		Bank height			Bank slo	ре	
(check one)		(Approx.)			Right:	o (			Right:	
			<u>0</u> fps		Left:	<u>6</u> ft.			 Left:	<u>10</u> degrees
Mean	dering	N/A⊠				<u>6</u> ft.			1	<u>10</u> degrees
Qualitative Attr										
Water Appearance: (check one)	<sup>⊠</sup> No water	□Clear	□Turbio		een ⊡Su surface sci		□Algal [ mats	□Other:		
Substrate:	Bedrock	□ Boulder		e 🗆 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic	Oth Oth	her:	
(check all that apply)NA <b>''''% of Substrate</b> :	<u>NA</u> %	<u>NA</u> %	<u>NA </u> %	<u>10</u> %	<u>40</u> %	<u>15.</u> %	<u>45</u> %	<u>NA</u>	%	
Width of Riparian Z	one: Vea	etative Layers	5:							
	(chec	ck all that apply)		⊠ Trees:	:	🛛 Saplir	ngs/Shrubs:	×H	Herbs	
<u>100 ft</u> - N/A□	Avg (appr	J. DBH of Dom rox.)	iinants:	<u>14</u> in.	-	<u>2</u> in.				
Dominant Bank Ve SYCAMORE, TU		BLACK WA	ALNUT,	AMERIC	AN ELM, PRIV	/ET, G	GRAPE, POK	EWEEI	D	
Aquatic Habitats (e	x: submerged or e	emerged aquatic	vegetation,	, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, de	ep pools):	
OVERHANGING			•							
Aquatic Organism	s Observed (li	st):								
NA										
T&E Species Obser	ved (list):									
NA										
Disturbances (ex: li MAJOR CATTLI			ody, waste	discharge pipe	es):					
Tributary is: (check one)	⊠ Na	atural	□ Artif	ficial, man-m	ade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 Hiç	gh	□ Moc	derate	⊠ Low					

		erbody ID: OK103								
roots; water	<ul> <li>a High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.</li> </ul>									
Moderate C function or r	Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.									
channel wid turbid; obvic	<b>y:</b> Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetati th on each side; lack of regeneration; filtering function severely compromised; banks unstable (erodir pous pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movemer bance from livestock or man.	ng); water color is muddy and								
Notes:										
WELL OFF F	ENT STREAM WITHIN ACTIVE CATTLE PASTURE. STREAM SNOK102 MAY TH ROW. RIPARIAN ZONE PRESENT, BUT 25 FT WIDE AND LITTLE UNDERSTORY ANKS AND CHANNEL DIRECTLY IMPACTED BY CATTLE.									
Waterbody	Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary,	and IDs of associated features)								
K	-150 -> C/L (= 150 - / PASTURE V	-) N 7								
ط در										
	DP. SNOKIO	2 v c								
V	$\kappa$	SURVEY								
rucues Survey	PASTOURE	CORRIDO								
F	SNOICIO2 C/L	Form Rev. 07/09/201								



# Waterbody point snok103 facing North and across



Waterbody point snok103 facing West and upstream



Waterbody point snok103 facing East and downstream

Survey Description	n							
Project Name:						terbody ID:		Date:
Southeast Reliabilit		UNTTODE		<b>`</b>	_	IOK102		8/16/2014
State:	County:		Company:			ember Initial	Pho	otos:
Virginia	Nottaway		WOODAR	D & CURRAN	JD, SG		IM	G 2399 to 2401 x,u,d
Tract Number(s):			Nearest Mile	epost:		Associated We	etland ID	
12-044			232			10		
Survey Type: (check one)	⊠Centerlin	e □Re-	Route	□Access Road	[	□Other:		
Physical Attribute					· · ·			
Stream Classification: (check one)	Epheme	ral □Inte	ermittent	⊠Perennial				
Waterbody Type:								
(check one)	River St	ream 🗌 Dit	ich 🗆 Ca	anal 🛛 Other:	:			
OHWM Width: _6 ft.	OHWM Indica (check all that app		⊠ Clear lir on bank	ne ⊠Shelving	g	⊠Wrested vegetation	⊠Sc	ouring ⊠Water staining
Height:	⊠Bent	matted, or missi	ng ⊡Wrack li	ne ⊠Litter ar	hd	□ Abrupt plant		Soil characteristic change
<u>4</u> ft. N/A□	vegetati	on	C C	debris		community cha	ange	ç
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - e of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - Wa	ter Edge to	Depth of Approx.)	Water:
<u>_16_</u> ft.		<u>6 ft.</u>			<u>1_</u> ft.		N/A□	<u>0.2</u> ft.
Sinuosity:	Water	velocity:		N/A□ Bank height			Bank slop	)e
(check one)	(Approx			Right:			•	Right:
		<u>_0.1</u> fps	6	Left:	<u>6</u> ft.			<u>110</u> degrees Left:
⊠Meanderin	ng N/A□				<u>6 f</u> t.			<u>110</u> degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	<sup>]</sup> No water ⊠	Clear □Tur		leen ⊡Sur surface scu		□Algal □ mats	]Other:	
Substrate:	Bedrock 🗆 B	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ cla	ay 🛛 Organic	□ Othe	er:
(check all that apply)NA ****% of Substrate: <u>N</u>	<u>A% NA</u>	% <u>5</u> %	<u>10</u> %	<u>65</u> %	<u>15</u> %	<u>5</u> %	<u>NA</u> %	)
Width of Riparian Zone	: Vegetativ	e Layers:						
<u>100 ft</u> · N/A□	(check all the	at apply) I of Dominants:	⊠ Trees <u>14</u> in.		Sapling <u>2</u> in.	js/Shrubs:	⊠ H	erbs
Dominant Bank Vegeta SYCAMORE, TULI		IPERUS, HOI	LLY, PRIVE	T, GRAPE, PC	KEWE	ED		
Aquatic Habitats (ex: su	ubmerged or emerge	ed aquatic vegetation	on, overhanging	banks/roots, leaf pacl	ks, large s	ubmerged wood,	riffles, dee	p pools):
OVERHANGING B								
Aquatic Organisms Ol	oserved (list):							
NA								
T&E Species Observed	(list):							
NA								
Disturbances (ex: livestor MAJOR CATTLE D			te discharge pipe	es):				
Tributary is:								
(check one)	⊠ Natural	□ A	rtificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	🗆 High	<u> </u>	oderate	⊠ Low				

	Waterbody ID:						
	SNOK102						
<sup>a</sup> High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.							
function or	Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged ol n; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.	each side; filtering ojects covered with					
channel wic turbid; obvie	<b>y:</b> Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less tha th on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water c bus pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to irbance from livestock or man.	olor is muddy and					
Notes:							
RIPARIAN Z	ENT STREAM WITHIN ACTIVE CATTLE PASTURE. MAY TIE INTO SNOK103 WELL OFF CONE PRESENT, BUT 50 FT WIDE AND LITTLE UNDERSTORY/HERBS DUE TO CATTLE DIRECTLY IMPACTED BY CATTLE.						
Waterbody	/ Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of	ssociated features)					
Survey corridor	-150' -> C/L (-150 -> PASTURE FUREST DP SNOK 102 PASTURE FOR TURE	ZT SURVEY CORRIDOR					
		Form Rev. 07/09/2014					



# Waterbody point snok102 facing North and across



Waterbody point snok102 facing West and upstream



# Waterbody point snok102 facing East and downstream

Survey Description	n							
Project Name:		Waterbody Name:				aterbody ID:		Date:
Southeast Reliability	y 	DEEP CREE	:r.		_	NOK100		8/16/2014
State:	County:		Company:			Member Initial	Photos:	
Virginia	Nottoway		WOODAR	D & CURRAN	JD, SG	6	IMG 2	392 to 2394 x,u,d
Tract Number(s):			Nearest Mile	epost:		Associated Wet wnok101f	land ID	
12-044			232					
Survey Type: (check one)		e □Re-F	Route	□Access Road		□Other:		
Physical Attribute								
Stream Classification: (check one)	Ephemera	al 🗆 Inter	mittent	⊠Perennial				
Waterbody Type: (check one)	River 🛛 Str	eam 🗆 Dito	:h □ Ca	anal 🛛 Other:	:			
онwм	OHWM Indica	tor:						
Width: <u>35 f</u> t.	(check all that apply	/)	⊠ Clear lir on bank	ne ⊠Shelving	g	⊠Wrested vegetation	⊠Scourin	lg ⊠Water staining
Height: 4 ft.		natted, or missin	g ⊠Wrack li		nd	□ Abrupt plant		characteristic change
N/A 🗆	vegetatio			debris		community char	nge	
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - 1 of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to D	epth of Wate	r:
		•			10 #			_ <u>0.3_</u> ft.
<u>45 ft.</u>	<u>د</u>	<u>35 f</u> t.		N/A□	<u>10_</u> ft.	N	/A□	<u> </u>
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height		Ba	ank slope	
	(,	_0.1 fps		Right:	<u>7</u> ft.		Righ	t: <u>135</u> degrees
⊠Meanderir	ng N/A□	<u></u> ipo		Left:	<u>7</u> ft.		Lef	
					<u></u> n.			
Qualitative Attribu Water Appearance:	tes							
	No water ⊠C	Clear □Turb		leen □Sur surface scu		□Algal □ mats	Other:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic	□ Other:	
	<u>A% _NA</u> %	% <u>NA</u> %	<u>5</u> %	<u>    75  </u> %	<u>15 </u> %	<u> 5 </u> %	<u>NA</u> %	
Width of Riparian Zone	: Vegetative	Lavers:						
	(check all that	apply)	⊠ Trees	: 🛛 🛛	⊠ Saplir	ngs/Shrubs:	⊠ Herbs	
<u>100 ft</u> · N/A□	Avg. DBH (approx.)	of Dominants:	<u>24</u> in.	-	<u>2</u> in.			
Dominant Bank Vegeta RED MAPLE, TULI		ET GUM, PA	W PAW, IR	RON WOOD, SI	PICE I	BUSH, CHRIS	TMAS FEI	RN, POISON IVY
Aquatic Habitats (ex: su OVERHANGING BA ROOTS								
Aquatic Organisms Ol	oserved (list):							
FROG								
T&E Species Observed	l <i>(list)</i> : □ High		/loderate	⊠ Low				
NA .								
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
NA								
Tributary is:								
(check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗌 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	⊠ High		oderate	□ Low				

	Waterbody ID: SNOK100	
roots; water	<b>:y:</b> Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable an color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aqua by livestock or man.	
function or I	Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged object n; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.	
channel wid turbid; obvid	<b>y:</b> Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 th on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color bus pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no a rbance from livestock or man.	is muddy and
Notes:		
	. STREAM, MEANDERING SAND BED STREAM WITH <2% SLOPE, MATURE RIPARIAN BUI CE BUSH UNDERSTORY, WELL ATTACHED FLOODPLAIN	FFER WITH
Waterbody	Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of assoc	ciated features)
X	150 -> C/2 (- 150 ->) WNOKIOLF	N 7
SUrvey corridor	51NO1C161	SURVEY CORRIDOR



# Waterbody point snok100 facing North and across



Waterbody point snok100 facing West and upstream



Waterbody point snok100 facing East and downstream

Survey Descriptio	n	<b>b</b>							
Project Name:						Waterbody ID:		Dat	
Southeast Reliabilit	У	UNT TO DEP	P CREEK		S	NOK101		8/1	6/2014
State:	County:		Company:		Crew I	Member Initial	F	hotos:	
Virginia	Nottoway		WOODAR	D & CURRAN	JD, SO	6	I	MG2368,	2370,2373 x,u,d
Tract Number(s):	•		Nearest Mile	epost:		Associated W wnok100f	etland	ID	
12-044			232			WHOKTUUT			
Survey Type: (check one)		e □Re-F	Poute	□Access Road	I	□Other:			
	Centennie		louie		<u> </u>				
Physical Attribute Stream Classification: (check one)	Ephemera	al 🛛 Inter	mittent	Perennial					
Waterbody Type:									
(check one)	River ⊠ Str	eam 🗆 Dito	h 🗆 Ca	anal 🗌 Other:	:				
OHWM Width: _5 ft.	OHWM Indica (check all that apply		⊠ Clear lir on bank	ne ⊠Shelvin	g	⊠Wrested vegetation		Scouring	⊠Water staining
Height: _2 ft. N/A□	⊠Bent, r vegetatic	natted, or missin n	g   □Wrack li	ne ⊠Litter ar debris	nd	□ Abrupt plar community ch		□Soil char	acteristic change
Width of Waterbody - T	op of Width	of Waterbody -	Foe of Slope	Width of Waterb	ody - W	ater Edge to		of Water:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:			(Approx.)		
<u>8</u> ft.	<u> </u>	<u>5 ft.</u>		<u>(</u> N/A□	<u>0.5_</u> ft.		N/A□	<u>0.</u>	<u>1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:				Right:	
3		<u>_0.1</u> fps		Left:	<u>3</u> ft.			<u>8</u> Left:	0_degrees
Meanderi	ng N/A□				<u>3 f</u> t.			<u> </u>	<u>30</u> degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>]</sup> No water ⊠0	Clear □Turb		leen □Sul surface scu		□Algal mats	Other	:	
	Bedrock 🗆 Bo	oulder 🗆 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	; □ 0	ther:	
(check all that apply)NA ''''% of Substrate: <u>N</u>	<u>A</u> % <u>NA</u> %	% <u>NA</u> %	<u>5</u> %	<u>    75 %                               </u>	<u>15 </u> %	<u> 5 </u> %	NA	_%	
Width of Riparian Zone	c: Vegetative	e Layers:	M Traca		2 Canli	ana/Chruhai		Llarka	
<u>_100_ft</u> - N/A□	Avg. DBH (approx.)	of Dominants:	⊠ Trees _ <u>20_</u> in.		⊴ Sapiir _1_in.	ngs/Shrubs:		Herbs	
Dominant Bank Vegeta RED MAPLE, TULI		ET GUM, PA	W PAW, IF	RON WOOD, S	PICE	BUSH, CHR	ISTMA	S FERN,	POISON IVY
Aquatic Habitats (ex: su OVERHANGING B/	5 5	1 0	, 00	<i>,</i> 1	, 0	0		,	E ROOTS
Aquatic Organisms O	bserved (list):								
NA									
T&E Species Observed	( <i>list</i> ):								
NA									
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	discharge pipe	es):					
NA									
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High	⊠ Mo	derate	□ Low					

SNOK101	
<sup>a</sup> High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable a roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable ac disturbance by livestock or man.	
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on ea function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged obje greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.	
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water coll turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no severe disturbance from livestock or man.	or is muddy and
Notes:	
INTERMITTENT STREAM CONFLUENCE WITH DEEP CREEK 50FT EAST OF CENTRLINE, MEANDER BED STREAM WITH <2% SLOPE, MATURE RIPARIAN BUFFER WITH LARGE SPICE BUSH UNDERST ATTACHED FLOODPLAIN	
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of ass	sociated features)
NOKIOO NOKIOO SNOKIOO PEEER NOKIOOF	ZT SURVEY CORRIDOR
	r

Form Rev. 07/09/2014

Waterbody ID:



# Waterbody point snok101 facing North and across



Waterbody point snok101 facing West and upstream



Waterbody point snok101 facing East and downstream

Survey Description	า	Materia du No.			Watersheeder ID-		Deter
Project Name: Atlantic Coast Pipeli	ino	Waterbody Nate			Waterbody ID: SNOC001	Date: 12/4/2014	
· · · · · · · · · · · · · · · · · · ·		UNT TO Deep					
State:	County:		Company:		Crew Member Initial		
0	Nottoway		NRG		CR, AS		0C001_001-003
Tract Number(s):			Nearest Mile	epost:		Vetland ID(s):	
12-044; 12-044.5			233.3		None		
Survey Type: (check one)		e ⊠Re-f	Route	□ Access Road	Other:		
Physical Attributes Stream Classification: (check one)							
, ,	Ephemer	ral 🗌 Inter	mittent	Perennial			
Waterbody Type: (check one)	River 🛛 St	ream 🗆 Dito	ch 🗆 Ca	anal 🛛 Other	:		
OHWM Width: _ <u>7_</u> ft.	OHWM Indica (check all that app		⊠ Clear lir on bank	ne ⊠Shelvin	g □Wrested vegetation	□Scour	ring ⊡Water staining
Height: ft. N/A□	vegetati		0	debris	community c		l characteristic change
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterbe Water Edge:	ody - Water Edge to	Depth of Wa (Approx.)	ter:
<u>8</u> ft.		<u>2.5</u> ft.		Ū	<u>3</u> ft.	N/A□	<u>0.8</u> ft.
Sinuosity:		velocity:		Bank height		Bank slope	
(check one)	(Approx.			Right:	2.5_ft.	Rig	Jht: 85 degrees
⊠Meanderir		<u>_0.5</u> fps		Left:		L	eft:
					<u>3_</u> ft.		<u>90</u> degrees
Qualitative Attribut Water Appearance:	tes						
(check one)	No water	Clear DTurb		leen □Sul surface scu	5	□Other:	
Substrate:	Bedrock 🛛 B	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	🛛 Silt/ clay 🛛 Organi	c 🗆 Other:	
% of Substrate:	%	<u>% 5</u> %	<u>20</u> %	<u>50</u> %	<u>20_% 5_%</u>	%	D
Width of Riparian Zone	: Vegetativ	ve Layers:					
<u>ft</u> . N/A⊠	(check all tha	at apply) I of Dominants:	⊠ Trees _ <u>12_</u> in.		⊠ Saplings/Shrubs: _2_in.	⊠ Herb	S
Dominant Bank Vegeta	tion (list):						
Loblolly-bay, Christr	nas fern, Japa	anese honeys	uckle, Ame	rican Beech, R	River Birch, Sycam	ore, Red M	aple
Aquatic Habitats (ex: su	bmerged or emerge	ed aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large submerged woo	d, riffles, deep p	ools):
Pool and riffles, Lea	f packs, overl	hanging roots					
Aquatic Organisms Ob None	served (list):						
T&E Species Observed	(list):						
None	. /						
Disturbances (ex: livesto	ock access, manure	in waterbody, waste	e discharge pipe	es):			
None		-					
Tributary is: (check one)	⊠ Natural		tificial, man-m	ade 🗆 Manip	ulated		
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low			

Waterbody ID: SNOC001

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Iron deposits were observed on twigs and recent sediment deposits were present.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SNOC001 facing south upstream



Waterbody SNOC001 facing north downstream



## Waterbody SNOC001 facing west across

Survey Description	on	har / 1 1 1					
Project Name: ATLANTIC COAST		Waterbody Nar UNT TO DEI		•		terbody ID: OL021	Date: 9/16/2014
			-				
State:	County:		Company: W&C			ember Initials:	Photos: 100-1274 TO 1276
Virginia Tract Number(s):	Nottoway		Nearest Mile		WLM, F		
12-045			232	epost.		NA	
Survey Type: (check one)		□Re-F	Poute	□Access Road		]Other:	
Physical Attribute							
Stream Classification: (check one)		ıl ⊠Inter	mittent	□Perennial			
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Ditc	h 🗆 Ca	anal 🛛 Other:	:		
OHWM Width: 3 ft.	OHWM Indica (check all that apply		⊠ Clear lir on bank	ne ⊠Shelving	3	⊠Wrested vegetation	□Scouring ⊠Water staining
Height: ft. N/A□	□Bent, r vegetatio	natted, or missin n	g ⊠Wrack li	ne □Litter an debris		□Abrupt plant community chan	⊠Soil characteristic change ge
Width of Waterbody -			Foe of Slope	Width of Waterbo	ody - Wat		pth of Water:
Bank to Top of Bank: <u>8_</u> ft.		of Slope: <u>3</u> ft.		Water Edge:	<u>2</u> ft.	N/A	<u>0.2</u> ft.
Sinuosity:		velocity:		Bank height		Ba	nk slope
(check one)	(Approx.)	_0.1_ fps			<u>2_</u> ft.		Right:15degrees
⊠Meander	ing N/A□			Left:	<u>3_</u> ft.		Left: _ <u>45</u> degrees
Qualitative Attribu	utes					I	
Water Appearance: (check one)	<sup>□</sup> No water ⊠0	Clear □Turb		neen ⊡Sur i surface scu		□Algal □C mats	ther:
	Bedrock Bo	ulder 🗆 Cobb	le 🛛 Grave	el 🛛 Sand 🗌	□ Silt/ cla	y 🛛 Organic	□ Other:
(check all that apply) % of Substrate:	<u>NA % NA '</u>	% <u>NA</u> %	<u> 10 </u> %	80_%	<u>NA_</u> %	<u> 10 </u> %	<u>NA_</u> %
Width of Riparian Zon	e: Vegetative	Layers:					
<u>_&gt;100_ft</u> · N/A□	(check all that <b>Avg. DBH</b> (approx.)	apply) of Dominants:	<sup>⊠</sup> Trees <u>14</u> in.		⊠ Sapling: <u>3</u> in.	s/Shrubs:	⊠ Herbs
Dominant Bank Veget	ation (list):						
BEECH, SOURWC	DOD, VACCINIL	JM, ATHYRIU	JM, HOLLY	Y, PAW PAW, N	MICROS	STEGIUM	
Aquatic Habitats (ex: s SOFT SAND/MUC				banks/roots, leaf pacl	ks, large su	ubmerged wood, riff	les, deep pools):
Aquatic Organisms Ol	bserved (list):						
FROGS, CRAYFIS	H, STONEFLIE	S, COLEOPT	FERANS				
T&E Species Observe NA	<b>d</b> (list):						
Disturbances (ex: lives NA	tock access, manure i	n waterbody, waste	e discharge pipe	es):			
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated		
Stream Quality <sup>a</sup> : (check one)	🗆 High	⊠ Mo	derate	□ Low			

Waterbody ID:
SNOL021

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:

GOOD QUALITY HEADWATER INTERMITTENT STREAM WIH SEEPY STREAMBANKS; SOME SUBTERRANEAN FLOW IN AREAS

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) 150' early specessional scrub subterranean NOLOZI Upland forest



Waterbody data point snol021 facing north, downstream



Waterbody data point snol021 facing south, upstream



Waterbody data point snol021 facing east, across

Survey Description		- I					
Project Name:		Waterbody		,		erbody ID:	Date:
ATLANTIC COAST F	PIPELINE	UNITOI		< Comparison of the second sec	SNO	OL020	9/16/2014
State: 0	County:		Company:		Crew Me	mber Initials:	Photos:
Virginia	Nottoway		W&C		WLM, F	RMS	100-1271 TO 1273
Tract Number(s):			Nearest Mil	epost:	A	ssociated Wetlar	nd ID(s):
12-045 AND 12-047			233		Ν	A	
Survey Type: (check one)	⊠Centerlir	ne 🗆 F	Re-Route	□ Access Road		Other:	
Physical Attributes							
Stream Classification: (check one)	Epheme	ral ⊠I	ntermittent	Perennial			
Waterbody Type:							
(check one)	River 🛛 S	tream 🗆	Ditch 🗆 C	anal 🛛 Other:	:		
онwм	OHWM Indic				. 5		
Width: _ <u>4_</u> ft.	(check all that ap	<i>лу)</i>	⊠ Clear lii on bank	ne Shelving		⊠Wrested /egetation	□Scouring ⊠Water staining
Height:	□Bent,	matted, or mi	ssing ⊠Wrack I	ine ⊠Litter an	nd 🛛	☐Abrupt plant	Soil characteristic change
_ <u>1_</u> ft. N/A□	vegetat	on	-	debris	C	community change	)
Width of Waterbody - To			y - Toe of Slope	Width of Waterbo	ody - Wate		h of Water:
Bank to Top of Bank:	to To	e of Slope:		Water Edge:		(Appro	X.)
<u>12</u> ft.		_4_ft.			<u>2</u> ft.	N/A	<u>0.2</u> ft.
Sinuosity:	Wate	velocity:		Bank height		-	slope
(check one)	(Approx	.)		Right:			Right:
		0.3_	_fps	Left:	<u>4_</u> ft.		<u>35</u> degrees Left:
⊠Meandering	9 N/A□				<u>3_</u> ft.		<u>35</u> degrees
Qualitative Attribute	es						
Water Appearance: (check one)	No water 🛛 🖂	Clear 🗆		neen DSur n surface scu		□Algal □Oth mats	ner:
Substrate:	Bedrock 🗆 B	oulder 🗆 C	obble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ clay	/ ⊠ Organic □	] Other:
(check all that apply) % of Substrate: N	<u>A_% NA</u>	% NA	% 20 %	65 %	5 %	<u>10 %</u>	<u>NA_</u> %
					<u> </u>	<u>    10  </u> /0 <u> </u>	<u>vr </u> /0
Width of Riparian Zone:	(check all th	ve Layers: at apply)	⊠ Trees	: 🛛	☑ Saplings	s/Shrubs:	⊠ Herbs
<u>&gt;100 ft</u> ·	Avg. DBI (approx.)	H of Dominan	ts: <u>14</u> in.		<u>_2</u> in.		
N/A□ Dominant Bank Vegetati	,						
POPLAR, QUERCUS	S SPP., DOO	GWOOD, P	AW PAW, GC	ODYERA, ARI	SAEMA	, CHRISTMAS	FERN
Aquatic Habitats (ex: sub	0 0			•		<b>u</b>	s, deep pools):
SOFT SAND/MUCK,	, UNDERCU	T BANKS, (	OVERHANGI	NG VEG, LEAF	PACKS	6	
Aquatic Organisms Obs	. ,						
FROGS, CHIRONIM	IDAE						
T&E Species Observed (	(list):						
NA							
Disturbances (ex: livestoc	k access, manure	in waterbody, v	vaste discharge pip	es):			
NA							
Tributary is: (check one)	⊠ Natural		Artificial, man-m	nade 🗆 Manipu	ulated		
Stream Quality <sup>a</sup> :							
(check one)	🗆 High	$\boxtimes$	Moderate	□ Low			

	SNOL020						
a	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.						
	<b>Moderate Quality:</b> Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.						
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.						
I	Notes:						
GOOD QUALITY HEADWATER INTERMITTENT STREAM; RIPARIAN ZONE WELL STRATIFED							

Waterbody ID:







Waterbody data point snol020 facing north, downstream



Waterbody data point snol020 facing south, upstream



Waterbody data point snol020 facing east, across

Survey Description	on						<u> </u>				
Project Name:		Waterbody Name:						aterbody ID:		Date:	
Atlantic Coast Pipe	eline	UNT to Deep Creek					S	Snoc050			11/19/2015
State:	County:		Co	ompany:			Crew N	lember Initials	:	Photos:	
Virginia	Nottoway	y	N	RG			CR, S	SA		1-3	
Tract Number(s):			Ne	earest Mile	epost:			Associated W	etland	ID(s):	
12-047-AR 1								None			
Survey Type: (check one)	□Cer	nterline	□Re-Rou	ute	⊠Aco	ess Road		Other:			
Physical Attribute											
Stream Classification (check one)		hemeral	⊠Intermi	ttent	□Per	ennial					
Waterbody Type:											
	□River	Stream Stream	□ Ditch	□ Ca	anal	□ Other	:				
ОНWM		Indicator:									
Width: _2_ft.	(check all t	that apply)		☑ Clear lir on bank	1e	Shelvin	g	☐Wrested vegetation		Scouring	g ⊟Water staining
Height:		Bent, matted, or	<sup>,</sup> missing	□Wrack li	ne	□Litter ar	nd	□Abrupt plan		□Soil cł	naracteristic change
<u>0.5_</u> ft. N/A□	ve	getation				debris		community ch	ange		
Width of Waterbody -		Nidth of Water		e of Slope			ody - W	ater Edge to		of Water	:
Bank to Top of Bank:	t	o Toe of Slope	:		Water I	-dge:			(Approx.)	)	
<u>_20_</u> ft.		<u>1_</u> ft.				-	<u>2</u> ft.		N/A□	-	<u>_0.5_</u> ft.
Sinuosity:	\	Water velocity:			N/A□ Bank h	eight			Bank s	slone	
(check one)		(Approx.)			Juni	Right:			Danie	Right	:
		_(	<u>).5_</u> fps			Left:	<u>10_</u> ft.			Left	80 degrees
⊠Meander	ring	N/A□					<u>10_</u> ft.			Len	<u>80</u> degrees
Qualitative Attrib	utes										
Water Appearance: (check one)	$\Box$ No water	⊠Clear	□Turbid	□Sh	een	□Su	rface	□Algal	□Othe	r:	
				-	surface	SCI		mats			
Substrate: (check all that apply)	Bedrock	□ Boulder [		Grave Grave	el 🖂 :	Sand [	⊠ Silt/ c	lay 🗆 Organic	; 🗆 (	Other:	
% of Substrate:	%	_%	_%	<u> 10 </u> %	_30	)_%	<u>60 </u> %	%		%	
Width of Riparian Zor		etative Layers:									
20 ft-		k all that apply) <b>. DBH of Domi</b>	nants.	⊠ Trees				ngs/Shrubs:	$\geq$	I Herbs	
N/A 🗆	(appr			<u>12</u> in.		-	<u>2</u> in.				
Dominant Bank Veget											
Red oak, red mapl	e, sweet-g	um, multiflor	a rose, b	beech, Ja	apanes	e honey	suckl				
Aquatic Habitats (ex: s	submerged or e	emerged aquatic v	egetation, c	overhanging	banks/roo	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	5):
None											
Aquatic Organisms O	bserved (list	*):									
None											
T&E Species Observe	ed (list):										
None											
Disturbances (ex: lives	stock access, m	nanure in waterboo	dy, waste di	scharge pipe	es):						
Stream starts belo	w a gravel	road									
Tributary is: (check one)	⊠ Na	itural	□ Artific	ial, man-m	ade	Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 Hię	gh	⊠ Mode	erate		□ Low					

Waterbody ID:

Snoc050

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:

Stream starts below the access road at a head cut. No culvert is present under the road. Raining at time of survey

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





Waterbody SNOC050 facing northwest upstream



Waterbody SNOC050 facing northeast downstream



## Waterbody SNOC050 facing north across

Survey Description								
Project Name: ATLANTIC COAS		Waterbody Na UNT TO DE		·		aterbody ID: NOL019		Date: 9/16/2014
			-	<b>\</b>			Dhat	
State: Virginia	County: Nottoway		Company: W&C		WLM,	Aember Initials		os: -1268 TO 1270
Tract Number(s):	Nottoway		Nearest Mile	anost:	vv Livi,	Associated W		
12-045			233			NA		
Survey Type:								
(check one)		e □Re-l	Route	□ Access Road	t t	□Other:		
Physical Attribute Stream Classification								
(check one)	□ Ephemer	al 🗆 Inter	rmittent	⊠Perennial				
Waterbody Type:								
(check one)	□River ⊠ St	ream 🗌 Dito	ch 🗆 C	anal 🗌 Other	r:			
OHWM Width:	OHWM Indica (check all that app		⊠ Clear lir	ne ⊠Shelvir	na	⊠Wrested	□Scou	uring DWater
<u> </u>			on bank		.9	vegetation		staining
Height: 1 ft.	,	matted, or missir	ng ⊠Wrack li		nd	□ Abrupt plan		oil characteristic change
N/A 🗆	vegetatio			debris		community ch	ange	
Width of Waterbody - Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W		Depth of W (Approx.)	ater:
14 ft.		_5_ ft.		J	_3_ ft.			0.2 ft.
<u>_1+</u> it.				N/A□	<u></u> n.		N/A□	
Sinuosity: (check one)	Water (Approx.	velocity:		Bank height			Bank slope	
□Straight		_0.5_ fps	6	Right:	<u>4_</u> ft.			ght: <u>80</u> degrees
⊠Meande	ring N/A 🗆			Left:	_4_ft.			Left: 
Qualitative Attrib	utes							
Water Appearance: (check one)	□No water ⊠	Clear □Turt	oid ⊡Sh		Irface		]Other:	
					um	□Algal [ mats		
Substrate: (check all that apply)	Bedrock DB	oulder 🗆 Cobl	ole 🛛 Grav	el 🛛 Sand	⊠ Silt/ c	lay 🗆 Organic	□ Other	:
	<u>2</u> % <u>NA</u>	<u>% NA %</u>	<u>    30   </u> %	<u>68</u> %	<u>10 </u> %	<u>NA</u> %	<u>NA</u> %	
Width of Riparian Zor	ne: Vegetativ	e Layers:						
>100 ft·	(check all tha	t apply)	⊠ Trees			ngs/Shrubs:	⊠ Her	bs
N/A 🗆	(approx.)	or Dominanto.	<u>12</u> in.		<u>1</u> in.			
Dominant Bank Vege	. ,							
POPLAR, BEECH	· · ·							
Aquatic Habitats (ex: SOFT SANDY SE	8 8	1 0	, 00	· ·	, 0	submerged wood	, riffles, deep	pools):
	•		1 0010, 11					
Aquatic Organisms O FISH, CRAYFISH,	. ,							
. ,	•							
T&E Species Observe	ea ( <i>11ST)</i> :							
Disturbances (ex: lives	stock access, manure	in waterbody, wast	e discharge pipe	es):				
NA		-						
Tributary is:								
(check one)	⊠ Natural	□ Ar	tificial, man-m	iade 🗌 Manip	oulated			
Stream Quality <sup>a</sup> : (check one)	🛛 High		oderate	□ Low				

		Waterbody ID:		
		SNOL019		
а	High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each s roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; dividisturbance by livestock or man.			
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; the function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.				
	Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural ve channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (a turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish mo severe disturbance from livestock or man.	eroding); water color is muddy and		

#### Notes:

SMALL PERENNIAL WITH HARDWOOD FOREST RIPARIAN ZONE. BANKS INTACT AND HIGH LOADING OF SANDY SEDIMENTS.



Form Rev. 07/09/2014



Waterbody data point snol019 facing north, downstream



Waterbody data point snol019 facing south, upstream


Waterbody data point snol019 facing east, across

Linear Waterbody Data	a Sheet					
Survey Description				CH: # Manager 199	Ale Marine	
Project Name:	Waterbody N			Waterbody ID:		Date:
ACP	YNT	to Dee	p Creek	snop		01/10/10
	/Parish:	Company:	to galactic and	Crew Member Initia	and the second s	
v /−1	ottoway	EST	The second second second second	J.B., S	Wetland ID(s):	N,E
Tract Number(s): 12-054		Nearest Mile 23	7.4	Whop		nopoe2
Survey Type: (check one)	Centerline	-Route	□Access Road	□Other:		AN ANT A PROPERTY AND A PROPERTY AND
Physical Attributes		San She was a state of the			<b>建长行为了这些多人的</b> 能	
Stream Classification:	Ephemeral Dinte	ermittent				
Waterbody Type: (check one)	🗙 Stream 🗆 Di	tch 🗆 Ca	nal 🗆 Other			
	/M Indicator: « all that apply)	Clear line	e 🗆 Shelvin	g DWrested vegetation	□Scourin	g ⊟Water staining
Height: < 1_ft.	Bent, matted, or missi vegetation	ing XWrack lin	e □Litter ar debris	nd		haracteristic change
Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - to Toe of Slope:	- Toe of Slope	Width of Waterb Water Edge:	ody - Water Edge to	Depth of Wate (Approx.)	. 1
<u> </u>	_2_ft.		N/A□	<u>2_ft.</u>	N/A	<u>&lt; 1</u> ft.
Sinuosity:	Water velocity:		Bank height		Bank slope	
(check one)	(Approx.)		Right:	< 1	Righ	t: (00 degrees
Meandering	N/A□	fps	Left: <	<u>دا</u> <del>ا</del> .	Let	t: 00 degrees
Qualitative Attributes	STATISTICS AND					Ale and the state of the state
Water Appearance:	1.4					
(check one)	er ØClear □Tu		surface squ	um mats	□Other:	
Substrate:   Bedroo	k 🗆 Boulder 🗆 Cob	oble 🗆 Grave	Sand	Silt/ clay D Organ	nic 🖸 Other:	
(check all that apply) % of Substrate:%	%	_%	% <u>70</u> %	30%	%%	
	/egetative Layers:	÷.		1	Harbe	No. Inc. Inc.
19 ft.	check all that apply) Avg. DBH of Dominants approx.)	: 10	in.	Saplings/Shrubs:	A Herbs	ı.
Dominant Bank Vegetation (lis	t):				1111	Carlos
Liquidambarstyr	aciflug. Ilexa	paca Ji	iniperus v	urginiana	Carpinu.	r caroliniana
Aquatic Habitats (ex: submerged	or emerged aquatic vegetat	ion, overhanging I	banks/roots, leaf pac	ks, large submerged wo	od, riffles, deep poo	ds):
U.F. Hould ind	bots, woody	debri.	C Luidon	(A	•	
Aquatic Organisms Observed NONE OBSERVE						
T&E Species Observed (list):	u		17 N. 17			
None observe	a					
Disturbances (ex: livestock acces	s, manure in waterbody, was	ste discharge pipe	s):			
Tributary is:	Natural C A	Artificial, man-m	ade 🗆 Manip	ulated		
Stream Quality *:		Noderate	Low			Aurola and America

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Form Rev. 05/16/2014

Environmental Field Surveys Waterbody Photo Page



Waterbody data point snop001 facing south upstream.



Waterbody data point snop001 facing north downstream.

Environmental Field Surveys Waterbody Photo Page



Waterbody data point snop001 facing east across bank.

Survey De				<u> </u>							
Project Name				-					Aterbody ID:	Date	
Southeast F					NINGHAN		ER		NOK010		8/2014
State: Virginia		ounty: ottoway			Company: VOODAR	D & C	URRAN		Member Initial	<b>Photos:</b> 100-0034 TO	0036, U D X
Tract Number		,			learest Mile			,	Associated W	etland ID	
12-061	.,				234	-			NA		
Survey Type: (check one)		⊠Centerline	9	□Re-Ro	oute		ccess Road		□Other:		
Physical A											
Stream Class (check one)	sification:	⊠Ephemer	al	□Interm	nittent	□P	erennial				
Waterbody Ty (check one)	<b>ype:</b> □Ri	iver 🛛 Sti	ream	Ditch	□ Ca	anal	□ Other	:			
OHWM Width:	2 ft.	OHWM Indica (check all that app			⊠ Clear lin on bank	e	□Shelvin	g	⊠Wrested vegetation	⊠Scouring	□Water staining
Height:	<u>.5 f</u> t.	□Bent, i vegetatio		missing	□Wrack lii	ne	⊠Litter ai debris	nd	□Abrupt plan community ch		cteristic change
Width of Wate					pe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth of Water:	
Bank to Top o	of Bank:	to Toe	of Slope:			Water	Edge:			(Approx.)	
	<u>3</u> ft.	-	<u>2 </u> ft.			N/A⊠		ft.		N/A⊠	ft.
Sinuosity:			velocity:				height			Bank slope	
(check one)	Straight	(Approx.)					Right:	1 4		Right:	dograda
57	1 Marana alaminan		-	<u>0</u> fps			Left:	<u>    1  </u> ft.		Left:	degrees
	Meandering	N/A⊠						<u>1</u> ft.		30	<u>degrees</u>
Qualitative Water Appear		S									
(check one)		o water	Clear	□Turbic		een surfac	⊡Su e sci		□Algal I mats	□Other:	
Substrate: (check all that appl		edrock 🗆 Bo	oulder [		e 🗆 Grave	el 🛛	Sand	⊠ Silt/ o	clay 🛛 Organic	Other:	
""% of Subst		<u>۸۸</u> ۹	% <u>N</u>	I <u>A </u> %	<u>NA </u> %	1	<u>10 </u> %	<u>30 </u> %	<u>  60  </u> %	<u>NA %</u>	
Width of Ripa	arian Zone:	Vegetativ (check all tha									
 N/A□	<u>) ft</u> ·	(check all that Avg. DBH (approx.)		nants:	<sup>⊠</sup> Trees: <u>12</u> in.			⊠ Saplii _ <u>2 i</u> n.	ngs/Shrubs:	⊠ Herbs	
Dominant Ba LOBLOLLY			SOURW	ood, f	RED MAP	LE, A	MERICA	N HO	LLY, CHRIS	TMAS FERN	
Aquatic Habit	tats (ex: subm	nerged or emerge	d aquatic v	egetation,	overhanging	banks/r	oots, leaf pac	ks, large	submerged wood	, riffles, deep pools):	
OVERHAN	GING BAN	IKS, LEAF F	PACKS								
Aquatic Orga	anisms Obse	erved (list):									
NA											
T&E Species	Observed (li	ist):									
NA											
Disturbances NA	(ex: livestock	access, manure	in waterbod	ly, waste o	discharge pipe	es):					
Tributary is: (check one)		⊠ Natural		□ Artif	icial, man-m	ade	🗆 Manip	ulated			
Stream Qualit (check one)	ty ª :	□ High		⊠ Mod	erate		□ Low				

				Waterbody ID:	
		_		snok010	
roots; water	y: Natural channel, natural vegetation extends a color is clear to tea-colored; no barriers to fish by livestock or man.				
function or ri	<b>uality:</b> Altered channel evidenced by rip-rap; n parian vegetation only moderately compromised; moderate odor; minor barriers to fish movement	l; banks moderately uns	stable; water color is clou	dy, submerged objects cove	
channel widt turbid; obvio	r: Channel is actively down cutting or widening; h on each side; lack of regeneration; filtering fus pollutants (algal mats, surface scum, surface bance from livestock or man.	unction severely compre	omised; banks unstable	(eroding); water color is mu	uddy a
Notes:					
	STREAM IN MIXED FOREST WITH				ልኮድ
	D WITH ROOTS IN CHANNEL.	JEUJED CANUPT	. CHAININEL DECUI	WILS DEFINED AT HE	.ADG
Waterbody	Sketch (Include north arrow, centerline, distan	ce from centerline, data	point location, survey bour	ndary, and IDs of associated	l featu
1+-		_11_			4
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8	FOILE			K /	
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5					
7			MILL		
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		*			
		ł			

Form Rev. 07/09/2014



Waterbody point snok010 facing North and upstream



Waterbody point snok010 facing South and downstream



Waterbody point snok010 facing East and across

Survey Desci	ription											
Project Name:			Water	body Nam	e:			v	aterbody ID:		D	ate:
Southeast Rel	liability		WINN	NINGHAN	I CREEK			S	NOK011		8	/18/2014
State:	Co	ounty:	•	C	Company:			Crew I	Member Initial	F	Photos:	
Virginia	No	ottoway		V	VOODAR	D & Cl	JRRAN	JD, JS	i	1	100-0053	TO 0055, X U D
Tract Number(s)	):			Ν	learest Mile	epost:			Associated W wnok010e/f	etland	ID	
12-061				2	234				WHORETOEN			
Survey Type: (check one)		⊠Centerli	ne	□Re-Ro	oute	□Acc	cess Road		□Other:			
Physical Attr	ibute											
Stream Classific (check one)	ation:	Epheme	eral	□Interm	ittent	⊠Per	ennial					
Waterbody Type	<u>.</u>	=p				<u> </u>						
(check one)	r. □Riv	ver 🛛 S	stream	Ditch	🗆 Ca	anal	□ Other:					
онwм		OHWM India										
Width: 50 ft		(check all that ap	ply)		☑ Clear lin on bank	ne	Shelving	g	⊠Wrested vegetation	$\boxtimes$	Scouring	⊠Water staining
Height:		Bent	matted.	or missing	⊠Wrack li	ne	⊠Litter ar	nd	⊠Abrupt plan	t	□Soil cha	aracteristic change
_ <u>5</u> ft. N/A□		vegetat		0			debris		community ch			0
Width of Waterb					be of Slope			ody - W			of Water:	
Bank to Top of E	Sank:	to Io	e of Slop	e:		Water E	zage:			(Approx.)		
_70	<u>) ft.</u>		<u>50 ft</u> .				_	<u>50</u> ft.		N/A□	-	<u>     5  f</u> t.
Sinuosity:		Wate	r velocity	<i>v</i> -		N/A⊠ Bank h	eight			Bank s	lone	
(check one)		(Approx		,.		Damen	Right:			Danks	Right:	
	raight			<u>_0</u> fps			•	<u>5</u> ft.			•	0_degrees
⊠Me	eandering	N/A□	]				Left:	<u>5 f</u> t.			Left:	0_degrees
Qualitative A		5										
Water Appearan (check one)		water [	Clear	⊠Turbid	-	een surface	⊡Sur scu		□Algal   mats	⊠Other	pond li	ly, rice cut grass
Substrate:		edrock 🗆 E	Boulder		e 🗆 Grave	el 🗆 S	Sand D	⊠ Silt/ c	lay 🛛 Organic	: 🗆 C	Other:	
(check all that apply)NA """% of Substrate	e: <u>NA</u> %	NA	.%	<u>NA </u> %	<u>NA</u> %	NA	<u>4</u> % _	<u>40 </u> %	<u>  60  </u> %	NA	_%	
Width of Riparia	n Zone:	Vegetati	ve Layer	s:								
		(check all th	nat apply)		⊠ Trees	:	Σ	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>100 ft</u> ∙ N/A□	•	Avg. DB (approx.)	H of Don	ninants:	<u>18</u> in.		-	<u>2</u> in.				
Dominant Bank WILLOW, RIV			CUT GI	RASS, P	OND LILY	r, aldi	ER,					
Aquatic Habitats	s (ex: subme	erged or emerg	ed aquatio	vegetation,	overhanging	banks/roo	ots, leaf pac	ks, large	submerged wood	, riffles, o	deep pools)	:
EMERGED A	ND SUBI	MERGED	VEGET	ATION,	SWAMP	STILL \	WATER					
Aquatic Organis	sms Obse	rved (list):										
FROG, TURTLE,	FISH											
T&E Species Ob	served (lis	st):										
NA												
Disturbances (ex	x: livestock a	access, manure	e in waterb	ody, waste o	discharge pipe	es):						
NA												
Tributary is: (check one)		⊠ Natural		Π Λrtifi	cial, man-m	ade	🗆 Manipu	Ilated				
Stream Quality <sup>a</sup>	:				oiai, man-m			ualeu				
(check one)		🖾 High		□ Mod	erate		□ Low					

	Waterbody ID: SNOK011	
root	h Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protects; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic hab urbance by livestock or man.	
func	derate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; ction or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects cover enish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.	
cha turb	<b>v Quality:</b> Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the innel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is mud bid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic lere disturbance from livestock or man.	dy and
Note	es:	
SURF AND E	NNIAL STREAM/SWAMP. WATER SURFACE MEETS TOP OF BANK, LILLY PADS AND GRASS FLOAT ACE. DRAINING ADJACENT PEM/PFO WETLAND WNOK010. COULDN'T MAP WITHOUT CHEST WADE BOAT.	ERS
wat	erbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated fe	eatures)
	150 Ft 150 Ft	
	WNOKEOJOF	
220	V WNOKOIOE V N V	V • 0 <sup>-</sup>
「いっ」	000000000000000000000000000000000000000	200
۲ (	SNOKOII WINNINLHAM	Ъ-
ふっく	V V V V V V V V V V V V V V V V V V V	S U 12 V É
	WNOICOIOF	
-		eev. 07/09/2014



Waterbody point snok011 facing Southwest and upstream



Waterbody point snok011 facing Northeast and downstream



Waterbody point snok011 facing East and across

Survey Descriptio	n										
Project Name:			ody Nam					aterbody ID:			Date:
Southeast Reliabilit	У	UNT T	O WIN	NINGHAN	1 CREE	ΞK	S	NOK012		E	3/19/2014
State:	County:	<b>I</b>	0	Company:			Crew I	Member Initial		Photos:	
Virginia	Nottoway			NOODAR		JRRAN	JD, JS				TO 0073, U D X
Tract Number(s): 12-063				Nearest Mile 235	epost:			Associated W WNOK011E	etland	ID	
Survey Type: (check one)	⊠Cente	rline	□Re-Ro	oute	□Acc	ess Road		□ □Other:			
Physical Attribute											
Stream Classification: (check one)		meral	⊠Intern	nittent	□Per	ennial					
Waterbody Type: (check one)	∃River ⊠	Stream	Ditch	n 🗆 Cá	anal	□ Other:					
OHWM Width: <u>3 ft.</u>	OHWM Ind (check all that			⊠ Clear lir on bank	10	⊠Shelvinç	g	⊠Wrested vegetation	×	Scouring	□Water staining
Height: <u>0.5</u> ft. N/A□	vege	nt, matted, o tation	Ū			⊠Litter an debris		□Abrupt plar community ch		□Soil ch	aracteristic change
Width of Waterbody - Bank to Top of Bank:		th of Water foe of Slope		oe of Slope	Width o Water E		ody - W	ater Edge to	Depth (Approx.)	of Water:	1
<u>15 f</u> t.		<u>3</u> ft.			N/A□	-	<u>1</u> ft.		N/A⊠	-	<u>0.1_</u> ft.
Sinuosity: (check one)		ter velocity:	:		Bank h	eight			Bank s	slope	
	(Ap)		<u>0.1 fps</u>			Right:	<u>3</u> ft.			Right:	45 degrees
⊠Meanderi	ng N/A	_				Left:	<u>3 ft</u> .			Left:	_45_degrees
Qualitative Attribu	ites										
Water Appearance:											
(check one)	<sup>⊥</sup> No water	⊠Clear	□Turbio		een surface	⊡Sur scu		□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder		e 🛛 Grave	el 🛛 S	Sand 🛛	⊠ Silt/ c	clay 🛛 Organio		Other:	
	<u>A%</u>	<u>NA</u> % <u>I</u>	<u>NA </u> %	<u>20</u> %	_30	_% _4	<u>45 </u> %	<u> 5 </u> %	NA	<u> </u> %	
Width of Riparian Zone		ative Layers	:	M <b>-</b>		5		(O)	5		
<u>100 ft</u> . N/A□	Ľ	BH of Domi	inants:	⊠ Trees <u>16</u> in.			<u>2</u> in.	ngs/Shrubs:	×	Herbs	
Dominant Bank Vegeta IRON WOOD, TUL		, RIVER E	BIRCH,	SWEET G	GUM, P	AW PAV	N, CA	REX, BED S	STRAV	V, CHR	ISTMAS FERN
Aquatic Habitats (ex: s	ubmerged or em	erged aquatic	vegetation,	, overhanging	banks/roo	ts, leaf pack	ks, large	submerged wood	, riffles,	deep pools	):
LWD, LEAF PACKS	S, ROOTS,	EMERGE	D AQU/	ATIC VEG	ETATI	ON					
Aquatic Organisms O	bserved (list)	:									
FISH, FROG, WATER E	Boatman										
T&E Species Observed	d (list):										
NA											
Disturbances (ex: livest	ock access, man	ure in waterbo	dy, waste	discharge pipe	es):						
Tributary is: (check one)	⊠ Natu	al	□ Artif	icial, man-m	ade	🗆 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	⊠ High			lerate		□ Low					

				Waterbody ID:	
		_		SNOK012	
roots; v		atural vegetation extends at least one colored; no barriers to fish movement			
functior	n or riparian vegetation on	nel evidenced by rip-rap; natural vege ly moderately compromised; banks mo or barriers to fish movement; fair aquati	derately unstable; water co	lor is cloudy, submerged obj	each side; filterii jects covered wi
channe turbid;	el width on each side; lacl	/ down cutting or widening; rip rap and of regeneration; filtering function sev nats, surface scum, surface sheen); h or man.	erely compromised; banks	unstable (eroding); water co	olor is muddy ai
Notes:					
	-	HARDWOOD FOREST WITH ( , FRINGE WETLAND WNOKO		EANDERING CHANNE	EL WELL
Waterb	body Sketch (Include n	orth arrow, centerline, distance from cer	nterline, data point location, s	survey boundary, and IDs of as	ssociated featur
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		60	N		
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Form Rev. 07/09/2014



Waterbody point snok012 facing South and upstream



Waterbody point snok012 facing North and downstream



Waterbody point snok012 facing West and across

Survey Descriptio	n							
Project Name:		Waterbody Na				aterbody ID:		Date:
Southeast Reliabilit	У	UNT TO WI	NNINGHAN	A CREEK	SI	NOK013		8/19/2014
State:	County:		Company:		Crew N	lember Initial	Phot	os:
Virginia	Nottoway			D & CURRAN	JD, JS			0074 TO 0076, U D X
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID	
12-063			235			NA		
Survey Type: (check one)	⊠Centerlin	e □Re-I	Route	□ Access Road		□Other:		
Physical Attribute								
Stream Classification: (check one)	⊠Ephemer	al □Inter	rmittent	Perennial				
Waterbody Type:								
(check one)	River ⊠ St	ream 🗆 Dite	ch 🗆 Ca	anal 🗌 Other:	:			
OHWM Width:	OHWM Indica (check all that app		⊠ Clear lir	ne ⊠Shelvin	g	⊠Wrested	⊠Scou	3
<u>2</u> ft.			on bank			vegetation		staining
Height: <u>0.5</u> ft. N/A□	⊠Bent, vegetati	matted, or missir on	ng	ne ⊠Litter ar debris	nd	□ Abrupt plant community ch		oil characteristic change
Width of Waterbody - 1			Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth of W	ater:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(	(Approx.)	
<u>15 ft</u> .		<u>2 </u> ft.		N/A□	<u>1</u> ft.		N/A⊠	<u>0.1</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank slope	
(check one)	(Approx.	)		Right:			Ri	ght:
		fps		Left:	<u>8</u> ft.			60_degrees
⊠Meanderi	ng N/A⊠			2011	<u>10 </u> ft.			degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	<sup>]</sup> No water ⊠	Clear DTurk		neen ⊡Sui i surface scu		□Algal [ mats	∃Other:	
Substrate:	Bedrock 🗆 B	oulder 🗆 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ cl	lay 🛛 Organic	Other	:
(check all that apply)NA ''''% of Substrate: <u>N</u>	<u>A% NA</u>	% <u>NA</u> %	<u>15</u> %	<u>    30  </u> %	<u>45 </u> %	<u>10</u> %	<u>NA</u> %	
Width of Riparian Zone	e: Vegetativ	e Layers:						
<u>100 ft</u> -	(check all the Avg. DBH		⊠ Trees <u>12</u> in.		⊠ Saplin _ <u>3_</u> in.	ngs/Shrubs:	⊠ Her	bs
N/A  Dominant Bank Vegeta	(approx.) ation (list							
IRON WOOD, WHI		IP POPLAR, F	PAW PAW,	CAREX, BED	STRA	W, CHRISTN	/AS FER	Ν
Aquatic Habitats (ex: se	• •	ed aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
LWD, LEAF PACKS	S, ROOTS							
Aquatic Organisms O	bserved (list):							
WATER BOATMAN								
T&E Species Observed	l (list):							
NA								
Disturbances (ex: liveste	ock access, manure	in waterbody, wast	e discharge pipe	es):				
NA								
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate					

	Waterbody ID:
	SNOK013
	ne or two active channel widths on each side; banks stable and protected by nent; many fish cover types available; diverse and stable aquatic habitat; no
function or riparian vegetation only moderately compromised; banks greenish film; moderate odor; minor barriers to fish movement; fair aqui	-
channel width on each side; lack of regeneration; filtering function	and channelization excessive; natural vegetation less than 1/3 of the active severely compromised; banks unstable (eroding); water color is muddy and ); heavy odor; severe barriers to fish movement; little to no aquatic habitat;
Notes:	
EPHEMERAL STREAM IN HARDWOOD FOREST WITH CONFLUENCE WITH SNOK012	CLOSED CANOPY. MEANDERING V CHANNEL,
Waterbody Sketch (Include north arrow, centerline, distance from	centerline, data point location, survey boundary, and IDs of associated features)
1	
	150 (-1
( ARO (S)	
HAROWOOD HAROWOOD	
E	SNOV OLA
201	
	WN OK
2 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	5 v 12 v 12
2 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	5 v 2 v k
2 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	KARD WOON
2 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	5 v 2 v k
	KARD WOOD

Form Rev. 07/09/2014



Waterbody point snok013 facing South and upstream



Waterbody point snok013 facing North and downstream



Waterbody point snok013 facing West and across

Survey Descriptio	n							
Project Name:		Waterbody Na	me:		W	aterbody ID:		Date:
Southeast Reliabilit	.У	UNT TO WI	NINGHAN	I CREEK	S	NOK014		8/19/2014
State:	County:		Company:			Member Initial	Pho	otos:
Virginia	Nottoway			D & CURRAN	JD, J	-		-0087 to 0089, U D X
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID	
12-063			235			NA		
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□ Access Road		□Other:		
Physical Attribute	•							
Stream Classification: (check one)	Ephemer	al ⊡Inter	mittent	⊠Perennial				
Waterbody Type:								
(check one)	∃River ⊠ Sti	ream 🗆 Dito	h 🗆 Ca	anal 🗌 Other	:			
OHWM	OHWM Indica		⊠ Clear lir	See Seelvin	a	⊠W/reated		ouring □Water
Width: <u>6</u> ft.	(check an that app	y)	⊠ Clear lir on bank	ne ⊠Shelvin	g	⊠Wrested vegetation	⊠30	ouring DWater staining
Height:	⊠Bent, i	matted, or missin	g ⊠Wrack li	ne ⊠Litter ar	nd	□ Abrupt plan	it 🗆 S	Soil characteristic change
<u>_2</u> ft. N/A□	vegetatio	on		debris		community ch	lange	
Width of Waterbody - 1			Toe of Slope	Width of Waterb	ody - W		Depth of V	Water:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:			(Approx.)	
<u>_20 f</u> t.	-	<u>6 ft.</u>			<u>5</u> ft.		N/A⊠	<u>0.3</u> ft.
Sinuosity:	Water	velocity:		N/A□ Bank height			Bank slop	
(check one)	(Approx.			Right:			•	Right:
□Straight		<u>_0.1</u> fps			<u>4</u> ft.			70 degrees
⊠Meanderi	ng N/A 🗆			Left:	<u>4</u> ft.			Left: 45_ degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	□No water ⊠	Clear □Turb	id □Sh	ieen □Su	rface	□Algal	□Other:	
			-	surface scu		mats		
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic	: 🗆 Othe	er:
	<u>0</u> % <u>NA</u>	% <u>NA</u> %	<u>35</u> %	<u>45</u> %	<u>10 </u> %	<u>NA</u> %	<u>NA</u> %	,
Width of Riparian Zone	e: Vegetativ		⊠ Trees		2 Soplir	ngs/Shrubs:	⊠ He	arba
<u>100 ft</u> . N/A□	· ·	of Dominants:	<u>30</u> in.		<u>_2_</u> in.	igs/Shiubs.		
Dominant Bank Vegeta IRON WOOD, TUL CHRISTMAS FERM	IP PÒPLAR, R	IVER BIRCH	, SWEET O	GUM, RED MAI	PLE, F	PAW PAW, C	CAREX, S	SPICE BUSH,
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, deep	pools):
LWD, LEAF PACKS	S, ROOTS, EN	IERGED AQU	JATIC VEG	ETATION,OVE	ERHAI	NGING BAN	KS, RIFF	FLES, DEEP POOLS
Aquatic Organisms O	bserved (list):							
FISH, FROG								
T&E Species Observed	d (list):							
NA								
Disturbances (ex: livest	ock access, manure	in waterbody, waste	e discharge pipe	es):				
NA								
Tributary is: (check one)	⊠ Natural		tificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality <sup>a</sup> : (check one)	⊠ High		oderate	□ Low				

	Waterbody ID: SNOK014
	or two active channel widths on each side; banks stable and protected b t; many fish cover types available; diverse and stable aquatic habitat; n
Moderate Quality: Altered channel evidenced by rip-rap; natural vege	etation extends 1/3-1/2 of the active channel width on each side; filtering oderately unstable; water color is cloudy, submerged objects covered wit ic habitat; minimum disturbance by livestock or man.
channel width on each side; lack of regeneration; filtering function sev	nd channelization excessive; natural vegetation less than 1/3 of the activi- verely compromised; banks unstable (eroding); water color is muddy an- heavy odor; severe barriers to fish movement; little to no aquatic habitat
Notes:	
ERENNIAL STREAM IN HARDWOOD FOREST, MEANDE LOUGHING AND OVERHANGING BANKS	RING CHANNEL WELL CONNECTED FLOODPLAIN,
Waterbody Sketch (Include north arrow, centerline, distance from cente	nterline, data point location, survey boundary, and IDs of associated feature
	WNOKO12-
é kerek	



Waterbody point snok014 facing Southeast and upstream



Waterbody point snok014 facing Northwest and downstream



Waterbody point snok014 facing East and across

Survey Description	n				har	· · · ·=		
Project Name:		Waterbody Nar				erbody ID:		Date:
Southeast Reliability	у	UNT TO WO	ODY CRE	EK	SNO	OK015	č	3/20/2014
State:	County:		Company:			mber Initial	Photos:	
Virginia	Nottoway			D & CURRAN				TO 0093, U D X
Tract Number(s):			Nearest Mile	epost:		ssociated Wetla	and ID	
12-067			235					
Survey Type: (check one)		e □Re-R	loute	□ Access Road		Other:		
Physical Attribute								
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	mittent	Perennial				
Waterbody Type: (check one)	River Str	eam 🗆 Ditc	h 🗆 Ca	anal 🗌 Other:	:			
онwм	OHWM Indica							
Width: _ <u>2_</u> ft.	(check all that apply	/)	⊠ Clear lir on bank	ne 🗆 Shelving	3	□Wrested /egetation	⊠Scouring	l ⊟Water staining
Height: <u>0.5</u> ft. N/A□	□Bent, n vegetatio	natted, or missing	g	ne □Litter an debris		□Abrupt plant community chang		naracteristic change
Width of Waterbody - T	op of Width of	of Waterbody - 1	oe of Slope	Width of Waterbo	ody - Wat		oth of Water	:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(Арр	nrox.)	
<u>_12_</u> ft.		<u>4 ft.</u>		N/A□	<u>2</u> ft.	N/A	-	<u>0.1</u> ft.
Sinuosity:	Water	velocity:		Bank height			nk slope	
(check one)	(Approx.)	-		Right:			Right	
		<u>_0.1</u> fps		Left:	<u>7</u> ft.		Left	80 degrees
Meanderir	ng N/A□				<u>7</u> ft.			80 degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	No water □C	Clear ⊠Turb		leen ⊡Sur surface scu		□Algal □O mats	ther:	
	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🗆 Grave	el 🗆 Sand 🛛	⊠ Silt/ clay	y 🗆 Organic 🛛	Other:	
(check all that apply)NA '''' <b>% of Substrate</b> : <u>N</u>	<u>A</u> % <u>NA</u> %	% <u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u>100 </u> %	<u>NA</u> %	<u>NA </u> %	
Width of Riparian Zone	e: Vegetative	e Layers:						
<u>100 ft</u> - N/A□	(check all that	apply) of Dominants:	⊠ Trees <u>16</u> in.		Saplings <u>2</u> in.	s/Shrubs:	⊠ Herbs	
Dominant Bank Vegeta SWEET GUM, SYC	tion (list	/PAW, BLACI	K WALNU	Γ, AMERICAN I	ELM			
Aquatia Habitata (a.e. a.				hanka/waata laaf naal		hannand wood witte		\
Aquatic Habitats (ex: su NA	abmerged of emerged	aquatic vegetation	i, overnanging	Dariks/roots, lear pack	ks, large su	bmergea wood, min	es, deep pools	):
Aquatic Organisms Ol	oserved (list):							
FROGS								
T&E Species Observed	( <i>list</i> ):							
NA								
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	discharge pipe	es):				
LIVESTOCK USE								
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	□ Mo	derate	⊠ Low				

			Waterbody I SNOK015	D:
	al channel, natural vegetation extends at le clear to tea-colored; no barriers to fish n ock or man.		nel widths on each side; banks sta	
Moderate Quality:	Altered channel evidenced by rip-rap; nat regetation only moderately compromised; ate odor; minor barriers to fish movement; f	banks moderately unstable;	water color is cloudy, submerged	
channel width on ea turbid; obvious pollu	nel is actively down cutting or widening; ri ach side; lack of regeneration; filtering fur tants (algal mats, surface scum, surface rom livestock or man.	ction severely compromised	d; banks unstable (eroding); wate	r color is muddy and
Notes:				
	EAM IN DEEP EROSIONAL GUL	LY ON EDGE OF PAS	TURE.	
Waterbody Sketc	h (Include north arrow, centerline, distance	from centerline, data point l	ocation, survey boundary, and IDs o	of associated features)
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	Forested	VPLAND	OP	
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Waterbody point snok015 facing West and upstream



Waterbody point snok015 facing East and downstream



Waterbody point snok015 facing North and across

Survey Descriptio	n	-						
-		Waterbody Name:				aterbody ID:		Date:
Southeast Reliability U		UNT TO WO	ODY CRE	EK	S	SNOK016		8/20/2014
State:	County:		Company:		Crew N	lember Initial	Photo	s:
Virginia	Nottoway			D & CURRAN	JS, BG	i	100-00	94 TO 0096, U D X
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID	
12-068			236					
Survey Type: (check one)		□Re-F	Route	□ Access Road	I	□Other:		
Physical Attribute								
Stream Classification: (check one)	Ephemera	al 🗆 Inter	mittent	⊠Perennial				
Waterbody Type:								
(check one)	River ⊠ Str	eam 🗆 Ditc	h 🗆 Ca	anal 🗆 Other:	:			
OHWM Width:	OHWM Indicat (check all that apply		⊠ Clear lir	ne ⊠Shelvin	a	⊠Wrested	⊠Scour	ing □Water
<u><u> </u></u>	(************	,	on bank		9	vegetation		staining
Height:	□Bent, n	natted, or missin	g    □Wrack li	ne □Litter ar	nd	□ Abrupt plan	t ⊠Soi	characteristic change
<u>0.5</u> ft. N/A□	vegetatio		0	debris		community ch	ange	Ū.
Width of Waterbody - 1 Bank to Top of Bank:		of Waterbody - 1 of Slope:	Foe of Slope	Width of Waterbo Water Edge:	ody - W		Depth of Wa (Approx.)	ter:
_ <u>15</u> ft.	4	<u>5 ft.</u>			<u>3</u> ft.			<u>0.3</u> ft.
<u>-10</u> 10		<u>, , , , , , , , , , , , , , , , , , , </u>		N/A□	<u> </u>		N/A⊠	
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height			Bank slope	
	(Approx.)	0.1 fmg		Right:	<u>7</u> ft.		Rig	ht: <u>80</u> degrees
		<u>_0.1</u> fps		Left:			L	eft:
Meanderin	ng N/A 🗆				<u>7</u> ft.			<u>80</u> degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	No water ⊠C	Clear □Turb		neen ⊡Sui i surface scu		□Algal [ mats	□Other:	
	Bedrock 🗆 Bo	ulder 🛛 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ Other:	
(check all that apply)NA ""'% of Substrate: N	<u>A% _NA</u> %	% <u>20</u> %	<u>30</u> %	_50_%	<u>NA </u> %	<u>NA</u> %	<u>NA_</u> %	
Width of Riparian Zone			-					
That of Repartan 2010	(check all that	apply)	⊠ Trees	: 2	🛛 Saplin	ngs/Shrubs:	⊠ Herb	5
<u>100_ft</u> - N/A□	Avg. DBH (approx.)	of Dominants:	<u>12</u> in.	-	<u>2</u> in.			
Dominant Bank Vegeta SWEET GUM, SYC		MAPLE, HIC	KORY, PA	WPAW, TULIF	P POP	LAR, NEPAL	ESE BRO	WN-TOP
Aquatic Habitats (ex: su				hanks/rests last res	le lerre			
RIFFLES, UNDERC	0		i, overnanging	banks/roots, lear pac	ks, large	submergea wood,	nines, deep po	5015):
Aquatic Organisms O	bserved (list):							
FROGS, FISH,								
T&E Species Observed	(list):							
NA								
Disturbances (ex: liveste	ock access, manure i	n waterbody, waste	discharge pipe	es):				
LIVESTOCK USE								
Tributary is: (check one)	⊠ Natural	Π Δrt	ificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality <sup>a</sup> :								
(check one)	🗆 High	⊠ Mo	derate	⊠ Low( n	10)			

				Waterbody ID: SNOK016	
roots; water		vegetation extends at least one or two d; no barriers to fish movement; mai			
function or ri	iparian vegetation only mode	denced by rip-rap; natural vegetatior erately compromised; banks modera ers to fish movement; fair aquatic hab	tely unstable; water colo	r is cloudy, submerged obj	
channel widt turbid; obvio	th on each side; lack of reg	cutting or widening; rip rap and cha generation; filtering function severely urface scum, surface sheen); heavy n.	compromised; banks u	nstable (eroding); water co	olor is muddy and
Notes:					
PERENNIAL	STREAM IN NARROW	W FORESTED AREA BETWE	EN PASTURES.	BANK EROSION DU	E TO CATTLE
USE.					
Waterbody	Sketch (Include north arro	ow, centerline, distance from centerlin	ne, data point location, su	rvey boundary, and IDs of as	ssociated features)
+					
۹	INF	4	/ 5	70 F1	
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S.	SNON	-			
-	-SNOL	Fures	TED	L'NOW	<sup>م</sup> کے
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ž		FOREST	<i>د٥</i>		
3		FOREST	CO		



Waterbody point snok016 facing West and upstream



Waterbody point snok016 facing East and downstream



Waterbody point snok016 facing South and across

Survey Description	n								
Project Name: Southeast Reliability	Waterbody Name: UNT TO WOODY CREEK				aterbody ID: NOK017		Date: 8/20/2014		
	,				_			0/20/2014 Photos:	
State:	-		Company:			w Member Initial			
Virginia	Nottoway			D & CURRAN	JS, BG			097 TO 0099, U D X	
Tract Number(s): 12-068			Nearest Mile	epost:		Associated We	etland ID		
Survey Type:			236						
(check one)		e □Re-F	Route	□ Access Road		□Other:			
Physical Attribute									
Stream Classification: (check one)	Ephemera	al ⊠Inter	mittent	Perennial					
Waterbody Type: (check one)	River Str	eam 🗆 Ditc	:h □ Ca	anal 🛛 Other:	:				
онwм	OHWM Indica								
Width: <u>4</u> ft.	(check all that apply	/)	⊠ Clear lir on bank	ie ⊠Shelving	g	□Wrested vegetation	⊠Scou	uring ⊟Water staining	
Height: <u>0.5</u> ft. N/A□	□Bent, n vegetatio	natted, or missin n	g	ne □Litter an debris	nd	□ Abrupt plant community cha		il characteristic change	
Width of Waterbody - T Bank to Top of Bank:	•		Toe of Slope	Width of Waterbo	ody - W		Depth of Wa	ater:	
		of Slope:		Water Edge:		(*	πρφιοχ.)	0.4.4	
<u>    10 </u> ft.		<u>4 ft.</u>		N/A□	<u>4</u> ft.	٦	N/A⊠	<u>0.1</u> ft.	
Sinuosity: (check one)		velocity:		Bank height		E	Bank slope		
	(Approx.)	0.1 fps		Right:	<u>8 ft</u> .		Ri	ght: <u>80</u> degrees	
⊠Meanderir	ng N/A□	<u>0.1</u> ips		Left:			I	Left:	
					<u>10</u> ft.			<u>80</u> degrees	
Qualitative Attribu Water Appearance:	tes								
	No water ⊠C	Clear □Turb		een ⊡Sur surface scu		□Algal □ mats	∃Other:		
	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	Other:		
(check all that apply)NA '''' <b>% of Substrate</b> : <u>N</u>	<u>A</u> % <u>NA</u> %	% <u>NA</u> %	<u>50</u> %	<u>50 %</u>	<u>NA </u> %	<u>NA</u> %	<u>NA</u> %		
Width of Riparian Zone	: Vegetative	Eayers:							
<u>_100_ft</u> - N/A□	(check all that	apply) of Dominants:	⊠ Trees <u>12</u> in.		⊠ Saplir _2_in.	ngs/Shrubs:	⊠ Herl	S	
Dominant Bank Vegeta	tion (list					IAR NEPAI	ESE BRO		
Aquatic Habitats (ex: su RIFFLES, LEAF PA		d aquatic vegetation	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood,	riffles, deep p	pools):	
Aquatic Organisms Ol	oserved (list):								
NA T&E Species Observed	(list):								
NA									
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):					
LIVESTOCK USE									
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	🛛 Low( n	10)				

					body ID:	
_				SNO	K017	
roots; water	y: Natural channel, natural vectors color is clear to tea-colored; by livestock or man.					
function or ri	uality: Altered channel evide parian vegetation only modera ; moderate odor; minor barriers	ately compromised; banks	moderately unstable; wa	ater color is cloudy, subr	merged objects covered	
channel widt turbid; obvio	r. Channel is actively down or h on each side; lack of reger us pollutants (algal mats, sur bance from livestock or man.	neration; filtering function	severely compromised; b	oanks unstable (eroding	); water color is muddy	and
Notes:						
NTEDMITTE	NT STREAM IN NARRO				NTO SNOKO16 BA	
	JE TO CATTLE USE.	W FORESTED AR	LA DETWEEN PAST	URES. FLOWS II	NIO SNORUIO. BA	
Waterbody	Sketch (Include north arrow	, centerline, distance fron	n centerline, data point loca	ation, survey boundary, ar	nd IDs of associated feat	tures)
		,	<b>1</b> 1/	150 4		
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			7	PAST	11.P T	



Waterbody point snok017 facing North and upstream



Waterbody point snok017 facing South and downstream


Waterbody point snok017 facing East and across

Survey Description	on	<b>.</b>						1-		
Project Name:		Waterbody Nar				aterbody ID:		Date:		
Southeast Reliabilit	ty	UNT TO WO	ODY CRE	EK	S	NOK018		8/20/2014		
State:	County:		Company:		Crew N	Member Initial	Photos	:		
Virginia	Nottoway			D & CURRAN	JS, BG		00 TO 0102, U D X			
Tract Number(s): 12-068			Nearest Mile 236	epost:		Associated Wetland ID NA				
Survey Type: (check one)	⊠Centerline	e □Re-F	Pouto	□Access Road		Other:				
			louie							
Physical Attribute Stream Classification: (check one)		al 🗆 Inter	mittent	Perennial						
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Ditc	h 🗆 Ca	anal 🛛 Other:	:					
OHWM Width: _2_ft.	OHWM Indica (check all that appl		⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	⊠Scouri	ng ⊟Water staining		
Height: <u>0.5</u> ft. N/A□	vegetatio		0	debris		□ Abrupt plant community cha	ange	characteristic change		
Width of Waterbody - <sup>-</sup> Bank to Top of Bank:		of Waterbody - 1 of Slope:	Foe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of Wat	er:		
<u>15 ft</u> .		• <u>5 f</u> t.		N/A⊠	ft.	1	N/A⊠	ft.		
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height		E	Bank slope			
⊠Straight	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	fps		Right:	<u>4</u> ft.		Rigi	nt: <u>60</u> degrees		
□Meanderi	ing N/A⊠	po		Left:	<u>3</u> ft.		Le			
					<u> </u>					
Qualitative Attribu Water Appearance:	utes									
	⊠No water □0	Clear □Turb		leen ⊡Sur surface scu		□Algal □ mats	Other:			
Substrate:	Bedrock Bo	oulder 🗆 Cobb	le 🗆 Grave	el 🛛 Sand 🛛	□ Silt/ c	ay 🛛 Organic	□ Other:			
	<u>IA</u> % <u>NA</u> %	% <u>NA</u> %	<u>NA</u> %	80%	<u>NA </u> %	<u>20</u> %	<u>NA</u> %			
Width of Riparian Zon	e: Vegetative	e Layers:								
<u>_100_ft</u> - N/A□	(check all that <b>Avg. DBH</b> (approx.)	t apply) of Dominants:	⊠ Trees <u>12</u> in.		⊠ Saplir _2_in.	ngs/Shrubs:	⊠ Herbs			
Dominant Bank Vegeta SWEET GUM, SYC		CK WALNUT	, WHITE O	AK, AMERICA	N BEE	ECH, PERSIC	CARIA SP.			
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetation	n, overhanging	banks/roots, leaf pack	ks, large	submerged wood,	riffles, deep po	ols):		
NA										
Aquatic Organisms O	bserved (list):									
NA										
T&E Species Observed	d (list):									
NA										
Disturbances (ex: livest LIVESTOCK USE	tock access, manure i	n waterbody, waste	e discharge pipe	es):						
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated					
Stream Quality <sup>a</sup> : (check one)	🗆 High	□ Mo	derate	⊠ Low						





Waterbody point snok018 facing Southwest and upstream



Waterbody point snok018 facing Northeast and downstream



Waterbody point snok018 facing East and across

### **Open Waterbody Data Sheet**

Survey Descripti	on												
Project Name: Waterbody N								Waterbody ID:	Date:				
Southeast Reliabi	lity		NA					ONOK001 8/20/201					
State:	County	/:		Comp	oany:		Crew	Member Initials:					
Virginia	Nottov	way		Woo	dard & Cui	rran	BG,	, JS 100-0109 to 0110					
Tract Number(s):				Neare	st Milepost:			Associated Wetland ID(s):					
12-068				236				WNOK013					
Survey Type: (check one)	1	□Re-Rou	ite	□Access Ro	bad	□Other:							
Physical Attribut	es												
Waterbody Type: (check one) Stor	ck Pond	Natural	Pond	Lake 🗆	Reservoir	⊠ Impoundm	ient 🗆	Oxbow D Other:					
Hydrologic Regime:	⊠ Pe	ermanently F	looded	🗆 Semi	permanently	Flooded	□ Seas	sonally Flooded	Temporarily	Flooded			
		DHWM Indic check all that app	oly)		□ Clear line □ Shelving □ Wrested on bank vegetation				Scou	sta	Water aining		
		⊠Bent, vegetati		or missing	nissing □Wrack □Litte line debris			⊡Abrupt pla community c	ant				
Depth of Water:			Bank ł	neight (ave	erage):			Bank slope (av	erage):				
	<u>5_</u> ft.				<u>3</u> ft.				5				
Qualitative Attrib	outes												
Water Appearance: (check one)	□No wa	ater □C	Clear	⊠Turbid	□Shee on surfa		Surface um	e ⊡Algal [ mats	∃Other:				
Substrate: (check all that apply)	□ Bedr	ock 🗆 Bo	ulder	Cobble	□ Gravel	□ Sand	⊠ Si	ilt/ clay 🛛 Organic	□ Other:				
% of Substrate:	<u>NA</u> %	NA	%	<u>NA_</u> %	<u>NA</u> %	<u>NA</u> %	100	<u>) % NA %</u>	<u>NA %</u>				
Width of Riparian Zon	ne:	Vegetative (check all that a			⊠ Trees:		□ Sa	plings/Shrubs:	⊠ Herb	s			
<u>_&gt;100_</u> ft. N/A□		Avg. DBH c (approx.)	of Domin	ants:	<u>6</u> in.		_NA	_in.					
Dominant Bank Vege	etation (	list):											
PawPaw, Black W	/alnut,	Unidentifi	ed Gra	ss, Persi	caria hydro	opiperoide	S						
Aquatic Habitats (ex: s	submerged	l or emerged aqu	atic vegeta	tion, overhang	ing banks/roots, I	eaf packs, large	submerge	d wood, riffles, deep pools	, etc.) <b>:</b>				
n/a													
Aquatic Organisms C	Observe	d (list):											
frogs													
T&E Species Observe	ed (list):												
n/a													
Disturbances (ex: live	stock acc	ess, manure i	n waterbo	dy, waste dis	scharge pipes)	:							
Livestock access,													
Waterbody is: (check one)		Natural		⊠ Artific	ial, man-mad	e □ Ma	nipulate	ed					
Waterbody Quality <sup>a</sup> : (check one)		□ High		□ Mode	rate	⊠ Low							





Waterbody point onok001 facing Southwest



Waterbody point onok001 facing Northwest

Survey Description	on							1		
Project Name:	Waterbody Na				aterbody ID:		Date:			
Southeast Reliabilit	•	WOODY CR	EEK		S	NOK019		8/20/2014		
State:	County:		Company:			Nember Initials	: Photos	<b>S</b> :		
Virginia	Nottoway		W&C		JS, BG		13 TO 0115 U D X			
Tract Number(s):			Nearest Mile	epost:		Associated Wetland ID(s): WNOK014; WNOK016				
12-070			237			WNOK014,	WHORU	10		
Survey Type: (check one)	⊠Centerline	□Re-F	Route	□Access Road		□Other:				
Physical Attribute	s									
Stream Classification: (check one)	Ephemera	al 🗆 Inter	mittent	⊠Perennial						
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Dito	h 🗆 Ca	anal 🛛 Other:	:					
онwм	OHWM Indica	tor:								
Width: <u>17_</u> ft.	(check all that apply	<i>י</i> )	⊠ Clear lir on bank	ne ⊠Shelving	g	⊠Wrested vegetation	⊠Scouri	ng		
Height:ft.	⊠Bent, n vegetatio	natted, or missin n	g	ne ⊠Litter ar debris	nd	⊠ Abrupt plant community ch		l characteristic change		
N/A□ Width of Waterbody - <sup>-</sup>	Top of Width of	of Waterbody -	Foe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth of Wat	er:		
Bank to Top of Bank:		of Slope:		Water Edge:		Ū	(Approx.)			
<u>25_</u> ft.	_	<u>20_</u> ft.			<u>10_</u> ft.		N/A 🗆	<u>0.5</u> ft.		
Sinuosity:	Water	velocity:		N/A□ Bank height			Bank slope			
(check one)	(Approx.)			Right:			Rig			
		<u>    0.2   </u> fps		Left:	<u>4</u> ft.		Le	<u>50</u> degrees		
	ing N/A□				<u>3</u> ft.			80 degrees		
Qualitative Attribu	utes									
Water Appearance: (check one)	□No water ⊠C	Clear □Turb		leen ⊡Sur surface scu		□Algal [ mats	□Other:			
	Bedrock 🛛 Bo	ulder 🗆 Cobb	le 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ Other:			
(check all that apply) % of Substrate:	<u>NA_% _NA_</u>	% <u>NA</u> %	<u>   20   </u> %	<u>   80  </u> %	<u>NA </u> %	% <u>NA</u> %	<u>NA</u> %			
Width of Riparian Zon	e: Vegetative	Lavers:								
	(check all that	apply)	⊠ Trees			ngs/Shrubs:	⊠ Herbs	i		
<u>_&gt;100_ft</u> - N/A□	(approx.)	of Dominants:	_ <u>12_</u> in.	-	<u>2</u> in.					
Dominant Bank Vegeta SYCAMORE, SWE	. ,	VERING DO	GWOOD, I	PAWPAW, SMI	LAX, I	RIVER BIRC	H, GRASS	ES		
Aquatic Habitats (ex: s RIFFLES, PO	ubmerged or emerged OLS, BACKWATE						riffles, deep po	ols)		
Aquatic Organisms Of	. ,									
FROGS, FISH, TU		GIGS								
T&E Species Observe	d (list):									
Disturbances (ex: livest	tock access manure i	n waterbody waste	discharge pipe	25):						
LOGGING IN RIPA			go pp	,-						
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated					
Stream Quality <sup>a</sup> : (check one)	⊠ High		derate	□ Low						

	Waterbody ID:
	SNOK019
<sup>a</sup> High Quality: Natural channel, natural vegetation extends at least one or two active channel width roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types av disturbance by livestock or man.	
<b>Moderate Quality:</b> Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the function or riparian vegetation only moderately compromised; banks moderately unstable; water consider the greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbation of the function of the second se	olor is cloudy, submerged objects covered with
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive;	· • • • •

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

SMALL PERENNIAL STREAM, SOME BANK EROSION AND SEDIMENTATION, TYPICAL PIEDMONT SMALL STREAM FOREST COMMUNITY





Waterbody point snok019 facing Southwest and upstream



Waterbody point snok019 facing Northeast and downstream



Waterbody point snok019 facing Southeast and across

Survey Description	on												
-			Vaterbody Name:						Vaterbody ID:			Date:	
Atlantic Coast Pipe			JNT to	to Watson Creek					noa003			10/21/2014	
State:	County	:		C	company:				Member Initials	8:	Photos:		
Virginia	Nottow	/ay		NRG GE					3, TP 3 pho			OS	
Tract Number(s):				Nearest Milepost:					Associated Wetland ID(s):				
12-073				2	38.2				none				
Survey Type: (check one)	$\boxtimes$	Centerline		□Re-Ro	oute			d	□Other:				
Physical Attribut													
Stream Classification (check one)		Ephemeral		⊠Interm	ittent	□P	erennial						
Waterbody Type:													
(check one)	□River	⊠ Stre	am	Ditch		anal	□ Othe	r:					
онwм			or:							5			
Width: <u>3.0 f</u> t.	(CHECK	all that apply)			☑ Clear lir on bank	ne	□Shelvir	ng	□Wrested vegetation	⊵	Scourin	g □Water staining	
Height: <u>1.0</u> ft.		Bent, ma	atted, or	missing	□Wrack li	ne	⊠Litter a	and	□Abrupt plar		□Soil cl	characteristic change	
N/A□		vegetation		-			debris		community ch	nange		-	
Width of Waterbody - Bank to Top of Bank:					e of Slope			oody - W	ater Edge to	Depth (Approx.	of Water	r:	
Balik to Top of Balik.		to Toe o	r Slope			water	Edge:			(Αρριολ.	, ,	- <i>i</i> = <i>i</i>	
<u>_9.0</u> ft.			<u>1.5_</u> ft.			N/A□		<u>1.5</u> ft.		N/A□	-	<u>0.15</u> ft.	
Sinuosity:		Water ve	elocity:			-	height			Bank	slope		
(check one)		(Approx.)	-				Right:				Right		
			_0	<u>.10_</u> fps			Left:	<u>7.0_</u> ft			Left	<u>85</u> degrees	
⊠Meande	ring	N/A□						<u>7.0_</u> ft				<u>90</u> degrees	
Qualitative Attrib	utes												
Water Appearance: (check one)	□No wate	er ⊠Cl	ear	□Turbid	-	neen Nsurfac		urface cum	□ Algal mats	□Othe	er:		
Substrate:	Bedroc	k 🗆 Bou	Ider [	□ Cobble	e 🛛 Grav	el 🗵		Silt/ o		. □ ·	Other:		
(check all that apply) % of Substrate:	0/		0/	0/	E 0/			25 %	, 0				
	%		_% _	%	<u> 5 </u> %		<u>85 </u> %	<u></u> %	<u> 5 </u> %		%		
Width of Riparian Zor		egetative			⊠ Trees			🛛 Sanli	ngs/Shrubs:	Б	∃ Herbs		
<u>ft</u> .	Ā	vg. DBH o		nants:	<u>_6.0</u> in			<u>_1.5</u> ii	-	Ľ			
N/A⊠ Dominant Bank Vege		approx.)											
Sweetgum, yellow			ık, whi	te oak,	bitternut l	hickoi	y, pawpa	aw, bla	ick haw, gree	enbrie	r, Chris	tmas fern	
Aquatic Habitats (ex:	submerged	or emerged	aquatic v	egetation,	overhanging	banks/r	oots, leaf pa	cks, large	e submerged wood	d, riffles,	deep pool	s):	
Leaf packs, small	•												
Aquatic Organisms C	bserved (	list):											
snail													
T&E Species Observe	ed (list):												
none													
Disturbances (ex: lives	stock access	s, manure in	waterboo	ly, waste o	lischarge pipe	es):							
Logging about 10	years ag	JO											
Tributary is: (check one)		Natural		□ Artifi	cial, man-m	ade	🗆 Manip	oulated					
Stream Quality <sup>a</sup> : (check one)		High		⊠ Mod	erate		□ Low						

Waterbody ID:

snoa003

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

#### Notes:

Stream begins at a head cut right on edge of corridor; immature mixed hardwoods surrounded by hayfields; snoa004 is a tributary outside corridor

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





SNOA003 facing northeast upstream



SNOA003 facing southwest downstream



SNOA003 facing south across

Survey Descripti	ion											
•			Waterbody Name:						Vaterbody ID:			Date:
Atlantic Coast Pip	eline		UNT to	o Watso		s	noa004			10/21/2014		
State:	Count	y:			Company:			Crew	Member Initials	S:	Photos:	
Virginia	Notto	way			NRG		GB,			3 phot	OS	
Tract Number(s):					Nearest Mil		Associated Wetland ID(s):					
12-073					238.2				none			
Survey Type: (check one)	Σ	Centerline	9	□Re-R	oute		ccess Roa	ıd	□Other:			
Physical Attribut												
Stream Classification (check one)		Ephemera	al	⊠Intern	nittent	□F	Perennial					
Waterbody Type:												
(check one)	□River	⊠ Str	eam	Ditch	ר ⊡ C	anal	□ Othe	er:				
онwм		WM Indica									<b>30</b> ·	
Width: <u>3.0 f</u> t.	Che	ck all that apply	()		⊠ Clear li on bank	ne	□Shelvi	ng	☐Wrested vegetation	2	Scouring	g □Water staining
Height: <u>1.0</u> ft.		□Bent, n	natted, o	r missing	j ⊠Wrack I	ine	⊠Litter a	and	□Abrupt plar	nt	□Soil c	haracteristic change
N/A□		vegetatio	'n				debris		community cl	hange		0
Width of Waterbody					oe of Slope			body - V	Vater Edge to	Depth (Approx.	of Wate	r:
Bank to Top of Bank		to loe	of Slope	):		wate	r Edge:			(Approx.	, ,	
<u>_9.0</u> ft.		-	_ <u>1.5_</u> ft.			N/A□	1	_1.5_ft		N/A□		<u>_0.15_</u> ft.
Sinuosity:		Water	velocity				height			Bank		
(check one)	t	(Approx.)	•				Right:				Right	
			_(	<u>).10_</u> fps			Left:	<u>7.0_</u> ft	•		Left	<u>85</u> degrees
⊠Meande	ering	N/A□						<u>7.0_</u> ft	•			90 degrees
Qualitative Attrik	outes											
Water Appearance: (check one)	□No wa	ter ⊠0	Clear	□Turbi	d ⊡SI	neen	□s	urface	□Algal	□Othe	er:	
					O	n surfa	ce s	cum	mats			
Substrate: (check all that apply)	□ Bedro	ock 🗆 Bo	ulder	Cobbl	e 🛛 Grav	rel 🛛	⊠ Sand	Silt/	clay 🛛 Organi	c 🗆	Other:	
% of Substrate:	%		%	<u>5</u> %	<u> 10 </u> %	_	<u>60_</u> %	<u>20</u> %	<u> 5 </u> %		%	
Width of Riparian Zo	ne:	Vegetative	Layers	:								
-		(check all that	apply)		⊠ Trees	5:		🛛 Sapli	ngs/Shrubs:	۵	⊠ Herbs	
<u>ft</u> . N/A⊠		Avg. DBH (approx.)	of Dom	nants:	<u>6.0</u> in	<b>).</b>		<u>_1.5</u> i	n.			
Dominant Bank Vege	etation (lis	st):										
Sweetgum, yellow	v poplar	, willow o	ak, wh	ite oak,	bitternut	hicko	ry, pawp	aw, bla	ack haw, gree	enbrie	er, Chris	tmas fern
Aquatic Habitats (ex:	submerge	d or emerged	d aquatic	vegetation	, overhanging	banks/	roots, leaf pa	acks, large	e submerged wood	d, riffles,	, deep pool	s):
Leaf packs, small	pools, s	some sm	all wra	ck piles								
Aquatic Organisms (	Observed	(list):										
none												
T&E Species Observ	ed (list):											
none												
Disturbances (ex: live	estock acce	ss, manure i	n waterbo	dy, waste	discharge pip	es):						
Logging about 10	years a	igo										
Tributary is: (check one)	Σ	☑ Natural		□ Arti	ficial, man-m	nade	🗆 Mani	pulated				
Stream Quality <sup>a</sup> : (check one)		] High		⊠ Moo	derate		□ Low					

Waterbody ID:

snoa004

High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

**Moderate Quality:** Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by livestock or man.

Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural vegetation less than 1/3 of the active channel width on each side; lack of regeneration; filtering function severely compromised; banks unstable (eroding); water color is muddy and turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish movement; little to no aquatic habitat; severe disturbance from livestock or man.

### Notes:

Stream begins at a head cut in northern ¼ of corridor and continues out where it flows into snoa003; immature mixed hardwoods surrounded by hayfields.

Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features)





SNOA004 facing west upstream



SNOA004 facing east downstream