Survey Description	n	hare -	ala a da e bila a					Veterile e des ID:		Deter
Project Name: Southeast Reliability	M.			IE: RIR TO P	FRKIN		K S	CLIK020		Date: 8/6/2014
Ctata:	y Carriete in								- 1	
State: Virginia	CUMBER	LAND		W&C			WM,	JD		100-0558 TO 0560
Tract Number(s):				Nearest Mile	epost:			Associated W	etland	ID(s):
10-001				208				NA		
Survey Type: (check one)	⊠Cent	terline	□Re-R	oute	□Ac	cess Road		□Other:		
Physical Attribute:	s									
Stream Classification: (check one)	⊠Ephe	emeral	□Intern	nittent	□Pe	rennial				
Waterbody Type: (check one)	River	⊠ Stream	Ditch	n 🗆 Ca	anal	□ Other:	:			
OHWM Width:	OHWM Ir (check all the	ndicator: at apply)		Clear lin	ie	Shelving	g	⊠Wrested	X	Scouring DWater
<u>3</u> π. Height:	⊠B	ent, matted,	or missing	on bank g ⊠Wrack li	ne	⊠Litter ar	nd		t	Soil characteristic change
N/A□	veg	etation				debris		community ch	lange	
Width of Waterbody - T Bank to Top of Bank:	op of W to	idth of Wat	erbody - T pe:	oe of Slope	Width Water	of Waterbo Edge:	ody - W	ater Edge to	Depth (Approx.)	of Water:
<u>_5 f</u> t.		<u>3</u> ft.				3	<u>ft</u> .		N/A 🕅	ft.
Sinuosity:	w	ater velocit	y:		Bank h	eight			Bank s	slope
(check one)	(A)	pprox.)	-			Right:				Right:
Ũ			fps			Left:	<u>4</u> ft.			<u>65</u> degrees Left:
Meanderir	ng N/	/A⊠					<u>2</u> ft.			<u>45</u> degrees
Qualitative Attribu	tes									
Water Appearance: (check one)	No water	□Clear	□Turbi	d ⊡Sh on	een surface	⊡Sur scu	face Im	□Algal mats	□Othei	r:
Substrate:	Bedrock	Boulder	⊠ Cobbl	e 🛛 Grave	el 🗆	Sand D	⊠ Silt/ o	clay 🗆 Organic	: □ (Other:
% of Substrate: <u>N</u>	<u>IA_</u> %	<u>10 </u> %	<u>15</u> %	<u>20</u> %	<u>_N</u> /	<u>\</u> %	<u>55 </u> %	<u>NA</u> %		%
Width of Riparian Zone	: Vege	tative Laye	rs:	Troop		5	7 Sonli	ngo/Shrubo		Horbo
<u>>100 ft</u> · N/A□	Avg.	DBH of Doi x.)	minants:	<u>12</u> in.	•	-	<u>3</u> in.	ngs/Shirubs.		
Dominant Bank Vegeta	tion (list):									
PINUS SPP, SHAG	BARK HIC	CKORY, B	LACK O	AK, WHIT	E OAK	K, CEDAI	R, CH	IRISTMAS FI	ERN,	CHASMANTHIUM
Aquatic Habitats (ex: su NA	Ibmerged or er	merged aquati	c vegetation	, overhanging	banks/roo	ots, leaf pac	ks, large	e submerged wood	, riffles,	deep pools):
Aquatic Organisms Ob	served (list):									
NA										
T&E Species Observed	(list):									
NA										
Disturbances (ex: livesto	ock access, ma	anure in water	body, waste	discharge pipe	es):					
Tributary is: (check one)	⊠ Nati	ural	□ Arti	ficial, man-m	ade	🗆 Manipu	ulated			
Stream Quality ^a : (check one)	🗆 High	n	□ Moo	derate		⊠ Low				

Waterbody ID:
SCUK029

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:

HEADWATER EPHEMERAL STREAM IN MIXED PINE-HW FOREST WITH NO FLOW, MINIMUM HUMAN DISTURBANCE. AREA HAS GOOD ROOSTING TREES FOR BATS.





Waterbody point scuk029 facing north and downstream



Waterbody point scuk029 facing south and upstream



Waterbody point scuk029 facing east and across

Survey Description	n					latarka du ID-	Deter
Project Name:					w w	CLIK027	Date:
	y	UNNAMED			n o	CURUZI	0/0/2014
State:	County:		Company:		Crew N	Member Initials:	Photos:
Virginia	CUMBERLA	ND	W&C		WM, 、	JD	100-0546 TO 0548
Tract Number(s):			Nearest Mile	epost:		Associated Wetlan	id ID(s):
10-001			208			ΝΑ	
Survey Type: (check one)	⊠Centerlir	ne ⊡Re-	Route	□ Access Road		□Other:	
Physical Attribute	S						
Stream Classification: (check one)	Epheme	ral ⊠Inte	rmittent	Perennial			
Waterbody Type: (check one)	River ⊠ S	tream	ch 🗆 Ca	anal 🗌 Other:	:		
OHWM Width:	OHWM Indic (check all that ap	ator: _{oly)}	⊠ Clear lin on bank	e ⊠Shelving	g	⊠Wrested vegetation	⊠Scouring ⊠Water staining
Height:ft.	⊠Bent, vegetat	matted, or missir	ng ⊡Wrack lii	ne ⊠Litter an debris	nd	C ☐ Abrupt plant community change	Soil characteristic change
N/A⊡ Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	odv - W	ater Edge to Dept	h of Water:
Bank to Top of Bank:	to To	e of Slope:		Water Edge:	· . ,	(Appro	х.)
<u>_16 f</u> t.		<u>12 ft.</u>			_4_ft.	N/A□	<u>0.5</u> ft.
Sinuosity: (check one)	Wate (Approx	r velocity:		Bank height		Bank	slope
⊠Straight		fos		Right:	<u>6</u> ft.		Right: _75_degrees
□Meanderir				Left:	6 ft		Left: 75 degrees
Qualitativa Attribu				-	<u> </u>		<u></u> dogrooo
Water Appearance:	tes						
(check one)	No water □]Clear ⊠Turl	oid ⊡Sh on	een □Sur surface scu	face Im	□Algal □Oth mats	er:
Substrate:	Bedrock 🛛 🖾	Boulder 🛛 Cobl	ole 🛛 Grave	el 🗆 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic 🗆	Other:
% of Substrate: <u>1</u>	<u>0 % 20</u>	<u>% 30</u> %	<u>25</u> %	<u>NA %</u>	<u>15_</u> %	<u>NA</u> %	%
Width of Riparian Zone	: Vegetati	ve Layers:					
>100 ft.	(check all th	at apply) H of Dominants:	⊠ Trees:		⊠ Saplir	ngs/Shrubs:	⊠ Herbs
<u>_>100 it</u> N/A□	(approx.)	Tor Dominants.	<u>18</u> in.	_	<u>3</u> in.		
Dominant Bank Vegeta PINUS SPP., SHAC	ition (list): BBARK HICK	ORY, BLACKO	GUM, WHIT	E OAK, CEDA	R, CH	IRISTMAS FERN	I, DOGWOOD, REDBUD
Aquatic Habitats (ex: su	ubmerged or emerg	ed aquatic vegetation	on, overhanging	banks/roots, leaf pack	ks, large	submerged wood, riffle	s, deep pools):
STAGNANT POOL	S						
Aquatic Organisms Ob	served (list):						
WATER STRIDERS	6						
T&E Species Observed	(list):						
NA							
Disturbances (ex: livesto	ock access, manure	e in waterbody, wast	e discharge pipe	es):			
Iributary is: (check one)	⊠ Natural		tificial, man-m	ade 🗆 Manipu	ulated		
Stream Quality ^a : (check one)	🗆 High	⊠ M	oderate	□ Low			

Waterbody ID:
SCUK027

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:

LARGE INTERMITTENT STREAM IN MIXED PINE-HW FOREST WITH NO FLOW, ONLY POOLS; MINIMUM HUMAN DISTURBANCE. RIPARIAN CORRIDOR IS GOOD MIGRATORY BIRD/BAT HABITAT





Waterbody point scuk027 facing south and upstream



Waterbody point scuk027 facing north and downstream



Waterbody point scuk027 facing west and across

Survey Description	on										
Project Name:		Water	body Nan	ne:			N V	aterbody ID:		Date:	
Southeast Reliabili	ty	UNN	AMED I	RIB TO P	ERKINS	GREE	ĸs	CUK028		8/6/2014	1
State:	County:		1	Company:		1	Crew I	Member Initials	:	Photos:	
Virginia	CUMBERI	LAND		W&C			WM,	JD		100-0555 TO ()557
Tract Number(s):				Nearest Mile	epost:			Associated W	etland	ID(s):	
10-001				208				NA			
Survey Type: (check one)	⊠Cente	erline	□Re-R	oute		ess Road		□Other:			
Physical Attribute	es										
Stream Classification:											
	□Epne	emeral	⊠Interr	nittent		enniai					
(check one)	□River ▷	Stream	Ditcl	h 🗆 Ca	anal	Other:					
онwм	OHWM In	dicator:									
Width:	(check all tha	at apply)		⊠ Clear lir on bank	ne 🛛	Shelving	9	⊠Wrested vegetation	\boxtimes	Scouring sta	Water aining
Height:	MB	ont matted	or missing	n ⊠Wrack li	no r	⊡Litter an	Ч		+	Soil characterist	ic change
<u><u> </u></u>	vege	etation			C	lebris	u	community ch	lange		ic change
Width of Waterbody -	Top of Wi	idth of Wate	erbody - T	oe of Slope	Width of	Waterbo	ody - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank:	to	Toe of Slop	be:		Water E	dge:		-	(Approx.)		
<u>_12 f</u> t.		<u>5</u> ft.				_	ft.			ft.	
Sinuosity:	Wa	ater velocit	v:		N/A⊠ Bank he	ight			Bank s	lope	
(check one)	(Ар	oprox.)	-			Right:				Right:	
			fps			Left:	<u>4</u> ft.			<u>65</u> deų Left:	grees
Meander	ing N//	A⊠					<u>4</u> ft.			<u>65</u> deg	grees
Qualitative Attribu	utes										
Water Appearance: (check one)	$^{\boxtimes}$ No water	□Clear	□Turbi	d ⊡Sh	een	□Surf	face	□Algal	□Othei	:	
				on	surface	scu	m	mats			
Substrate: [(check all that apply)	Bedrock	⊠ Boulder	⊠ Cobbl	e 🛛 Grave	el 🗆 S	and 🗵	I Silt/ α	clay 🗆 Organic	; □C	Other:	
% of Substrate:	<u>NA_</u> %	<u>10_</u> %	<u>25</u> %	<u>40</u> %	NA	%	<u>25_</u> %	<u>NA</u> %		%	
Width of Riparian Zon	e: Veget	tative Layer	s:	Z -							
>100 ft·	(cneck a	all that apply) DBH of Don	ninants:	⊠ Trees 18 in	:	\boxtimes	Saplii 3 in	ngs/Shrubs:	\boxtimes	Herbs	
N/A 🗆	(approx.	.)		<u> </u>			<u> </u>				
LOBLOLLY PINE.	RED MAPL	E. SWEE	TGUM.	WHITE OA	AK. CEL	DAR. CH	IRIST	IMAS FERN	DOG	WOOD. ELM	
Aquatic Habitats (ex: s	submerged or em		vegetation		hanks/root	s leaf nack	s large	submerged wood	riffles		
NA	submerged of en	lergeu aqualit	vegetation	i, overnanging	Dariko/1001	s, ieai pauk	is, iaiye	submerged wood	, mies,		
Aquatic Organisms O	hserved (list).										
NA	5561 Veu (<i>1161)</i> .										
T&E Species Observe	d (list):										
NA	u (<i>list)</i> .										
Disturbances (ex: lives	tock access mar	nure in waterh	odv waste	discharge pipe	25):						
NA			,,		/ -						
Tributary is:											
(check one)	⊠ Natu	ıral	□ Arti	ficial, man-m	ade	□ Manipu	lated				
Stream Quality ^a : (check one)				derate		⊲ Low					
. ,		•			L						

Waterbody ID:
SCUK028

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:

INTERMITTENT STREAM IN MIXED PINE-HW FOREST WITH NO FLOW, MINIMUM HUMAN DISTURBANCE.





Waterbody point scuk028 facing west and downstream



Waterbody point scuk028 facing east and upstream



Waterbody point scuk028 facing north and across

Survey Description	n	- 1			T			
Project Name:		Waterbody Na	me:		W W	/aterbody ID:		Date:
Southeast Reliability	У	UNNAMED	I RIB TO P	ERKINS CREE	ĸs	CUK026		8/6/2014
State:	County:		Company:		Crew I	Member Initials:	Photos:	
Virginia	CUMBERLAN	ND	W&C		WM, .	JD	100-05	546 TO 0548
Tract Number(s):			Nearest Mile	epost:		Associated Wetlar	nd ID(s):	
10-001			208			NA		
Survey Type: (check one)	⊠Centerlin	e □Re-F	Route	□Access Road		□Other:		
Physical Attribute	s							
Stream Classification: (check one)	Ephemer	ral ⊠Inter	mittent	Perennial				
Waterbody Type: (check one)]River ⊠ St	ream 🗆 Dito	ch □Ca	anal 🗆 Other:				
OHWM Width:	OHWM Indica (check all that app	ator: /y)	⊠ Clear lir	ne ⊠Shelving	9	⊠Wrested	Scouring	g ⊡Water
<u>4</u> tt. Height:	⊠Boot	motted or missin		na Milittar an	d		⊠ Soil o	staining
<u>1.5</u> ft. N/A□	vegetati	on		debris	iu	community change	> 301 C	naracteristic change
Width of Waterbody - T Bank to Top of Bank:	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	Ater Edge to Dept	th of Wate	r:
<u>6</u> ft.		<u>4</u> ft.		N/AX	<u>ft</u> .	N/A	X	ft.
Sinuosity:	Water	velocity:		Bank height		Ban	k slope	
(check one)	(Approx	.)		Right:	054		Right	:
		fps		Left:	<u>2.5</u> ft.		Left	<u>55</u> degrees
Meanderin	ng N/A⊠				<u>2.5</u> ft			<u>55</u> degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	No water	Clear 🗆 Turb	oid □Sh on	leen □Sur surface scu	face Im	□Algal □Otl mats	ner:	
Substrate:	Bedrock 🛛 B	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic 🗆	Other:	
% of Substrate: <u>N</u>	<u>IA_% 5</u> %	6 <u>25</u> %	<u>40</u> %	<u> 5 </u> %	<u>25_</u> %	<u>NA</u> %	%	
Width of Riparian Zone	: Vegetativ	e Layers:						
>100 ft-	(check all that Avg. DBH	at apply)	⊠ Trees	: 🛛 🖂	Saplir	ngs/Shrubs:	⊠ Herbs	
N/A 🗆	(approx.)		<u> 12 </u> 11.		<u> </u>			
Dominant Bank Vegeta	ition (list): RED MAPLE. 3	SWEETGUM.	WHITE OF	AK. CEDAR. CH	HRIST	MAS FERN. DO	GWOO	D. ELM
Aquatic Habitats (ex: su	, ubmerged or emerge	ed aquatic vegetatio	n, overhanging	banks/roots, leaf pack	ks, large	submerged wood, riffle	s, deep pool	s):
NA				•				
Aquatic Organisms Ob	served (list):							
NA								
T&E Species Observed	(list):							
NA								
Disturbances (ex: livesto	ock access, manure	in waterbody, waste	e discharge pipe	es):				
NA								
Tributary is: (check one)	⊠ Natural		tificial, man-m	ade 🗆 Manipu	lated			
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low				

Waterbody ID:
SCUK026

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:

INTERMITTENT STREAM IN MIXED PINE-HW FOREST WITH NO FLOW, MINIMUM HUMAN DISTURBANCE.

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



Form Rev. 07/09/2014



Waterbody point scuk026 facing west and downstream



Waterbody point scuk026 facing east and upstream



Waterbody point scuk026 facing south and across

Linea	r Wate	erbody	Data	Sheet
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Survey Description	า	<u></u>						
Project Name:		Waterbody Na	me:		w	aterbody ID:		Date:
Southeast Reliability	/ a	UNNAMED RIVER		IT I LE WILLIS	S			7/22/2014
State:	County:		Company:			lember Initials	: Phot	
Virginia	Cumberland		W&C		JS, W	/M	100	-0131 TO 0133
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s)	:
10-009			209			NA		
Survey Type: (check one)	⊠Centerline	e □Re-	Route	□Access Road		□Other:		
Physical Attributes	5							
Stream Classification: (check one)	⊠Ephemera	al ⊡Inte	rmittent	Perennial				
Waterbody Type:								
(check one)	River 🗆 Str	ream 🛛 Dit	ch 🗆 Ca	anal 🗌 Other:				
OHWM Width: _4_ft.	OHWM Indica (check all that appl	tor: _{y)}	□ Clear lir on bank	ne 🗆 Shelving	g	⊠Wrested vegetation	□Scou	ring ⊠Water staining
Height:ft.	⊠Bent, r vegetatio	matted, or missir on	ng ⊠Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	t ⊡So ange	il characteristic change
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	odv - W	ater Edge to	Depth of W	ater:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		J. J	(Approx.)	
<u>_6</u> ft.	_	<u>4</u> ft.		-	ft.			ft.
Sinuosity:	Water	velocity [.]		N/A⊠ Bank height			Bank slope	
(check one)	(Approx.)	roioony.		Right:			Ri	ght:
		fps		L off:	<u>2</u> ft.			60 degrees
□Meanderir	ng N/A⊠			Leit.	<u>2</u> ft.		I	60 degrees
Qualitative Attribut	tes							
Water Appearance: (check one)	No water	Clear □Turl	oid □Sh on	leen ⊡Sur i surface scu	face ım	□Algal [mats	□Other:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobl	ole 🗆 Grave	el 🗆 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	: Other:	
(check all that apply) % of Substrate:	<u>NA % NA</u>	% <u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u>90_</u> %	<u> 10 </u> %	<u>NA</u> %	
Width of Riparian Zone	: Vegetative	e Layers:						
<u>>100 ft</u> -	(check all that Avg. DBH (approx.)	of Dominants:	⊠ Trees _ <u>5_</u> in.	: >	I Saplin _ <u>2_</u> in.	ngs/Shrubs:	⊠ Her	DS
Dominant Bank Vegeta	tion (list):							
ULMUS SPP., RED	BUD, CHRIST	MAS FERN,	POACEA,	BOEHMERIA				
Aquatic Habitats (ex: su	bmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pacl	ks, large	submerged wood	, riffles, deep	pools):
NA								
Aquatic Organisms Ob NA	served (list):							
T&E Species Observed NA	(list):							
Disturbances (ex: livesto	ock access, manure i	n waterbody, wast	e discharge pipe	es):				
CLEARING ADJAC	ENT TO DITC	н						
Tributary is: (check one)	⊠ Natural		tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low	_			

Waterbody ID: SCUK001

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 EPHEMERAL DITCH FEATURE IN SECONDARY SUCCESSIONAL AREA

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





Waterbody point scuk001 facing northeast and downstream



Waterbody point scuk001 facing southwest and upstream



Waterbody point scuk001 facing east and across

Linea	r Wate	erbody	Data	Sheet
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Survey Description	n							
Project Name:		Waterbody Na	ame:		w	aterbody ID:		Date:
Southeast Reliability	y	UNNAMED RIVER	TRIB TO L	ITTLE WILLIS	S	CUK002	1	7/22/2014
State:	County:		Company:		Crew N	Nember Initials	: Phote	DS:
Virginia	Cumberland		W&C		JS, W	/M	100	-0137 TO 0139
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s)	:
10-009			209			NA		
Survey Type: (check one)	⊠Centerlin	e □Re-	Route	□Access Road		□Other:		
Physical Attributes	S							
Stream Classification: (check one)	⊠Ephemer	al 🗆 Inte	ermittent	Perennial				
Waterbody Type:								
(check one)	River St	ream 🗌 Dif	ich 🗆 Ca	anal 🗌 Other:				
OHWM Width: 3 ft.	OHWM Indica (check all that app	ator: ly)	⊠ Clear lir on bank	ne 🗆 Shelving	g	⊠Wrested vegetation	□Scou	ring ⊠Water staining
Height:ft.	⊠Bent, vegetatio	matted, or missi	ng ⊠Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	it ⊡Sc nange	il characteristic change
N/A								
Width of Waterbody - T Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of Wa (Approx.)	ater:
<u> </u>		<u>3</u> ft.			ft.		N/A 🕅	ft.
Sinuosity:	Water	velocity:		N/A⊠ Bank height			Bank slope	
(check one)	(Approx.)		Right:			Ri	ght:
		fps		L offi	<u>2</u> ft.			60 degrees
⊠Meanderir	ng N/A⊠			Left:	<u>2</u> ft.			60_ degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	No water □	Clear □Tur	bid □Sh on	leen ⊡Sur i surface scu	face Jm	□Algal mats	□Other:	
Substrate:	Bedrock 🗆 B	oulder 🗆 Cob	ble 🗆 Grave	el 🗆 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	c 🗆 Other:	
(check all that apply) % of Substrate:	<u>NA_% NA</u>	<u>_% _NA_</u> %	<u>NA</u> %	<u>NA</u> %	<u>90_</u> %	<u> 10 </u> %	<u>NA</u> %	
Width of Riparian Zone	e: Vegetativ	e Layers:						
<u>>100 ft</u> .	(check all tha Avg. DBH (approx.)	^{it apply)} I of Dominants:	⊠ Trees _ <u>7_</u> in.	: 2	⊠ Saplir _ <u>2_</u> in.	ngs/Shrubs:	⊠ Herl	os
Dominant Bank Vegeta	tion (list):							
CHRISTMAS FERN	I, GREEN ASI	H, PRIVET, II	RONWOOD), FRAGARIA, I	JLMU	S SPP.		
Aquatic Habitats (ex: su	ubmerged or emerge	ed aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, deep	pools):
NA								
Aquatic Organisms Ob NA	served (list):							
T&E Species Observed	l (list):							
Disturbances (ex: livesto NA	ock access, manure	in waterbody, was	te discharge pipe	es):				
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low				

Waterbody ID: SCUK002

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 HEADWATER EPHEMERAL STREAM WITH CLAY BOTTOM AND DENSE UNDERSTORY VEG SURROUND CHANNEL





Waterbody point scuk002 facing northeast and downstream



Waterbody point scuk002 facing southwest and upstream



Waterbody point scuk002 facing east and across

Linear Waterbody	y Data	Sheet								
Survey Description	1					ha				
Project Name:		~							Pate:	
		R	IVER			.10 0			/ 	12212014
State:	County:			Company:		Crew I	Member Initials	5:	Photos:	
Virginia	Cumbe	rland		W&C		JS, W	/ M		100-01	37 TO 0139
Tract Number(s):				Nearest Mile	epost:		Associated W	etland	ID(s):	
10-010 AND 10-009				209			NA			
Survey Type: (check one)	⊠C	enterline	□Re-	Route	□Access R	load	□Other:			
Physical Attributes	5									
Stream Classification:										
(check one)	ΞE	phemeral	□Inte	rmittent	⊠Perennia					
Waterbody Type: (check one)	River	⊠ Strea	m 🗆 Dit	ch 🗆 C	anal 🗆 O	ther:				
OHWM Width: <u>4</u> ft.	OHWI (check a	Indicator all that apply)	:	⊠ Clear lin on bank	ne ⊠She	elving	⊠Wrested vegetation	Σ	Scouring	⊠Water staining
Height: ft. N/A□		⊠Bent, mat vegetation	tted, or missir	ng ⊠Wrack li	ine ⊠Litte debris	er and	□ Abrupt plar community cl	nt nange	⊠Soil ch	aracteristic change
Width of Waterbody - Te Bank to Top of Bank:	op of	Width of to Toe of	Waterbody - Slope:	Toe of Slope	Width of Wat Water Edge:	erbody - W	ater Edge to	Depth (Approx.	of Water:	
<u>_10</u> ft.		4	_ft.		N/A□	<u>3</u> ft.		N/A□	-	<u>0.3_</u> ft.
Sinuosity:		Water vel	ocity:		Bank height			Bank	slope	
□Straight		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.1 fp	2	Righ	t: 5 ft.			Right:	60 degrees
⊠Meanderin	a		<u></u> ıp	5	Lef	t:			Left:	<u> </u>
	.9	N/AL				<u> </u>				
Qualitative Attribut	tes									
(check one)	No water	⊠Cle	ar ⊡Turl	oid ⊡Sh or	neen 🗆	Surface scum	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Bould	ler 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand	⊠ Silt/ o	clay 🛛 Organio		Other:	
(check all that apply) % of Substrate: <u>N</u>	<u>IA_</u> %	<u>NA</u> %	<u> 10 </u> %	<u>25</u> %	<u>45</u> %	<u> 15 </u> %	<u> 5 </u> %	<u>_N</u> /	<u>4</u> %	
Width of Riparian Zone:	: Ve	egetative L	ayers:			🛛 Sanlii	nge/Shrube:	Γ	7 Herbs	
<u>>100 ft</u> - N/A□	(6) A V (ap	/g. DBH of oprox.)	Dominants:	<u>12_in.</u>		<u> </u>	ngs/Shirubs.	L2		
Dominant Bank Vegetat	tion (list):	:								
CHRISTMAS FERN	, GREE	N ASH, (CEDAR, C	HERRYBA	RK OAK, RI	ED MAPL	.E, BOEHME	ERIA,	ULMUS	SPP.
Aquatic Habitats (ex: sul RIFELES_POOLS_I	bmerged o	or emerged a	quatic vegetatio	on, overhanging	banks/roots, leat	f packs, large	submerged wood	l, riffles,	deep pools):
Aquatia Organiama Oba	anved (li	iot)				, 2118				
FISH, WATER STRI	IDERS,	FROGS	(GREEN A	AND CRICK	KET), CADD	ISFLIES				
T&E Species Observed NA	(list):									
Disturbances (ex: livesto NA	ck access,	, manure in w	aterbody, wast	e discharge pip	es):					
Tributary is: (check one)		Natural	□ Ar	tificial, man-m	nade 🗆 Ma	anipulated				
Stream Quality ^a : (check one)		High	⊠ M	oderate		w				

Waterbody ID: SCUK003

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 WITH MODERATE ENTRENCHMENT AND SEEPING STREAMBANKS

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





Waterbody point scuk003 facing northwest and downstream



Waterbody point scuk003 facing southeast and upstream



Waterbody point scuk003 facing south and across

Open Waterbod	ly Dat	ta Sheet									
Survey Descripti	on										
Project Name: V			Naterbody Name:					aterbody ID:		Date:	
Southeast Reliability			NA					CUK001		7/22/20 [.]	14
State:	County	/:		Comp	bany:		Crew N	Member Initials:	Photos:		
Virginia Cumberland				W&C WM				, JS 100-0140 TO 0143			143
Tract Number(s):				Neare	est Milepost:		A	ssociated Wetland	ID(s):		
10-011				209			١	NA			
Survey Type: (check one)]Re-Rou	ıte	□ Access Roa	d	□Other:			
Physical Attribut	es										
Waterbody Type:							_				
(check one) Stoc	ck Pond	Natural	Pond 🗆 I	∟ake □	Reservoir		nt 🗆 (Oxbow 🛛 Other: I	=XCAVAI	ED POR	ND
Hydrologic Regime:	⊠ P	ermanently I	Flooded	🗆 Semi	ipermanently	Flooded 🗆	Seaso	onally Flooded	Temporari	ly Floodec	ł
онwм	0	OHWM Indic	ator:								
Height:	(check all that ap	<i>ly)</i> □ Clear line □ Shelvir on bank				/ing	□Wrested vegetation	Scou	uring	□Water staining
<u>NA</u> ft.	<u>NA_ft.</u> Bent, matted, or missing □Wrack □Litter and ∞Abrupt plant □Soil characteristic vegetation line debris community change							c change			
Depth of Water:			Bank he	ight (ave	erage):			Bank slope (ave	rage):		
_UNI N/A□	<u>_UNK_</u> ft. N/A□			<u>NA</u> ft.				<u>NA</u> degrees			
Qualitative Attrib	outes										
Water Appearance: (check one)	□No w	ater 🗆 C	Clear D	∃Turbid	□ Sheer on surfa	n 🗆 Su ace scun	urface n	□Algal □ mats	Other:		
Substrate: (check all that apply)	Bedr	rock 🗆 Bo	ulder 🗆	Cobble	□ Gravel	□ Sand	⊠ Silt	/ clay 🛛 Organic	□ Other:		
% of Substrate:		_%	<u>%</u>	%	%	<u> %</u>	100	_%%		%	
Width of Riparian Zor	ne:	Vegetative	Layers:			Γ	7 Sanl	ings/Shruhs-		bc	
<u>>100</u> ft.			(1 ,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,				a Sapi	ings/Shirubs.		05	
N/A□		Avg. DBH c	of Domina	nts:	<u>8</u> in.	-	<u>2</u> in.				
Dominant Bank Vege	tation ((list):									
WOOLGRASS, SO	OFT R	USH, SPI	KERUSH	I, VIRG	GINIA PINE	, SYCAMO	RE, V	VILLOW			
Aquatic Habitats (ex: s	submergeo	d or emerged aqu	atic vegetation	n, overhang	ging banks/roots, le	eaf packs, large sub	merged	wood, riffles, deep pools,	etc.):		
VEGETATED ED	GES										
Aquatic Organisms C	Observe	d (list):									
COEOPTERANS,	FRO	GS, ODON	IATES, V	VATEF	R STRIDER	RS					
T&E Species Observe	ed (list):										
Disturbances (ex: live	stock acc	cess, manure i	n waterbody	, waste dis	scharge pipes):						
EXCAVATED ARE	EA HC	DLDING M	UDDY W	ATER							
Waterbody is: (check one)		Natural		⊠ Artific	ial, man-made	e 🗆 Manip	oulated	1			
Waterbody Quality ^a : (check one)	:	□ High		□ Mode	rate	⊠ Low					

Waterbody ID: OCUK001

High Quality: Natural, natural bank vegetation around entire waterbody; 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 by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank 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: 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:

THIS FEATURE APPEARS TO BE A EXCAVATED POND

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





Open water ocuk001, view of south end of open water facing west



Open water ocuk001, view facing west



Open water ocuk001, view of north end of open water facing west

Survey Description	on								
Project Name:		Waterbody Na	ame:		W	aterbody ID:			
Southeast Reliability UNNAM		UNNAMED	TRIB TO DRY CREEK			CUK004		7/22/2014	
State:	County:		Company:		Crew N	Member Initials:	: Ph	Photos:	
Virginia	Cumberland		W&C		JS, W	/M	1(00-0147 TO 0149	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID	(s):	
10-014			209			NA			
Survey Type: (check one)	⊠Centerlir	ne □Re-	Route	□Access Road		□Other:			
Physical Attribute	es								
Stream Classification (check one)	: ⊠Epheme	eral 🗆 Inte	ermittent	Perennial					
Waterbody Type: (check one)	□River ⊠ S	tream 🗆 Dif	ich 🗆 C	anal 🗌 Other:					
OHWM Width: _2_ft.	OHWM Indic (check all that ap	a tor: ply)	□ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	□So	couring ⊠Water staining	
Height: ft.	⊠Bent, vegetat	matted, or missi	ng ⊠Wrack li	ine ⊠Litter ar debris	nd	□ Abrupt plant community ch	t □ ange	Soil characteristic change	
Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth of	Water:	
Bank to Top of Bank:	to To	e of Slope:		Water Edge:		((Approx.)		
<u>_3</u> ft.		<u>2</u> ft.		N/A⊠	ft.	I	N/A⊠	ft.	
Sinuosity: (check one)	Wate (Approx	r velocity:		Bank height		I	Bank slo	pe	
□Straight		fns		Right:	1 ft.			60 degrees	
⊠Meande				Left:	1 #			Left:	
	3 N/A				<u> </u>				
Qualitative Attrib	utes								
(check one)	⊠No water □]Clear □Tur	bid □Sh or	neen □Sur n surface scu	face ım	□Algal [mats	□Other:		
Substrate:		Boulder 🗆 Cob	ble 🛛 Grav	el 🗆 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	□ Oth	ier:	
(check all that apply) % of Substrate:	<u>NA %</u> NA	<u>_% <u>NA</u>%</u>	<u>NA</u> %	<u>NA</u> %	<u>90_</u> %	<u> 10 </u> %	<u>NA</u> %	%	
Width of Riparian Zor	ne: Vegetativ	ve Lavers:							
_ <u>>100_ft</u> - N/A□	(check all th Avg. DB (approx.)	H of Dominants:	⊠ Trees _ <u>7_</u> in.	: 2	⊠ Saplir _ <u>2_</u> in.	ngs/Shrubs:	⊠H	lerbs	
Dominant Bank Vege RED MAPLE, NYS	tation (list): SSA SYLVATIO	CA, SYCAMO	RE, CEDAF	R, FRAGARIA,	ULMU	IS AMERICA	NA		
Aquatic Habitats (ex:	submerged or emerg	ed aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, dee	ep pools):	
NA									
Aquatic Organisms O NA	bserved (list):								
T&E Species Observe NA	ed (list):								
Disturbances (ex: lives	stock access, manure	e in waterbody, was	te discharge pip	es):					
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	nade 🗌 🗆 Manipu	ulated				
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low					

Waterbody ID: SCUK004

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 HEADWATER EPHEMERAL STREAM WITH CLAY BOTTOM AND BRAIDED CHANNELS IN A FORESTED AREA.

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





Waterbody point scuk004 facing southwest and downstream



Waterbody point scuk004 facing northeast and upstream



Waterbody point scuk004 facing south and across
Survey Descriptio	n	1							
Project Name:		Waterbody Na	me:		W	/aterbody ID:		C	Date:
Southeast Reliabilit	У	UNNAMED	I RIB TO D	RY CREEK	s	CUK005		1	/23/2014
State:	County:		Company:		Crew I	Member Initials:	: F	Photos:	
Virginia	Cumberland		W&C		JS, W	/M		100-01	75 TO 0177
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
10-014/015			210			WBUK002F			
Survey Type: (check one)	⊠Centerline	e □Re-I	Route	□Access Road		□Other:			
Physical Attribute	s								
Stream Classification: (check one)	Ephemera	al ⊠Inter	rmittent	□Perennial					
Waterbody Type: (check one)]River ⊠ Str	eam 🗆 Dite	ch 🗆 Ca	anal 🛛 Other	:				
OHWM Width: <u>5_f</u> t.	OHWM Indica (check all that apply	tor: _V)	⊠ Clear lir on bank	ne ⊠Shelvin	g	⊠Wrested vegetation	\boxtimes	Scouring	⊠Water staining
Height: ft. N/A□	⊠Bent, r vegetatio	matted, or missin on	ng ⊠Wrack li	ne ⊠Litter ar debris	nd	□ Abrupt plant community ch	t ange	⊠Soil ch	aracteristic change
Width of Waterbody - 1 Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	/ater Edge to	Depth ((Approx.)	of Water:	
<u>_7 f</u> t.	-	<u>5</u> ft.		N/A□	<u>2</u> ft.	I	N/A□	-	<u>0.2_</u> ft.
Sinuosity: (check one)	Water (Approx.)	velocity: 0.1_fps	5	Bank height Right: Left:	<u>4</u> ft.	I	Bank s	lope Right: Left:	<u>80</u> degrees
					<u>4</u> ft.				<u>80</u> degrees
Water Appearance:	les								
(check one)	No water ⊠0	Clear 🗆 Turk	oid ⊡Sh on	leen ⊡Sui i surface sci	rface um	□Algal [mats	Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic		Other:	
(check all that apply) % of Substrate:	<u>NA_% NA</u>	% _%	<u> 15 </u> %	<u>40</u> %	<u>40_</u> %	<u> 5 </u> %	NA	_%	
Width of Riparian Zone	: Vegetative	e Lavers:							
<u>>100 ft</u> . N/A□	(check all that Avg. DBH (approx.)	of Dominants:	⊠ Trees _ <u>12_</u> in.	: D	⊠ Saplir _ <u>3_</u> in.	ngs/Shrubs:		Herbs	
Dominant Bank Vegeta CEDAR, SWEETG	ition (list): JM, SYCAMOF	RE, SPICEBL	JSH, RED	MAPLE, CHRIS	STMA	S FERN, ULI	MUSS	SPP.	
Aquatic Habitats (ex: si POOLS, ROOTMA	ubmerged or emerged TS, LEAF PAC	d aquatic vegetatio KS, UNDER	on, overhanging CUT BANK	banks/roots, leaf pac S, LWD	ks, large	e submerged wood,	, riffles, c	deep pools):
Aquatic Organisms Ob FISH, WATER STR	served (list): IDERS, FROG	S (Eastern C	ricket, Sou	thern Leopard,	Picke	erel), CRAYFI	ISH		
T&E Species Observed	l (list):								
Disturbances (ex: livesto NA	ock access, manure i	n waterbody, wast	e discharge pipe	es):					
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low					

Waterbody ID: SCUK005

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 INTERMITTENT STREAM WITH MODERATE ENTRENCHMENT, LOTS OF WOODY DEBRIS AND LOW FLOW; 300 FT IN CORRIDOR





Waterbody point scuk005 facing southeast and downstream



Waterbody point scuk005 facing northwest and upstream



Waterbody point scuk005 facing west and across

Survey Descriptio	n								
Project Name:		Waterbody Na	me:		W	aterbody ID:		D	ate:
Southeast Reliabilit	У	UNNAMED	TRIB TO D	RY CREEK	S	CUK007		7	/23/2014
State:	County:		Company:		Crew N	Member Initials	;: F	Photos:	
Virginia	Cumberland		W&C		JS, W	/M		100-018	32 TO 0185
Tract Number(s):			Nearest Mile	epost:	l	Associated W	etland	ID(s):	
10-015			210			WCUK003			
Survey Type: (check one)	⊠Centerlin	e □Re-	Route	□Access Road		□Other:			
Physical Attribute	s								
Stream Classification: (check one)	⊠Ephemer	al □Inte	rmittent	Perennial					
Waterbody Type: (check one)	River ⊠ St	ream 🗆 Dit	ch □ C	anal 🛛 Other:	34T				
OHWM Width: _2_ft.	OHWM Indica (check all that app	ator: ly)	Clear lin on bank	ne DShelving	g	□Wrested vegetation	\boxtimes	Scouring	⊠Water staining
Height: ft. N/A□	⊠Bent, vegetatio	matted, or missir on	ng ⊠Wrack li	ine ⊠Litter ar debris	nd	□ Abrupt plan community ch	it nange	□Soil ch	aracteristic change
Width of Waterbody - 1 Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth ((Approx.)	of Water:	
<u>_3</u> ft.	-	<u>2</u> ft.		N/A⊠	ft.		N/A⊠		ft.
Sinuosity: (check one) □Straight	Water (Approx.	velocity: /fps		Bank height Right: Left:	<u>1</u> ft.		Bank s	lope Right: Left:	70_degrees
Meanderin	ng N/A⊠				<u> </u>				70 degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	No water	Clear □Turl	bid ⊡Sł or	neen ⊡Sur n surface scu	face Im	□Algal mats	□Other	: 34T	
Substrate: [(check all that apply) % of Substrate:	Bedrock Be	oulder □ Cobl _% <u>NA</u> %	ble □ Grav <u>NA </u> %	el ⊠ Sand <u>35_</u> %	⊠ Silt/ c <u>55_</u> %	lay ⊠ Organic	; □ C NA	0ther: 347 _%	-
Width of Rinarian Zone	- Vegetativ	e lavers:							
<u>>100 ft</u> . N/A□	(check all that Avg. DBH (approx.)	t apply)	[⊠] Trees _ <u>12_</u> in.	:: D	⊠ Saplir <u>_3_</u> in.	ngs/Shrubs:		Herbs	
Dominant Bank Vegeta CEDAR, SWEETGI	ition (list): UM, WHITE O	AK, VACCINI	UM SP., R	ED MAPLE, XN	/IAS F	ERN, POST	OAK,	BLACK	GUM
Aquatic Habitats (ex: se NA	ubmerged or emerge	ed aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	l, riffles, d	deep pools)	:
Aquatic Organisms Ob NA	eserved (list):								
T&E Species Observed	l (list):								
Disturbances (ex: livesto NA	ock access, manure	in waterbody, wast	e discharge pip	es):					
Tributary is: (check one)	⊠ Natural		tificial, man-m	nade 🗌 Manipu	ulated				
Stream Quality ^a : (check one)	□ High	□ M	oderate	⊠ Low					

Waterbody ID: SCUK007

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 HEADWATER EPHEMERAL STREAM WITH CLAY BOTTOM AND BRAIDED CHANNELS IN A FORESTED AREA. LOWER PORTION OF REACH HAS INTERMITTENT FLOW REGIME AND WAS RECORDED AS STREAM SCUK006.





Waterbody point scuk007 facing southwest and downstream



Waterbody point scuk007 facing northeast and upstream



Waterbody point scuk007 facing east and across

Survey Description	n							
Project Name:		Waterbody Na	me: TRIR TO R		W	/aterbody ID:		Date:
Southeast Reliabilit	ty	UNNAMED	TRIB TO D	RY CREEK	s	CUK008		7/23/2014
State:	County:		Company:		Crew I	Member Initials:	Phot	os:
Virginia	Cumberland		W&C		JS, W	/M	100	-0197 TO 0199
Tract Number(s):			Nearest Mile	epost:		Associated We	etland ID(s)):
10-015			210			WCUK003		
Survey Type: (check one)	⊠Centerline	e □Re-	Route	□Access Road		□Other:		
Physical Attribute	s							
Stream Classification: (check one)	⊠Ephemera	al 🛛 🗆 Inte	rmittent	□Perennial				
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Dite	ch 🗆 Ca	anal 🛛 Other:	34T			
OHWM Width: _2_ft.	OHWM Indica (check all that apply	tor: /)	□ Clear lir on bank	ne DShelving	g	□Wrested vegetation	□Scou	uring ⊠Water staining
Height: 	⊠Bent, r vegetatio	natted, or missir	ng ⊠Wrack li	ne ⊠Litter ar debris	nd	□ Abrupt plant community cha	□So ange	bil characteristic change
Width of Waterbody -	Top of Width o	of Waterbody -	Toe of Slope	Width of Waterbe	ody - W	ater Edge to	Depth of W	ater:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(4	Approx.)	
<u>_3</u> ft.	-	<u>2_</u> ft.		N/A⊠	ft.		I/A⊠	ft.
Sinuosity:	Water	velocity:		Bank height		E	Bank slope	!
	(Αρριοχ.)	fna		Right:	0 5 ft		Ri	ght: 60 degrees
Moondor		ips		Left:	<u> </u>			Left:
	N/A⊠				<u>0.5 ft</u> .			<u>60</u> degrees
Qualitative Attribu	utes							
(check one)	$^{\boxtimes}$ No water \Box C	Clear □Turt	oid ⊡Sh on	leen ⊡Sur surface scu	face Jm	□Algal □ mats	Other: 34	Т
Substrate:	Bedrock DBc	ulder 🗆 Cobl	ole 🗆 Grave	el 🗆 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic	□ Other	: 34T
(check all that apply) % of Substrate:	%	_%_%	%	_%	<u>90_</u> %	<u> 10 </u> %		%
Width of Riparian Zon	e: Vegetative	e Lavers:						
<u>>100 ft</u> ·	(check all that Avg. DBH (approx.)	apply) of Dominants:	[⊠] Trees <u>12</u> in.	: 2	⊠ Saplir <u>_3_</u> in.	ngs/Shrubs:	⊠ Her	bs
Dominant Bank Veget	ation (list):							
CEDAR, SWEETG	UM, WHITE OA	AK, VACCINI	UM SP., R	ED MAPLE, XN	/IAS F	ERN, POST	OAK, BL	ACK GUM
Aquatic Habitats (ex: s NA	ubmerged or emerged	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep	pools):
Aquatic Organisms Ol NA	bserved (list):							
T&E Species Observed	d (list):							
Disturbances (ex: livest	tock access, manure i	n waterbody, wast	e discharge pipe	es):				
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	□ High		oderate	⊠ Low				

Waterbody ID: SCUK008

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 HEADWATER EPHEMERAL STREAM WITH CLAY BOTTOM AND BRAIDED CHANNELS IN A FORESTED AREA







Waterbody point scuk008 facing southwest and downstream



Waterbody point scuk008 facing northeast and upstream



Waterbody point scuk008 facing west and across

Survey Descriptio	n								-
Project Name:		Waterbody Na	me:		W	aterbody ID:		ſ	Date:
Southeast Reliabilit	У	UNNAMED	TRIB TO D	RY CREEK	S	SCUKUU9		1	7/23/2014
State:	County:		Company:		Crew I	Member Initials:	: F	Photos:	
Virginia	Cumberland		W&C		JS, W	M		100-02	00 TO 0202
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
10-015			210			WCUK003			
Survey Type: (check one)	⊠Centerline	e □Re-	Route	□Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)	Ephemera	al ⊠Inte	rmittent	Perennial					
Waterbody Type:									
(check one)	□River ⊠ Str	eam 🗆 Dit	ch 🗆 Ca	anal 🗌 Other:	:				
OHWM Width: _ <u>2_ft</u> .	OHWM Indica (check all that apply	tor: v)	□ Clear lir on bank	ne 🗆 Shelvin	g	⊠Wrested vegetation	\boxtimes	Scouring	⊠Water staining
Height: <u>1_ft</u> .	⊠Bent, r vegetatio	natted, or missii	ng ⊠Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plant community ch	t ange	□Soil ch	aracteristic change
N/A	For of half-life	- () • / - (T	Midth of Motorh	a du A	latan Edua ta	Dawth	-6 \4/-1	
Bank to Top of Bank:	to Toe	of Waterbody - of Slope:	Toe of Slope	Water Edge:	oay - w	ater Edge to	(Approx.)	of water:	
<u>_7</u> ft.	-	<u>2</u> ft.		N/A 🖂	ft.		N/A⊠		ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:				Right:	
		fps		Left:	<u>4</u> ft.			Left:	<u>80</u> degrees
⊠Meanderi	ng N/A⊠				<u>4</u> ft.				80 degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	[⊲] No water □0	Clear 🗆 Tur	bid □Sh on	leen ⊡Sui i surface scu	rface um	□Algal [mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cob	ble 🗆 Grave	el 🗆 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic		Other:	
(check all that apply) % of Substrate:	%	%%	%	_%	<u>90_</u> %	<u> 10 </u> %		%	
Width of Riparian Zone	e: Vegetative	e Layers:							
<u>>100 ft</u> .	(check all that Avg. DBH	apply) of Dominants:	⊠ Trees <u>12_</u> in.	: D	⊠ Saplir _ <u>3_</u> in.	ngs/Shrubs:	\boxtimes	Herbs	
N/ALJ	ation (list):								
CEDAR, SWEETG	UM, WHITE OA	AK, VACCINI	UM SP., RI	ED MAPLE, CH	HRIST	MAS FERN,	POST	ΓΟΑΚ,	BLACK GUM
Aquatic Habitats (ex: s	ubmerged or emerged	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, c	deep pools	;):
NA									
Aquatic Organisms Ob	oserved (list):								
NA									
T&E Species Observed	d (list):								
NA									
Disturbances (ex: livest	ock access, manure i	n waterbody, was	e discharge pipe	es):					
NA									
Tributary is:									
(check one)	⊠ Natural		tificial, man-m	ade 🗌 Manipi	ulated				
Stream Quality ^a : (check one)	□ High	M	oderate	⊠ Low					

Waterbody ID: SCUK009a

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 HEADWATER INTERMITTENT STREAM

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





Waterbody point scuk009a facing southwest and downstream



Waterbody point scuk009a facing northeast and upstream



Waterbody point scuk009a facing west and across

Project Name: Waterbody Name: Waterbody Dip Date: Southeast Reliability UNNAMED TRIB TO DRY CREEK SCUK006 7/23/2014 State: County: Company: Crew Member Initials: Photos: Track Number(s): Qumberland M&SC JS, WM 100-0180 TO 0182 State: 210 Associated Weithed D(p): WCUK003F Strew Classification: 210 WCUK003F WCUK003F Strew Classification: Epheneral Onter: Presential Waterbody Type: Benk mode of the Stream Ditch Case line Other: Width of Waterbody: Clear line Clear line Clear line Absupt plant Stocuting Stream Width of Waterbody: To of Stope:	Survey Description	n								
Southeast Reliability UNNAMED TRUE TO DRY CREEK SCURUOE Protoc: Vignina County: County: Company: Crew Member Initials: Protox: Vignina Cumber(and W&C US, WM 100-0160 TO 0182 Tract Number(a): Authority (Company: Access Road Other: Physical Attributes Survey Type: Classification: Control Classification: Caread ow Classification: Control Classification:	Project Name:		Waterbody Na	me:		N	Vaterbody ID:		D	ate:
Sinte: Company: Company: Crew Member Initials: Photos: Yirginia WMSC US, WM 100-0180 TO 0182 Tack Number(s): Nassociated Wetland D(s): 100-0180 TO 0182 Survey Type: ©Center[ne IR-Route IAccess Road IOCher: Physical Attributes Stream Classification: @Intermittent IPerennial Waterbody Type: Epheneral @Intermittent IPerennial Waterbody Type: Epheneral @Intermittent IPerennial Waterbody Type: Epheneral @Intermittent IPerennial Width Waterbody Type: Epheneral @Intermittent IPerennial Width of Waterbody: Type: Extent Physical (IPER) @Intermittent IPerennial Width of Waterbody: Type: Extent Physical (IPER) @Intermittent IPerennial Width of Waterbody: Type: Extent Physical (IPER) @Intermittent IPerennial Width of Waterbody: Type: Extent Physical (IPER) @Intermittent IPerennial Width of Waterbody: Type: Extent Physical (IPER) @Intermittent IPerennial Widthof Bank <	Southeast Reliabilit	ty	UNNAMED	TRIB TO D	RY CREEK		SCUK006		7.	/23/2014
Virginia Cumberland WKC JS, WM 100-0182 Tract Number(s): Nearest Millepost: Associated Wattand ID(s): WCUK003F Struey Type: Signal Attributes WCUK003F WCUK003F Stream Classification: Epheneral Since Type: Other: Stream Classification: Epheneral Since Type: Since Type: Stream Classification: Extern Type: Other: Since Type: Midd of Waterbody Type: Extern Type: Since Type: Since Type: Since Type: Since Type: Extern Type: Extern Type: Since Type: Since Type: Since Type: Since Type: Extern Type: Extern Type: Since Type: Since Type: Since Type: Since Type: Width of Waterbody - Toe of Singe: Mater Edge: Materbody: Materbody: Since Type: Exten: Since Type: Since Type	State:	County:		Company:		Crew I	Member Initials	: 1	Photos:	
Tract Number(s):	Virginia	Cumberland		W&C		JS, W	٧M		100-018	30 TO 0182
10-015 210 WCUK003F Survey Type: Scenterline Re-Route Conter: Physical Attributes Stream Classification: prevention Perennial Watchody Type: Stream Classification: prevention Stream Classification: genet classification: Prevential Other: Stream Classification: genet classification:	Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
Survey Type: extext corr	10-015			210			WCUK003F	=		
Contraining Contraining Contraining Contraining Physical Attributes Stream Classification: Contraining Contraining Waterbody Type: Contraining Ditch Canal Other: OfHVM Width: Z.f. Ditch Canal Other: OfHVM Z.f. Ditch Canal Other: Other: OfHVM Z.f. Ditch Canal Other: Other: Width: Z.f. Ditch Canal Other: Other: Other: NAT fr. Bent, mated, or missing ZWrack line Elitter and Contraining Solid characteristic change Width of Waterbody - Top of Bank: fr.				Douto		1				
Provide and end of the second		Centenine		Roule						
Strate oregination of the stratement of the strateme	Stream Classification:	es .								
Water choody Type: (chood one) River Stream Ditch Canal Other: OHWM With: 	(check one)	□ Ephemera	al 🛛 Inte	rmittent	Perennial					
cented own □ River IS Stream □ Ditch □ Canal □ Other: OHWM	Waterbody Type:									
OHWM Of WM Indicator: (n) bank State (arrow of the second) State (arrow of the	(check one)	□River ⊠ Str	eam 🗆 Dite	ch 🗆 Ca	anal 🗌 Other:	:				
With:	ОНШМ	OHWM Indica	tor:						a i	
Height: NAC	Width: _2_ft.	(cneck all that apply	/)	☑ Clear lir on bank	ne ∐Shelvin	g	⊠Wrested vegetation	\boxtimes	Scouring	⊠Water staining
NA	Height:	⊠Bent. r	natted. or missir	na ⊠Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t	⊠Soil cha	aracteristic change
Width of Waterbody - Top of Bank to Top of Bank:	_ <u>_1_</u> ft. N/A□	vegetatio	n	5	debris		community ch	ange		<u>j</u>
Bank to Top of Bank: to Toe of Stope: Water Edge: (/4perox.)	Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water:	
ft. ft. NA⊠ ft. NA⊠ ft. Sinuosity: (check one) Bank height Straight fps Bank height Right: Left: Bank slope Aft. Right: Left: Bank slope Right: Left: Bank slope Right: Mature Bank slope Right: Left: Bank slope Right: Left: Bank slope Right: Slope Right: Left: Bank slope Right: Slope Right: Left: Bank slope Right: Slope Right: Left: Bank slope Right: Right: Left: Bank slope Right: Slope Right: Left: Bank slope Right: Left: Bank slope Right: Right: Left: Bank slope Right: Right:	Bank to Top of Bank:	to Toe	of Slope:	-	Water Edge:			(Approx.)		
Sinuceity: (affect one) Water velocity: (approx.) Water velocity: (approx.) Bank height Right: fps Bank height Right: ft. Bank slope Right: ft. @ degrees Cualitative Attributes Maxer Appearance: (affect one) Aff. Bank slope Right: ft. @ degrees Cualitative Attributes Water Appearance: (affect one) Aff. Bank offect @ degrees Cualitative Attributes Water Appearance: (affect one) Sheen on surface Surface scum Algal Other: @ degrees Bank height Bank bright Bank bright Bank bright Bank bright Bank bright @ degrees Cualitative Attributes Water Appearance: (affect affect one) Sheen on surface Surface Other: Other: @ of Substrate: Bedrock Boulder Cobile Gravel Sand Sit/ clay Organic Other: @ of Substrate: % _%<	<u>_7</u> ft.	_	<u>2</u> ft.			ft.				ft.
Situative vertocity. park vertocity. park vertocity. park vertocity. (devection) Straight fps ift. ift. Weater vertocity. fps ift. ift. ift. Qualitative Attributes	Sinuccity	Wator			N/A⊠ Bank baight			N/A⊠ Book o	lono	
Straight fps Left: dft. Left: g0_degrees @Meandering NA⊠ dft. g0_degrees Left: g0_degrees @ualitative Attributes Water Appearance:	(check one)	(Approx.)	velocity.		Right:			Dalik S	Right:	
Image: Meandering N/A Left: Left: Left: Left: Left: B0_degrees Qualitative Attributes Water Appearance: Image: Moment and the second and			fps			<u>4</u> ft.				80 degrees
Qualitative Attributes Water Appearance: (check one) No water Clear Turbid Sheen on surface scum mats Substrate: Bedrock Boulder Cobble Gravel Sand Sitt/ clay Organic Other: "dick withmat apply! Bedrock Boulder Cobble Gravel Sand Sitt/ clay Organic Other: "dick withmat apply! %	⊠Meanderi	ing N/A⊠			Left:	<u>4 ft.</u>			Left:	80 degrees
Charletive Particulative Particulation Water Appearance: (check one) Substrate: Bedrock (check and that apph) % of Substrate: % %	Qualitative Attribu	Itos								
[check one] No water Clear Turbid Sheen Surface Algal Other: Substrate: Bedrock Boulder Cobble Gravel Sand Silt/ clay Organic Other: "dock all that apply! % _% _% _% _% _% _% _% Width of Riparian Zone: Vegetative Layers: (check all that apply) Image: Stress in the stress in t	Water Appearance:	165								
Substrate: Bedrock Boulder Cobble S Gravel Sand Sitt/ clay Sand Sitt/ clay Sond Sondecla	(check one)	$^{\boxtimes}$ No water \Box (Clear □Turk	oid □Sh on	neen DSui nisurface scu	rface um	□Algal mats	□Other	:	
Interview and that apply// % of Substrate: _% of Substrate: _% of Substrate:	Substrate:	Bedrock DBc	ulder 🗆 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🛛 Organic	: 🗆 C	Other:	
Width of Riparian Zone: Vegetative Layers: (check all that apply) Image: Trees: Saplings/Shrubs: Image: Herbs N/A Avg. DBH of Dominants: _12_in. _3_in. Dominant Bank Vegetation (<i>list</i>): CEDAR, SWEETGUM, WHITE OAK, VACCINIUM SP., RED MAPLE, XMAS FERN, POST OAK, BLACK GUM Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA – NO FLOW Aquatic Organisms Observed (<i>list</i>): NA NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one) Image: Natural Watural Artificial, man-made Manipulated	% of Substrate:	_%	_% _%	<u> 15 </u> %	<u>40</u> %	<u>40 %</u>	<u> 5 </u> %		%	
	Width of Riparian Zon	e: Vegetative	Lavers:							
_>100 ft: Avg. DBH of Dominants: _12_in. _3_in. N/A□		(check all that	apply)	⊠ Trees	: 2	🛛 Saplii	ngs/Shrubs:	\boxtimes	Herbs	
Dominant Bank Vegetation (list): CEDAR, SWEETGUM, WHITE OAK, VACCINIUM SP., RED MAPLE, XMAS FERN, POST OAK, BLACK GUM Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA – NO FLOW Aquatic Organisms Observed (list): NA T&E Species Observed (list): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one) Natural Artificial, man-made Manipulated Stream Quality ^a : (check one) High Moderate	<u>>100 ft</u> · N/A□	Avg. DBH (approx.)	of Dominants:	<u>_12_</u> in.	-	<u>3</u> in.				
CEDAR, SWEETGUM, WHITE OAK, VACCINIUM SP., RED MAPLE, XMAS FERN, POST OAK, BLACK GUM Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA – NO FLOW Aquatic Organisms Observed (<i>list</i>): NA T&E Species Observed (<i>list</i>): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one)	Dominant Bank Veget	ation (list):								
Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA – NO FLOW Aquatic Organisms Observed (<i>list</i>): NA T&E Species Observed (<i>list</i>): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one) Natural Artificial, man-made Manipulated Stream Quality ^a : Moderate Low	CEDAR, SWEETG	UM, WHITE OA	AK, VACCINI	UM SP., R	ED MAPLE, XN	/AS F	ERN, POST	OAK,	BLACK	GUM
NA – NO FLOW Aquatic Organisms Observed (<i>list</i>): NA T&E Species Observed (<i>list</i>): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one)	Aquatic Habitats (ex: s	ubmerged or emerged	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	e submerged wood	, riffles, o	deep pools)	:
Aquatic Organisms Observed (list): NA T&E Species Observed (list): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one)	NA – NO FLOW									
NA T&E Species Observed (list): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one)	Aquatic Organisms Ol	bserved (list):								
T&E Species Observed (list): NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one) ⊠ Natural Artificial, man-made Manipulated Stream Quality ^a : (check one) □ High ⊠ Moderate □ Low	NA									
NA Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one)	T&E Species Observe	d (list):								
Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA Tributary is: (check one) ⊠ Natural □ Artificial, man-made □ Manipulated Stream Quality ^a : (check one) □ High ⊠ Moderate □ Low	NA									
NA Tributary is: (check one) ⊠ Natural □ Artificial, man-made □ Manipulated Stream Quality ^a : (check one) □ High ⊠ Moderate □ Low	Disturbances (ex: livest	tock access, manure i	n waterbody, wast	e discharge pipe	es):					
Tributary is: (check one) Image: Natural Artificial, man-made Manipulated Stream Quality ^a : (check one) Image: High Moderate Low	NA									
Stream Quality ^a : (check one)	Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated				
	Stream Quality ^a : (check one)	🗆 Hiah	 ⊠ Mo	oderate						

Waterbody ID: SCUK006a

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 INTERMITTENT STREAM WITH MODERATE ENTRENCHMENT, LOTS OF WOODY DEBRIS







Waterbody point scuk006a facing southwest and downstream



Waterbody point scuk006a facing northeast and upstream



Waterbody point scuk006a facing east and across

Survey Descriptio	n							
Project Name:		Waterbody Na	me:		W	aterbody ID:		Date:
Southeast Reliabilit	У	UNNAMED	TRIB TO D	RY CREEK	S	CUK010		7/23/2014
State:	County:		Company:		Crew N	Member Initials:	: P	hotos:
Virginia	Cumberland		W&C		JS, W	/M	-	100-0208 TO 0210
Tract Number(s):			Nearest Mile	epost:		Associated We	etland I	D(s):
10-017			210			NA		
Survey Type: (check one)	⊠Centerlin	e □Re-	Route	□Access Road		□Other:		
Physical Attribute	s							
Stream Classification: (check one)	Ephemer	al ⊠Inte	rmittent	□Perennial				
Waterbody Type: (check one)	River ⊠ St	ream 🗆 Dit	ch □ C	anal 🛛 Other:				
OHWM Width: _ <u>4_</u> ft.	OHWM Indica (check all that appl	itor: y)	⊠ Clear lin on bank	ne ⊠Shelving	g	⊠Wrested vegetation	\boxtimes	Scouring ⊠Water staining
Height: ft. N/A□	⊠Bent, i vegetatio	matted, or missii on	ng ⊠Wrack li	ine ⊠Litter ar debris	nd	□ Abrupt plant community cha	t [ange	⊠Soil characteristic change
Width of Waterbody - 1 Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth o (Approx.)	f Water:
<u>_10 ft</u> .	-	<u>4</u> ft.		N/A⊠	ft.	1	N/A⊠	ft.
Sinuosity: (check one) □Straight	Water (Approx.)	velocity: fps		Bank height Right: Left:	<u>6</u> ft.	F	Bank sl	ope Right: _ <u>80</u> degrees Left:
					<u>6</u> ft.			<u>80</u> degrees
Water Appearance:	165							
(check one)	No water ⊠	Clear □Tur	oid ⊡Sh or	neen ⊡Sur nisurface scu	face um	□Algal □ mats	□Other:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	ay 🛛 Organic		ther:
(check all that apply) % of Substrate:	<u>NA_% NA</u>	<u>% <u>NA</u>%</u>	<u>NA</u> %	<u>95</u> %	<u>5</u> %	<u>NA</u> %	NA	_%
Width of Riparian Zone	: Vegetativ	e Lavers:						
<u>>100 ft</u> . N/A□	(check all tha Avg. DBH (approx.)	t apply) of Dominants:	[⊠] Trees _ <u>12</u> _in.	: D	⊠ Saplir <u>_3_</u> in.	ngs/Shrubs:		Herbs
Dominant Bank Vegeta RIVER BIRCH, BEE	ition (list): ECH, SYCAM(DRE, POPLA	R, RED MA	APLE, CHRISTI	MAS F	ERN, QUER	CUS	SPP.
Aquatic Habitats (ex: so POOLS, LWD	ubmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, d	eep pools):
Aquatic Organisms Ob ODONATES, WATI	served (list): ER STRIDERS	, FROGS, C	RAYFISH					
T&E Species Observed	l (list):							
Disturbances (ex: livesto NA	ock access, manure	in waterbody, wasi	e discharge pip	es):				
Tributary is: (check one)	⊠ Natural		tificial, man-m	nade 🗌 Manipu	ulated			
Stream Quality ^a : (check one)	□ High	⊠M	oderate	□ Low				

Waterbody ID: SCUK010

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 INTERMITTENT STREAM WITH MODERATE ENTRENCHMENT, NO FLOW, POOLS PRESENT







Waterbody point scuk010 facing southwest and downstream



Waterbody point scuk010 facing northeast and upstream



Waterbody point scuk010 facing east and across

Survey Descriptio	n							
Project Name:		Waterbody Na	ne:		w	aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Dry (Creek		S	CUC001		1/7/2015
State:	County:	I	Company:		Crew N	lember Initials:	Photos:	
Virginia	Cumberland		NRG		CR, A	S	SCUC	001_001-003
Tract Number(s):			Nearest Milep	ost:		Associated Wet	land ID(s):	
10-019			211.4			None		
Survey Type: (check one)		□Re-I	Route	□Access Road		□Other:		
Physical Attribute	s							
Stream Classification:			mittant					
			milleni					
(check one)	River ⊠ Str	eam 🗆 Dito	ch □ Car	nal 🗌 Other	:			
ОНШМ	OHWM Indicat	tor:						
Width: <u>3_</u> ft.	(check all that apply)	☑ Clear line on bank	e ⊡Shelvin	g	☐Wrested vegetation	Scourin	g □Water staining
Height:	⊠Bent. n	natted. or missin	g ⊡Wrack lin	e □Litter a	nd	□Abrupt plant	⊠Soil c	haracteristic change
ft. N/A□	vegetatio	n	0	debris		community char	nge	U U
Width of Waterbody - T Bank to Top of Bank:	Top of Width of to Too	of Waterbody -	Toe of Slope	Nidth of Waterb	ody - W	ater Edge to	epth of Wate	r:
Bank to Top of Bank.		oi Siope.		Water Euge.		(7.9	<i>prox.)</i>	0.05 (1
<u>5</u> ft.	-	<u>_1.5</u> ft.	,		2_1	ft. N/		<u>0.25</u> π.
Sinuosity:	Water	velocity:		Bank height		Ba	ank slope	
(check one)	(Approx.)			Right:			Right	:
		<u>_0.5</u> fps		Left:	<u>4_</u> ft.		Lef	<u>80</u> degrees t:
Meanderi	ng N/A□				<u>2</u> ft.			50 degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	[□] No water ⊠C	Clear □Turb	id ⊡She on s	en □Su surface sci	rface um	□Algal □ mats	Other:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🗆 Gravel	⊠ Sand	⊠ Silt/ c	lay 🗆 Organic	□ Other:	
(check all that apply) % of Substrate:	%	%	% %	80 %	20 %	%	0/	
			_///	<u> </u>	20_70	/0	70	
Width of Riparian Zone	e: Vegetative (check all that	e Layers: apply)	⊠ Trees:	D	⊲ Saplir	as/Shrubs:	⊠ Herbs	
<u>10 ft</u> - N/A□	Avg. DBH	of Dominants:	<u>_8_</u> in.	-	_ <u>2_</u> in.	190/ C111050.		
Dominant Bank Vegeta	ation (list):							
Loblolly Pine, White	e Oak, America	n Beech, Chi	istmas fern					
Aquatic Habitats (ex: s	ubmerged or emerged	aquatic vegetatio	n, overhanging b	anks/roots, leaf pac	ks, large	submerged wood, ri	ffles, deep poo	s):
Leaf packs, riffles a	ind pools, over	hanging root	S					
Aquatic Organisms Ob	oserved (list):							
None								
T&E Species Observed	d (list):							
None								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pipes):				
None								
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-ma	de 🗆 Manip	ulated			
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low				

Waterbody ID: SCUC001

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:

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





Waterbody SCUC001 facing upstream



Waterbody SCUC001 facing downstream



Waterbody SCUC001 facing across

Survey Descripti	ion										
Project Name:		Wat	erbody Nan	ne:			v	/aterbody ID:			Date:
Atlantic Coast Pip	eline	UN'	T to Dry C	Creek			S	CUC002			1/7/2015
State:	County:			Company:			Crew I	Member Initials	:	Photos:	
Virginia	Cumbe	rland		NRG			CR, A	AS		SCUC	002_001-003
Tract Number(s):	I			Nearest Mil	epost:			Associated W	etland	ID(s):	
10-019				211.5				WCUC001			
Survey Type: (check one)	⊠C	enterline	□Re-R	loute	□A	ccess Road	I	□Other:			
Physical Attribut	tes										
Stream Classification (check one)	n: ⊠E	phemeral	□Inter	mittent	□P	erennial					
Waterbody Type: (check one)	□River	Stream	□ Ditc	h □C	anal	□ Other	:				
OLIMAN		1 Indiantary									
Width:	(check a	Il that apply)		⊠ Clear li on bank	ne	□Shelvin	g	□Wrested vegetation		Scouring	g □Water staining
Height: 0.5 ft.		Bent, matte	d, or missing	g ⊡Wrack I	ine	□Litter a	nd	□Abrupt plan	it ange	□Soil c	haracteristic change
N/A	, v	egetation				deblis		community of	lange		
Width of Waterbody Bank to Top of Bank	- Top of :	Width of Wa to Toe of SI	aterbody - 1 ope:	oe of Slope	Width Wate	n of Waterb r Edge:	ody - W	ater Edge to	Depth (Approx.)	of Wate	r:
		1 #					1 ft				0.2 ft.
<u>-</u> 4_IC		"			N/A□		<u></u> IL.		N/A□		
Sinuosity:		Water veloc	ity:		Bank	height			Bank	slope	
□Straight	t	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.2 fps			Right:	1 ft.			Right	: 90 degrees
⊠Meande	erina		<u>0.2_</u> 1p3			Left:	1 #			Left	t: 00dogroop
							<u> </u>				<u>90</u> degrees
Qualitative Attrib	outes										
(check one)	\Box No water	⊠Clear	□Turbi	id ⊡SI or	neen n surfac	⊡Su ce sc	rface um	□Algal mats	□Othe	r:	
Substrate:	□ Bedrock	Boulder		le 🗆 Grav	rel 🗵	Sand	⊠ Silt/ o	clay 🗆 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	%	%		%	<u>%</u>	<u>90_</u> %	<u>10_</u> %	%		%	
Width of Riparian Zo	ne: Ve	egetative Lav	ers:								
	(ch	eck all that apply)		☑ Trees	s:	[🛛 Sapliı	ngs/Shrubs:	Σ	I Herbs	
<u>10 π</u> · N/A□	AV (ap	'g. DBH of D prox.)	ominants:	<u>_10_</u> in.		-	_ <u>2_</u> in.				
Dominant Bank Vege	etation (list):										
White oak, sedge:	s, Christm	as, red ma	ple, south	nern red ce	edar, 、	Japanese	hone	ysuckle			
Aquatic Habitats (ex:	submerged o	r emerged aqua	atic vegetation	n, overhanging	banks/r	oots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):
Leaf packs											
Aquatic Organisms (Observed (li	st):									
None											
T&E Species Observ	ed (list):										
None											
Disturbances (ex: live	stock access,	manure in wate	erbody, waste	discharge pip	es):						
None											
Tributary is: (check one)		latural	□ Arti	ificial, man-m	nade	🗆 Manip	ulated				
Stream Quality ^a : (check one)		ligh	⊠ Mo	derate		□ Low					

Waterbody ID: SCUC002

Scucouz

les

mixed

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:

W (UC OU

Stream loses its bed and banks at a few points throughout it extent, headwater is in corridor (WCUC001)

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



Waterbody SCUC002 facing upstream



Waterbody SCUC002 facing downstream



Waterbody SCUC002 facing across

Survey Description	on										
Project Name:		Waterbo	dy Nan	ne:			W	aterbody ID:			Date:
Atlantic Coast Pipe	eline	UNT to	Dry C	reek			S	CUC003			1/7/2015
State:	County:			Company:			Crew I	Member Initials	S:	Photos:	
Virginia	Cumberland			NRG			CR, A	AS		SCUC	003_001-003
Tract Number(s):				Nearest Mile	epost:			Associated W	/etland	I ID(s):	
10-019				211.5				None			
Survey Type: (check one)	⊠Centerlir	ne	□Re-R	oute		ccess Road		□Other:			
Physical Attribut	es										
Stream Classification (check one)	ı: □Epheme	ral	⊠Interr	nittent	□P	erennial					
Waterbody Type:											
(check one)	□River ⊠ S	tream	Ditcl	h 🗆 Ca	anal	□ Other	:				
онwм	OHWM Indic	ator:							_		
Width: <u>5</u> ft.	(check all that ap	oly)		⊠ Clear lir on bank	ne	□Shelvin	g	☐Wrested vegetation		Scouring	g □Water staining
Height:	□Bent,	matted, or	missing	g ⊡Wrack li	ne	□Litter ar	nd	□Abrupt plar	nt	□Soil c	haracteristic change
<u> </u>	vegetat	ion				debris		community cl	nange		
Width of Waterbody -	Top of Width	of Waterb	ody - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Wate	r:
Bank to Top of Bank.	to 10	e of Slope:			water	Eage:			(Αρριοχ.)	
<u>_15_</u> ft.		<u>2</u> ft.				-	<u>4</u> ft.				<u>_0.5_</u> ft.
Sinuosity:	Wate	r velocitv:			Bank	heiaht			Bank	slope	
(check one)	(Approx	с.)				Right:				Right	:
			<u>1_</u> fps			l oft	<u>7_</u> ft.			Lof	<u>75</u> degrees
⊠Meande	ring N/A□					Lon	<u>7_</u> ft.			Lon	75_ degrees
Qualitative Attrib	utes										
Water Appearance: (check one)	□No water ⊠	Clear	□Turbi	d ⊡Sh	ieen	□Su	rface	□ Algal	□Othe	er:	
Substrate:	Bedrock D F	Soulder 🛛		e 🛛 Grave		Sand [\exists Silt/ c		<u>. □</u>	Other:	
(check all that apply)			3 00001								
% of Substrate:	%	%	<u>10_</u> %	<u> 50 </u> %		<u>10 </u> %	%	%		%	
Width of Riparian Zor	ne: Vegetativ	ve Layers:					Z Sanlir	ac/Shrube	5		
<u>30 ft</u> -	Avg. DBI	H of Domin	ants:	<u>10</u> in.	•	-	⊴ 3apin _ <u>2_</u> in.	igs/Siliubs.			
N/AL	tation (list):										
Sweet-gum, Christ	tmas fern, red i	maple, sc	outher	n red ceda	ır, Lot	ololly pine	, Ame	rican holly			
Aquatic Habitats (ex:	submerged or emerg	ed aquatic ve	egetation	, overhanging	banks/re	oots, leaf pac	ks, large	submerged wood	d, riffles,	deep pool	s):
Leaf packs, overh	anging roots, ri	ffles and	deep	pools							
Aquatic Organisms C	bserved (list):										
None											
T&E Species Observe	ed (list):										
None											
Disturbances (ex: lives	stock access, manure	e in waterbod	y, waste	discharge pipe	es):						
None											
Tributary is: (check one)	⊠ Natural		□ Arti	ficial, man-m	ade	Manip	ulated				
Stream Quality ^a : (check one)	□ High		⊠ Mo	derate		□ Low					

Waterbody ID: SCUC003

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:

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

N		
hardwoud forest	e proto/data point	300
	Scuc 003	



Waterbody SCUC003 facing upstream



Waterbody SCUC003 facing downstream



Waterbody SCUC003 facing across
Survey Descriptio	n							
Project Name:		Waterbody Na	me:		v	aterbody ID:		Date:
Atlantic Coast Pipel	line	Dry Creek			S	cua400		6/28/2016
State:	County:	•	Company:		Crew I	Member Initials:	Photos:	
Virginia	Cumberland		NRG - ER	Μ	GB, ⊧	KO	3 phot	os
Tract Number(s):			Nearest Mile	epost:		Associated Wetla		
10-021			214.8			wcua400		
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□ Access Road		□Other:		
Physical Attribute	S 🖂							
Stream Classification: (check one)	Ephemera	al 🗆 Inter	rmittent	Perennial				
Waterbody Type:								
(check one)	River Str	eam 🗆 Dito	ch 🗆 C	anal 🗌 Other:	:			
онwм	OHWM Indica	tor:						
Width:		()	on bank		g	vegetation	Scourin	g ⊔water staining
Height:	□Bent, r	natted, or missin	ng ⊠ Wrack	line □Litter ar	nd	□ Abrupt plant	□Soil c	haracteristic change
<u>3.0</u> ft.	vegetatio	n		debris		community change	Э	
Width of Waterbody - 1 Bank to Top of Bank:	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	Ater Edge to Dep	th of Wate	r:
Dank to Top of Dank.	10 100	oi Siope.		water Luge.		(, 66)	0.1	45 4
<u>ft</u>	· _	<u>5.0 </u> ft.		N/A□	<u>7.0_</u> f	t. N/A[<u>1.5 _</u> ft.
Sinuosity:	Water	velocity:		Bank height		Ban	k slope	
(check one)	(Approx.)			Right:	4.0	4	Right	1: 75 dogrado
		0.20	fps	Left:	4.0 _	<u>.</u>	Lef	<u>75</u> degrees
Meanderi	ng N/A□				4.0 _	_ft.		80 degrees
Qualitative Attribu	tes							
(check one)	No water □0	Clear ⊠Turb	oid □Sh or	neen ⊡Sui n surface scu	rface um	□Algal □Ot mats	her:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	ole 🗆 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic 🛛	Other:	
(check all that apply) % of Substrate:	%%	%%	%	<u> 15 </u> %	<u>75_</u> %	<u> 10 </u> %	%	
Width of Riparian Zone	e: Vegetative	e Lavers:						
	(check all that	apply)	☑ Trees	: D	🛛 Saplir	ngs/Shrubs:	\boxtimes Herbs	
<u>125 π</u> ∙ N/A□	AV g. DBH (approx.)	of Dominants:	5.0	_in	1.0	_in.		
Dominant Bank Vegeta	tion (list):							
Loblolly pine, red m hop sedae, wool ar	aple, sweetgur ass. wood oats	n, green ash,	, willow oal	k, yellow poplar	, wing	ed elm, blackbe	rry, greer	nbrier, soft rush,
Pools, coarse wood	ly debris, wrac	k piles, leaf p	acks, emei	gent vegetation	n N	submerged wood, mile	es, deep poo	(5):
Aquatic Organisms Ob	served (list):							
Water striders, bear	ver, salamande	ers, frogs						
T&E Species Observed	(list):							
none								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pip	es):				
Area was recently of	clear cut							
Tributary is: (check one)	⊠ Natural	□ Ari	tificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low				

Waterbody ID:

scua400

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 continues out of corridor in both directions, numerous beaver dams along stream course; flows through wetland wcua400. Area is a recent clear cut with young planted pines on either side of wetland.

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





Waterbody SCUA400 facing northeast upstream



Waterbody SCUA400 facing southwest downstream



Waterbody SCUA400 facing southeast across

Survey Descrip	otion		<u> </u>								
Project Name:	hility		ody Nam				W	aterbody ID:			Date:
			UDRI	UNEEN			0		1	C	5/25/2014
State:	County:		(Company:				Member Initials	:	Photos:	
Virginia	Cumberla	nd	\	N&C			JS, B	G		100-01	38 TO 0140 U D X
Tract Number(s):	o		ſ	Nearest Mile	epost:			Associated W	etland	ID(s):	
10-022 & 10-02	ა		4	211				INA			
(check one)	⊠Cent	terline	□Re-Ro	oute	□Ac	cess Road		□Other:			
Physical Attrib	utes										
Stream Classificat (check one)	ion:	emeral	□Interm	nittent	□Pe	rennial					
	— Ерік	Sincial		mern							
(check one)	□River	⊠ Stream	Ditch	n 🗆 Ca	anal	□ Other	:				
онwм	OHWM Ir	ndicator:									
Width:	(check all th	at apply)		☑ Clear lin on bank	ne	□Shelvin	g	□Wrested vegetation	\boxtimes	Scouring	I □Water staining
Height:	ПВ	ent matted o	r missina	Wrack li	ne	⊠l itter ar	hd		.t	□ Soil ch	aracteristic change
<u>.5 ft.</u>	veg	etation	i missing			debris	iu	community ch	lange		laracteristic change
Width of Waterboo	ly - Top of W	idth of Water	body - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Ba	nk: to	Toe of Slope	:		Water	Edge:			(Approx.)		
<u>_3 f</u>	t.	<u>2</u> ft.					<u>ft</u> .				<u>ft.</u>
Sinuosity:	w	ater velocity	:		N/A⊠ Bank I	height			Bank s	lope	
(check one)	(A)	pprox.)				Right:				Right:	
			fps			Left:	<u>1_</u> ft.			Left	<u>50</u> degrees
⊠Mear	ndering N/	/A⊠					<u>1_</u> ft.				50 degrees
Qualitative Att	ributes										
Water Appearance (check one)	: ⊠No water	□Clear	□Turbio	d ⊡Sh	ieen	□Su	face	□Algal	□Othe	:	
				on	surface	e sci	ım	mats			
Substrate: (check all that apply)	□ Bedrock	Boulder		e 🗆 Grave	el 🛛	Sand [⊠ Silt/ c	lay 🛛 Organic		Other:	
% of Substrate:	<u>NA</u> %	<u>NA %</u>	<u>NA</u> %	<u>NA</u> %	_1	0_%	<u>20_</u> %	<u>70</u> %	NA	<u>%</u>	
Width of Riparian	Zone: Vege	tative Layers	:								
>100 ft-	(check Ava	all that apply)	inants [.]	⊠ Trees	:	۵	⊠ Saplir	ngs/Shrubs:	\boxtimes	Herbs	
N/A 🗆	(approx	к.)		<u>_12_</u> in.		-	<u>2</u> in.				
	egetation (list):						1000				
	ED MAPLE, II		D, RIVE		I, GRA	133E3, N	/1055				
Aquatic Habitats (ex: submerged or er	nerged aquatic	vegetation,	, overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	5):
Aquatic Organism	s Observed (list):										
T&E Species Obse	erved (list):										
NA Disturbanasa (a)	livestaal:	puro in unitad	du	diopharas	<u></u>						
NA	IIVESIOCK ACCESS, MA	mure in waterbo	uy, waste	uischarge pipe	::						
Tributory is:											
(check one)	⊠ Nati	ural	🗆 Artif	icial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a :				lavata							
(cneck one)	🗆 High	า		ierate		⊠ Low					

Waterbody ID:
SCUK030

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:

EPHEMERAL STREAM WITH BRAIDED CHANNEL THROUGH A PORTION OF ROW. AREA DETERMINED TO NOT BE WETLAND THOUGH IT DOES MEET 2 OF 3 CRITERIA (HYROLOGY AND VEGETATION).



Form Rev. 07/09/2014



Waterbody point scuk030 facing North and upstream



Waterbody point scuk030 facing South and downstream



Waterbody point scuk030 facing West and across

Survey Descri	ption		<u> </u>								
Project Name:	hility	Waterb	ody Nam עםרו רי				W	aterbody ID:			Date:
	ability		UDRI	UNEEN			0			C	5/25/2014
State:	County:		C	Company:				Member Initials	:	Photos:	
Virginia	Cumberla	and	N	W&C			JS, B	G		100-01	45 TO 0147 U D X
Tract Number(s):			r -	Nearest Mile	epost:			Associated W	etland	ID(s):	
Survey Trees			4	211				INA			
(check one)	⊠Cen	terline	□Re-Ro	oute	□Ac	cess Road		□Other:			
Physical Attrib	outes										
Stream Classificat (check one)	tion: 区 Eph	emeral	□Interm	nittent	□Pe	rennial					
Waterbody Type:											
(check one)	□River	⊠ Stream	Ditch	i 🗆 Ca	anal	□ Other:	:				
онwм	OHWM II	ndicator:									
Width: 4 ft	(check all th	nat apply)		Clear lin on bank	ne	Shelvin	g	☐Wrested vegetation	\boxtimes	Scouring	□Water staining
Height:		Sent matted o	r missina	⊡Wrack li	ne	⊠l itter ar	nd	⊂ ∏Abrunt nlan	t	□ Soil ch	aracteristic change
<u>0.5</u> ft	· veg	petation	. moonig			debris		community ch	ange		
Width of Waterboo	dy - Top of W	idth of Water	body - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Ba	ink: to	o Toe of Slope	: :		Water	Edge:			(Approx.)		
<u>_8 f</u>	t.	<u>4_</u> ft.					<u>ft</u> .		N/A 🖂		<u>ft.</u>
Sinuosity:	w	Vater velocity:			Bank	neight			Bank s	lope	
(check one)	ght (A	Approx.)				Right:	1 <u>4</u>			Right:	70
	. 1		fps			Left:	<u>4_</u> π.			Left:	<u>70</u> degrees
	ndering N	I/A⊠					<u>4_</u> ft.				<u>70</u> degrees
Qualitative Att	ributes										
(check one)	B: ⊠No water	□Clear	□Turbio	d ⊡Sh on	een surface	⊡Sui e scu	rface um	□Algal I mats	□Othe	<u>.</u>	
Substrate:	Bedrock	Boulder		e 🗆 Grave	el 🛛	Sand 2	⊠ Silt/ c	lay 🛛 Organic	: D C	Other:	
% of Substrate:	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	5	<u>0 </u> %	<u>30_</u> %	<u>20</u> %	NA	<u>%</u>	
Width of Riparian	Zone: Vege	etative Layers	:								
- 100 #	(check	all that apply)	inante:	[⊠] Trees	:	D	⊠ Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>>100 II</u>	(appro	px.)	mants.	<u>12</u> in.		-	_ <u>2_</u> ın.				
Dominant Bank V	egetation (list):	CUDICTM			T NAC						
					- 1, IVIC						<u></u>
NA	ex: submerged or er	merged aquatic	vegetation,	overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools):
Aquatic Organism	s Observed (list)	:									
NA											
T&E Species Obse	erved (list):										
NA											
Disturbances (ex:	livestock access, ma	anure in waterbo	dy, waste	discharge pipe	es):				_		
NA											
Tributary is: (check one)	⊠ Nat	tural	□ Artif	icial, man-m	ade	🗆 Manipu	ulated				
Stream Quality ^a : (check one)	🗆 Higi	h	□ Mod	lerate		⊠ Low					

Waterbody ID:
SCUK032a

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:

EPHEMERAL STREAM PORTION. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS.





Waterbody point scuk032a facing North and upstream



Waterbody point scuk032a facing South and downstream



Waterbody point scuk032a facing West and across

Survey Descrip	otion	h									
Project Name:	L : 1:4. /	Wate	erbody Nan				N C	aterbody ID:			Date:
Southeast Relia	DIIITY	UN	TODR	CREEK			5	CUKU32D			8/25/2014
State:	County:			Company:			Crew I	Member Initials	5:	Photos:	
Virginia	Cumbe	erland		W&C			JS, B	G		100-01	148 TO 0150 U D X
Tract Number(s):				Nearest Mile	epost:			Associated W	/etland	ID(s):	
10-023				211				NA			
Survey Type: (check one)	\boxtimes (Centerline	□Re-R	oute	□A	ccess Roa	d	□Other:			
Physical Attrib	utes										
Stream Classificat (check one)	ion:	phemeral	⊠Interr	nittent	□P	erennial					
Waterbody Type:											
(check one)	□River	⊠ Stream	Ditcl	h 🗆 C	anal	□ Othe	r:				
онwм	ОНЖ	M Indicator:									
Width: <u>3</u> ft.	(Check	all that apply)		⊠ Clear lir on bank	ne	⊠Shelvir	ng	⊠Wrested vegetation	Þ	Scouring	g ∐Water staining
Height:		Bent, matter	d, or missing	g	ne	□Litter a	ind	⊠Abrupt plar	nt	⊠Soil c	haracteristic change
ft. N/A□		vegetation				debris		community ch	nange		C C
Width of Waterboo Bank to Top of Ba	ly - Top of	Width of Wa	terbody - T	oe of Slope	Width	of Waterk	oody - W	ater Edge to	Depth	of Wate	r:
			she.		water	Euge.			(<i>r</i> (<i>p p</i> / 0 <i>x</i> .)	, ,	£1
<u>_6</u> ft	t.	_4_ft			N/A⊠		ft.		N/A⊠		<u> </u>
Sinuosity:		Water veloc	ity:		Bank	height			Bank	slope	
	ght	(Approx.)	foc			Right:	4 ft.			Right	: 70 degrees
⊠Mear	derina		ips			Left:	<u> </u>			Left	<u></u> dog. ooo t:
		N/A⊠					<u>4_</u> 11.				
Qualitative Attr Water Appearance	tibutes										
(check one)	⊠No wate	r □Clear	□Turbi	d ⊡Sh on	ieen i surfac	⊡Su æ so	urface sum	□Algal mats	□Othe	r:	
Substrate:	Bedrock	k 🗆 Boulder		e 🛛 Grav	el 🗵	Sand	⊠ Silt/ c	lay 🛛 Organic	c □ (Other:	
% of Substrate:	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u> 10 </u> %		<u>70_</u> %	<u>10</u> %	<u> 10 </u> %	NA	<u>%</u>	
Width of Riparian	Zone: V	egetative Lay	ers:								
> 100 ft	(Ci	heck all that apply)	minante	⊠ Trees	:		⊠ Saplir	ngs/Shrubs:	Σ	I Herbs	
<u>>100 n</u> . N/A□	(a,	pprox.)	minants.	<u>_12_</u> ın.			<u>2</u> in.				
	egetation (list)				т м	220					
					_ 1 , IVI		oko lorgo	aubmorgad wood	riffloo		0)1
NA	ex. submerged (or emerged aqua		i, overnanging	Dariks/1	oots, ieai pa	cks, laige	Submerged wood	ı, nines,	deep poor	5).
Aquatic Organism	s Observed (/	list):									
NA											
T&E Species Obse	erved (list):										
NA											
Disturbances (ex:	livestock access	, manure in wate	erbody, waste	discharge pipe	es):						
NA											
Tributary is: (check one)	\boxtimes	Natural	□ Arti	ficial, man-m	ade	🗆 Manip	oulated				
Stream Quality ^a : (check one)		High		derate		⊠ Low					

Waterbody ID:
SCUK032b

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:

INTERMITTENT STREAM PORTION, STARTS AT HEADCUT. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS AND LIKELY RECEIVES GROUNDWATER INPUT DURING WETTER MONTHS.



Form Rev. 07/09/2014



Waterbody point scuk032b facing North and upstream



Waterbody point scuk032b facing South and downstream



Waterbody point scuk032b facing West and across

Survey Descri	ption		<u> </u>								
Project Name:	hility	Waterb	ody Nam עםרו רי				W	aterbody ID:			Date:
	ability		UDRI	UNEEN			0			C	5/25/2014
State:	County:		C	Company:				Member Initials	:	Photos:	
Virginia	Cumberla	and	N	W&C			JS, B	G		100-01	45 TO 0147 U D X
Tract Number(s):			r -	Nearest Mile	epost:			Associated W	etland	ID(s):	
Survey Trees			4	211				INA			
(check one)	⊠Cen	terline	□Re-Ro	oute	□Ac	cess Road		□Other:			
Physical Attrib	outes										
Stream Classificat (check one)	tion: 区 Eph	emeral	□Interm	nittent	□Pe	rennial					
Waterbody Type:											
(check one)	□River	⊠ Stream	Ditch	i 🗆 Ca	anal	□ Other:	:				
онwм	OHWM II	ndicator:									
Width: 4 ft	(check all th	nat apply)		Clear lin on bank	ne	Shelvin	g	☐Wrested vegetation	\boxtimes	Scouring	□Water staining
Height:		Sent matted o	r missina	⊡Wrack li	ne	⊠l itter ar	nd	⊂ ∏Abrunt nlan	t	□ Soil ch	aracteristic change
<u>0.5</u> ft	· veg	petation	. moonig			debris		community ch	ange		
Width of Waterboo	dy - Top of W	idth of Water	body - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Ba	ink: to	o Toe of Slope	: :		Water	Edge:			(Approx.)		
<u>_8 f</u>	t.	<u>4_</u> ft.					<u>ft</u> .		N/A 🖂		<u>ft.</u>
Sinuosity:	w	Vater velocity:			Bank	neight			Bank s	lope	
(check one)	ght (A	Approx.)				Right:	1 <u>4</u>			Right:	70
	. 1		fps			Left:	<u>4_</u> π.			Left:	<u>70</u> degrees
	ndering N	I/A⊠					<u>4_</u> ft.				<u>70</u> degrees
Qualitative Att	ributes										
(check one)	B: ⊠No water	□Clear	□Turbio	d ⊡Sh on	een surface	⊡Sui e scu	rface um	□Algal I mats	□Othe	<u>.</u>	
Substrate:	Bedrock	Boulder		e 🗆 Grave	el 🛛	Sand 2	⊠ Silt/ c	lay 🛛 Organic	: D C	Other:	
% of Substrate:	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	5	<u>0 </u> %	<u>30_</u> %	<u>20</u> %	NA	<u>%</u>	
Width of Riparian	Zone: Vege	etative Layers	:								
- 100 #	(check	all that apply)	inante:	[⊠] Trees	:	D	⊠ Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>>100 II</u>	(appro	px.)	mants.	<u>12</u> in.		-	_ <u>2_</u> ın.				
Dominant Bank V	egetation (list):	CUDICTM			T NAC						
					_ I , IVIC						<u></u>
NA	ex: submerged or er	merged aquatic	vegetation,	overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools):
Aquatic Organism	s Observed (list)	:									
NA											
T&E Species Obse	erved (list):										
NA											
Disturbances (ex:	livestock access, ma	anure in waterbo	dy, waste	discharge pipe	es):				_		
NA											
Tributary is: (check one)	⊠ Nat	tural	□ Artif	icial, man-m	ade	🗆 Manipu	ulated				
Stream Quality ^a : (check one)	🗆 Higi	h	□ Mod	lerate		⊠ Low					

Waterbody ID:
SCUK032a

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:

EPHEMERAL STREAM PORTION. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS.





Waterbody point scuk032a facing North and upstream



Waterbody point scuk032a facing South and downstream



Waterbody point scuk032a facing West and across

Survey Descrip	otion	h									
Project Name:	L : 1:4. /	Wate	erbody Nan				N C	aterbody ID:			Date:
Southeast Relia	DIIITY	UN	TODR	CREEK			5	CUKU32D			8/25/2014
State:	County:			Company:			Crew I	Member Initials	5:	Photos:	
Virginia	Cumbe	erland		W&C			JS, B	G		100-01	148 TO 0150 U D X
Tract Number(s):				Nearest Mile	epost:			Associated W	/etland	ID(s):	
10-023				211				NA			
Survey Type: (check one)	\boxtimes (Centerline	□Re-R	oute	□A	ccess Roa	d	□Other:			
Physical Attrib	utes										
Stream Classificat (check one)	ion:	phemeral	⊠Interr	nittent	□P	erennial					
Waterbody Type:											
(check one)	□River	⊠ Stream	Ditcl	h 🗆 C	anal	□ Othe	r:				
онwм	ОНЖ	M Indicator:									
Width: <u>3</u> ft.	(Check	all that apply)		⊠ Clear lir on bank	ne	⊠Shelvir	ng	⊠Wrested vegetation	Þ	Scouring	g ∐Water staining
Height:		Bent, matter	d, or missing	g	ne	□Litter a	ind	⊠Abrupt plar	nt	⊠Soil c	haracteristic change
ft. N/A□		vegetation				debris		community ch	nange		C C
Width of Waterboo Bank to Top of Ba	ly - Top of	Width of Wa	terbody - T	oe of Slope	Width	of Waterk	oody - W	ater Edge to	Depth	of Wate	r:
			she.		water	Euge.			(<i>r</i> (<i>p p</i> / 0 <i>x</i> .)	, ,	£1
<u>_6</u> ft	t.	_4_ft			N/A⊠		ft.		N/A⊠		<u> </u>
Sinuosity:		Water veloc	ity:		Bank	height			Bank	slope	
	ght	(Approx.)	foc			Right:	4 ft.			Right	: 70 degrees
⊠Mear	derina		ips			Left:	<u> </u>			Left	<u></u> dog. ooo t:
		N/A⊠					<u>4_</u> 11.				
Qualitative Attr Water Appearance	tibutes										
(check one)	⊠No wate	r □Clear	□Turbi	d ⊡Sh on	ieen i surfac	⊡Su æ so	urface sum	□Algal mats	□Othe	r:	
Substrate:	Bedrock	k 🗆 Boulder		e 🛛 Grav	el 🗵	Sand	⊠ Silt/ c	lay 🛛 Organic	c □ (Other:	
% of Substrate:	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u> 10 </u> %		<u>70_</u> %	<u>10</u> %	<u> 10 </u> %	NA	<u>%</u>	
Width of Riparian	Zone: V	egetative Lay	ers:								
> 100 ft	(Ci	heck all that apply)	minante	⊠ Trees	:		⊠ Saplir	ngs/Shrubs:	Σ	I Herbs	
<u>>100 n</u> . N/A□	(a,	pprox.)	minants.	<u>_12_</u> ın.			<u>2</u> in.				
	egetation (list)				т м	220					
					_ 1 , IVI		oko lorgo	aubmorgad wood	riffloo		0)1
NA	ex. submerged (or emerged aqua		i, overnanging	Dariks/1	oots, ieai pa	cks, laige	Submerged wood	ı, nines,	deep poor	5).
Aquatic Organism	s Observed (/	list):									
NA											
T&E Species Obse	erved (list):										
NA											
Disturbances (ex:	livestock access	, manure in wate	erbody, waste	discharge pipe	es):						
NA											
Tributary is: (check one)	\boxtimes	Natural	□ Arti	ficial, man-m	ade	🗆 Manip	oulated				
Stream Quality ^a : (check one)		High		derate		⊠ Low					

Waterbody ID:
SCUK032b

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:

INTERMITTENT STREAM PORTION, STARTS AT HEADCUT. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS AND LIKELY RECEIVES GROUNDWATER INPUT DURING WETTER MONTHS.



Form Rev. 07/09/2014



Waterbody point scuk032b facing North and upstream



Waterbody point scuk032b facing South and downstream



Waterbody point scuk032b facing West and across

Survey Descri	ption		<u> </u>								
Project Name:	hility	Waterb	ody Nam עםרו רי				W	aterbody ID:			Date:
	ability		UDRI	UNEEN			0			C	5/25/2014
State:	County:		C	Company:				Member Initials	:	Photos:	
Virginia	Cumberla	and	N	W&C			JS, B	G		100-01	45 TO 0147 U D X
Tract Number(s):			r -	Nearest Mile	epost:			Associated W	etland	ID(s):	
Survey Trees			4	211				INA			
(check one)	⊠Cen	terline	□Re-Ro	oute	□Ac	cess Road		□Other:			
Physical Attrib	outes										
Stream Classificat (check one)	tion: 区 Fph	emeral	□Interm	nittent	□Pe	rennial					
Waterbody Type:											
(check one)	□River	⊠ Stream	Ditch	i 🗆 Ca	anal	□ Other:	:				
онwм	OHWM II	ndicator:									
Width: 4 ft	(check all th	nat apply)		Clear lin on bank	ne	Shelvin	g	☐Wrested vegetation	\boxtimes	Scouring	□Water staining
Height:		Sent matted o	r missina	⊡Wrack li	ne	⊠l itter ar	nd	⊂ ∏Abrunt nlan	t	□ Soil ch	aracteristic change
<u>0.5</u> ft	· veg	petation	. moonig			debris		community ch	ange		
Width of Waterboo	dy - Top of W	idth of Water	body - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Ba	ink: to	o Toe of Slope	: :		Water	Edge:			(Approx.)		
<u>_8 f</u>	t.	<u>4_</u> ft.					<u>ft</u> .		N/A 🖂		<u>ft.</u>
Sinuosity:	w	Vater velocity:	:		Bank	neight			Bank s	lope	
(check one)	ght (A	Approx.)				Right:	1 <u>4</u>			Right:	70
	. 1		fps			Left:	<u>4_</u> π.			Left:	<u>70</u> degrees
	ndering N	I/A⊠					<u>4_</u> ft.				<u>70</u> degrees
Qualitative Att	ributes										
(check one)	B: ⊠No water	□Clear	□Turbio	d ⊡Sh on	een surface	⊡Sui e scu	rface um	□Algal mats	□Othe	<u>.</u>	
Substrate:	Bedrock	□ Boulder		e 🗆 Grave	el 🛛	Sand 2	⊠ Silt/ c	lay 🛛 Organic	: D C	Other:	
% of Substrate:	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	5	<u>0 </u> %	<u>30_</u> %	<u>20</u> %	NA	<u>%</u>	
Width of Riparian	Zone: Vege	etative Layers	:								
- 100 #	(check	all that apply)	inante:	[⊠] Trees	:	D	⊠ Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>>100 II</u>	(appro	px.)	mants.	<u>12</u> in.		-	_ <u>2_</u> ın.				
Dominant Bank V	egetation (list):	CUDICTM			T NAC						
					- 1, IVIC						<u></u>
NA	ex: submerged or er	merged aquatic	vegetation,	overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools):
Aquatic Organism	s Observed (list)	:									
NA											
T&E Species Obse	erved (list):										
NA											
Disturbances (ex:	livestock access, ma	anure in waterbo	dy, waste	discharge pipe	es):						
NA											
Tributary is: (check one)	⊠ Nat	tural	□ Artif	icial, man-m	ade	🗆 Manipu	ulated				
Stream Quality ^a : (check one)	🗆 Higi	h	□ Mod	lerate		⊠ Low					

Waterbody ID:
SCUK032a

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:

EPHEMERAL STREAM PORTION. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS.





Waterbody point scuk032a facing North and upstream



Waterbody point scuk032a facing South and downstream



Waterbody point scuk032a facing West and across

Survey Descriptio	n	h						
Project Name:		Waterbody Nar	ne:		W	aterbody ID:		Date:
Southeast Reliabilit	У	UNITODR	I CREEK		5	CUKU32D		8/25/2014
State:	County:		Company:		Crew N	lember Initials:	Photos	:
Virginia	Cumberland		W&C		JS, B	G	100-0	148 TO 0150 U D X
Tract Number(s):			Nearest Mile	epost:		Associated Wetla	and ID(s):	
10-023			211			NA		
Survey Type: (check one)		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 🗆 Ditc	h 🗆 Ca	anal 🛛 Other:				
онwм	OHWM Indica	tor:						
Width: <u>3</u> ft.	(check all that apply	()	⊠ Clear lir on bank	ie ⊠Shelving	g	☑Wrested vegetation	⊠Scourin	ng ⊡Water staining
Height:	□Bent, n	natted, or missin	g	ne □Litter an	nd	⊠Abrupt plant	⊠ Soil o	characteristic change
ft. N/A□	vegetatio	n		debris		community chang	ge	Ŭ
Width of Waterbody - 1 Bank to Top of Bank:	op of Width of to Too	of Waterbody - 1	Foe of Slope	Width of Waterbo	ody - W	ater Edge to De	pth of Wate	er:
	10 100	or Slope.		Water Euge.		(***)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	£4
<u>_6 ft</u> .	-	<u>4_</u> ft.		N/A⊠	<u>ft</u> .	N/A	\mathbf{X}	<u> </u>
Sinuosity:	Water	velocity:		Bank height		Ba	nk slope	
	(Approx.)	foo		Right:	4 ft		Righ	t: 70 degrees
⊠Meanderi		ips		Left:	<u> </u>		Let	<u>-70</u> degrees ft:
	N/A				<u>4_</u> 11.			<u>_70</u> degrees
Qualitative Attribu	ites							
(check one)	[☑] No water □C	Clear □Turb	id ⊡Sh on	een ⊡Sur surface scu	face Im	□Algal □C mats	other:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	Other:	
% of Substrate:	<u>NA</u> % <u>NA</u> %	6 <u>NA</u> %	<u> 10 </u> %	<u> 70 </u> %	<u>10_</u> %	<u> 10 </u> %	<u>NA </u> %	
Width of Riparian Zone	e: Vegetative	Eavers:						
	(check all that	apply)	[⊠] Trees	: 🛛 🛛	Saplin	ngs/Shrubs:	⊠ Herbs	
<u>>100 π</u> . N/A□	Avg. DBn (approx.)	or Dominants:	<u>12</u> in.	-	<u>2</u> in.			
Dominant Bank Vegeta	ation (list):							
IRON WOOD, WIN	GED ELM, CH	RISTMAS FE	RN, VIOLE	ET, MOSS				
Aquatic Habitats (ex: si NA	ubmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood, riff	les, deep poo	ols):
Aquatic Organisms Ob	served (list):							
NA								
T&E Species Observed	(list):							
NA								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	discharge pipe	es):				
NA								
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	🗆 High	□ Mo	derate	⊠ Low				

Waterbody ID:
SCUK032b

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:

INTERMITTENT STREAM PORTION, STARTS AT HEADCUT. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS AND LIKELY RECEIVES GROUNDWATER INPUT DURING WETTER MONTHS.



Form Rev. 07/09/2014



Waterbody point scuk032b facing North and upstream



Waterbody point scuk032b facing South and downstream



Waterbody point scuk032b facing West and across

Survey Description						
Project Name:				Waterbody ID:		Date:
				SCORUSZA	— -	0/20/2014
State: County	r: 	Company:		Crew Member Initials	s: Photos	:
Virginia Cumb	erland	W&C		JS, BG	100-0	145 TO 0147 U D X
Tract Number(s):		Nearest Mile	epost:		Vetland ID(s):	
Survey Type		211		INA		
(check one)	Centerline	Re-Route	□ Access Road	□Other:		
Physical Attributes						
Stream Classification: (check one)	Ephemeral					
Waterbody Type:						
(check one)	Stream	□ Ditch □ Ca	anal 🛛 Other:			
онwм онw	/M Indicator:					
Width: (check	c all that apply)	⊠ Clear lin on bank	e 🗆 Shelving	g	⊠Scourir	ng DWater staining
Height:	Bent matted or i	missing	ne ⊠Litteran	d 🗆 🗆 Abrupt plar	nt ⊡Soil	
<u>0.5</u> ft.	vegetation		debris	community cl	hange	
Width of Waterbody - Top of	Width of Waterbo	ody - Toe of Slope	Width of Waterbo	ody - Water Edge to	Depth of Wate	er:
Bank to Top of Bank:	to Toe of Slope:		Water Edge:		(Approx.)	
<u>8</u> ft.	<u>4_</u> ft.		-	<u>ft.</u>	N/A 🖂	ft.
Sinuosity:	Water velocity:		N/A⊠ Bank height		Bank slope	
(check one)	(Approx.)		Right:		Righ	t:
	_	_fps	Left:	<u>4_</u> ft.	Lei	<u>70</u> degrees ft:
Meandering	N/A⊠		-	_4_ft.		70 degrees
Qualitative Attributes						
Water Appearance: (check one) No wate	er 🗆 Clear 🛛	□Turbid □Sh on	een ⊡Sur surface scu	face □Algal Im mats	□Other:	
Substrate: Bedroc	k 🗆 Boulder 🗆	Cobble	el 🛛 Sand 🛛	🛛 Silt/ clay 🛛 Organi	c 🗆 Other:	
(check all that apply) % of Substrate: NA %	NA %	NA % NA %	50 %	30 % 20 %	NA %	
Width of Rinarian Zone:	legetative Lavers:					
	check all that apply)	[⊠] Trees:		Saplings/Shrubs:	⊠ Herbs	
_ <u>>100 ft</u> ·	Avg. DBH of Domination approx.)	ants: <u>12</u> in.	-	<u>_2_</u> in.		
Dominant Bank Vegetation (list	t):					
IRON WOOD, WINGED E	LM, CHRISTMA	S FERN, VIOLE	ET, MOSS			
Aquatic Habitats (ex: submerged NA	or emerged aquatic ve	getation, overhanging	banks/roots, leaf pack	ks, large submerged wood	d, riffles, deep poo	ols):
Aquatic Organisms Observed	(list):					
NA						
T&E Species Observed (list):						
NA						
Disturbances (ex: livestock acces	s, manure in waterbody	, waste discharge pipe	es):			
NA						
Tributary is: (check one)	Natural	Artificial, man-m	ade 🗆 Manipu	ulated		
Stream Quality ^a : (check one)	High		⊠ Low			

Waterbody ID:
SCUK032a

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:

EPHEMERAL STREAM PORTION. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS.





Waterbody point scuk032a facing North and upstream



Waterbody point scuk032a facing South and downstream



Waterbody point scuk032a facing West and across
Survey Descrip	otion	h									
Project Name:	L : 1:4. /	Wate	erbody Nan				N C	aterbody ID:			Date:
Southeast Relia	DIIITY	UN	TODR	CREEK			5	CUKU32D			8/25/2014
State:	County:			Company:			Crew I	Member Initials	5:	Photos:	
Virginia	Cumbe	erland		W&C			JS, B	G		100-01	148 TO 0150 U D X
Tract Number(s):				Nearest Mile	epost:			Associated W	/etland	ID(s):	
10-023				211				NA			
Survey Type: (check one)	\boxtimes (Centerline	□Re-R	oute	□A	ccess Roa	d	□Other:			
Physical Attrib	utes										
Stream Classificat (check one)	ion:	phemeral	⊠Interr	nittent	□P	erennial					
Waterbody Type:											
(check one)	□River	⊠ Stream	Ditcl	h 🗆 C	anal	□ Othe	r:				
онwм	ОНЖ	M Indicator:									
Width: <u>3</u> ft.	(Check	all that apply)		⊠ Clear lir on bank	ne	⊠Shelvir	ng	⊠Wrested vegetation	Þ	Scouring	g ∐Water staining
Height:		Bent, matter	d, or missing	g	ne	□Litter a	ind	⊠Abrupt plar	nt	⊠Soil c	haracteristic change
ft. N/A□		vegetation				debris		community ch	nange		C C
Width of Waterboo Bank to Top of Ba	ly - Top of	Width of Wa	terbody - T	oe of Slope	Width	of Waterk	oody - W	ater Edge to	Depth	of Wate	r:
			she.		water	Euge.			(<i>r</i> (<i>p p</i> / 0 <i>x</i> .)	, ,	£1
<u>_6</u> ft	t.	_4_ft			N/A⊠		ft.		N/A⊠		<u> </u>
Sinuosity:		Water veloc	ity:		Bank	height			Bank	slope	
	ght	(Approx.)	foc			Right:	4 ft.			Right	: 70 degrees
⊠Mear	derina		ips			Left:	<u> </u>			Left	<u></u> dog. ooo t:
		IN/A⊠					<u>4_</u> 11.				
Qualitative Attr Water Appearance	tibutes										
(check one)	⊠No wate	r □Clear	□Turbi	d ⊡Sh on	ieen i surfac	⊡Su æ so	urface sum	□Algal mats	□Othe	r:	
Substrate:	Bedrock	k 🗆 Boulder		e 🛛 Grav	el 🗵	Sand	⊠ Silt/ c	lay 🛛 Organic	c □ (Other:	
% of Substrate:	<u>NA</u> %	<u>NA</u> %	<u>NA</u> %	<u> 10 </u> %		<u>70_</u> %	<u>10</u> %	<u> 10 </u> %	NA	<u>%</u>	
Width of Riparian	Zone: V	egetative Lay	ers:								
> 100 ft	(Ci	heck all that apply)	minante	⊠ Trees	:		⊠ Saplir	ngs/Shrubs:	Σ	I Herbs	
<u>>100 n</u> . N/A□	(a,	pprox.)	minants.	<u>_12_</u> ın.			<u>2</u> in.				
	egetation (list)				т м	220					
					_ 1 , IVI		oko lorgo	aubmorgad wood	riffloo		0)1
NA	ex. submerged (or emerged aqua		i, overnanging	Dariks/1	oots, ieai pa	cks, laige	Submerged wood	ı, nines,	deep poor	5).
Aquatic Organism	s Observed (/	list):									
NA											
T&E Species Obse	erved (list):										
NA											
Disturbances (ex:	livestock access	, manure in wate	erbody, waste	discharge pipe	es):						
NA											
Tributary is: (check one)	\boxtimes	Natural	□ Arti	ficial, man-m	ade	🗆 Manip	oulated				
Stream Quality ^a : (check one)		High		derate		⊠ Low					

Waterbody ID:
SCUK032b

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:

INTERMITTENT STREAM PORTION, STARTS AT HEADCUT. MAY RECEIVE FLOW FROM POND LOCATED UP GRADIENT DURING HEAVY RAIN EVENTS AND LIKELY RECEIVES GROUNDWATER INPUT DURING WETTER MONTHS.



Form Rev. 07/09/2014



Waterbody point scuk032b facing North and upstream



Waterbody point scuk032b facing South and downstream



Waterbody point scuk032b facing West and across

Survey Descriptio	n	Waterbody Nag			W	atorbody ID:	Data	
Southeast Reliabilit	.V	UNT TO DRY CREE			S	CUK031	8/25/	2014
State:	County:		Company:		Crew N	lember Initials:	Photos:	-
Virginia	Cumberland		W&C		JS B	G	100-0141 T	О 0144 U D X
Tract Number(s):	Cambonana		Nearest Mile	epost:	00, D	Associated We	etland ID(s):	
10-023			211			NA		
Survey Type: (check one)	⊠Centerline	e □Re-R	oute	□Access Road		□Other:		
Physical Attribute	S							
Stream Classification: (check one)	Ephemera	al 🗆 Interi	nittent	Perennial				
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Ditc	h 🗆 Ca	anal 🛛 Other:	:			
OHWM Width: <u>1</u> ft.	OHWM Indica (check all that apply	tor: v)	⊠ Clear lir on bank	e 🗆 Shelving	g	□Wrested vegetation	⊠Scouring	□Water staining
Height: <u>.5_</u> ft. N/A□	□Bent, r vegetatio	natted, or missing n	g	ne ⊡Litter an debris	nd	□Abrupt plant community cha	□Soil characte ange	eristic change
Width of Waterbody - ⁻ Bank to Top of Bank:	Top of Width to Toe	of Waterbody - 1 of Slope:	oe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of Water: Approx.)	
<u>_6 ft</u> .	-	<u>2</u> ft.		N/A⊠	<u>f</u> t.	Ν	fi	t.
Sinuosity:	Water	velocity:		Bank height		E	Bank slope	
	(//pp/0/.)	fos		Right:	3_ ft.		Right: 70	degrees
⊠Meanderi	ng N/A⊠	po		Left:	3 ft.		Left:	degrees
Qualitative Attribu								
Water Appearance:								
(check one)	[⊠] No water □0	Clear □Turbi	d ⊡Sh on	een ⊡Sur surface scu	face Im	□Algal □ mats]Other:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobb	e 🗆 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organic	□ Other:	
% of Substrate:	<u>NA</u> % <u>NA</u> %	% <u>NA</u> %	<u>NA</u> %	<u> 50 </u> %	<u>20 </u> %	<u>30</u> %	<u>NA</u> %	
Width of Riparian Zone	e: Vegetative	e Layers:						
<u>>100 ft</u> ·	(check all that Avg. DBH (approx.)	of Dominants:	[⊠] Trees: _ <u>12_</u> in.	-	⊠ Saplin _ <u>2_</u> in.	igs/Shrubs:	⊠ Herbs	
Dominant Bank Vegeta	ation (list):							
IRON WOOD, CHF	RISTMAS FERM	N, MOSS						
Aquatic Habitats (ex: s NA	ubmerged or emerged	d aquatic vegetatior	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood,	riffles, deep pools):	
Aquatic Organisms Ob	oserved (list):							
NA								
T&E Species Observed	d (list):							
NA								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	discharge pipe	es):				
Tributary is: (check one)	⊠ Natural	□ Arti	ficial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	🗆 High	□ Mo	derate	⊠ Low				

SCUK031							
^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.							
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:							
EPHEMERAL STREAM THAT FLOWS INTO SCUK032. STARTS AT PROPERTY LINE WITH NO PARCEL INFO.							
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features							
150Ft 150Ft							
$\Lambda \Lambda = S \cap Y = Z \cap A \cap A$							
+							
e scorr + scorr + scorr + s							
× × × × × × × × × × × × × × × × × × ×							
N forested							
-V C (tu Ne							

c tu N

Waterbody ID:



Waterbody point scuk031 facing East and upstream



Waterbody point scuk031 facing West and downstream



Waterbody point scuk031 facing North and across

Survey Descriptio	n	Weterbedy Nev						Deter
Project Name: Southeast Reliabilit	V	LINT to DRV	NE: CREEK		w Si			Date: 8/25/2014
	y				0			0/20/2014
State:	County:		Company:		Crew N	lember Initials:	Photos:	
Virginia	Cumberland		W&C		JS, B	G	100-0	154 TO 0156 U D X
Tract Number(s):			Nearest Mile	epost:		Associated Wetla	nd ID(s):	
10-023			211			NA		
Survey Type: (check one)	⊠Centerline	e □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 🗆 Ditc	h 🗆 Ca	anal 🗌 Other:				
OHWM Width:	OHWM Indica (check all that apply	tor: //	⊠ Clear lir on bank	ne ⊠Shelving	g	⊠Wrested vegetation	Scourin	g ⊡Water staining
<u></u>	□Bent, r vegetatio	natted, or missing	g	ne ⊠Litter an debris	ıd	□ Abrupt plant community chang	⊡Soil c je	characteristic change
N/A Width of Waterbody - 1		of Waterbody - 1	Too of Slope	Width of Waterbo	odv - W	ater Edge to Der	oth of Wate	r -
Bank to Top of Bank:	to Toe	of Slope:	loe of Slope	Water Edge:	Juy - w	(App	rox.)	a.
<u>8</u> ft.	-	<u>4</u> ft.		N/A⊠	ft.	N/A	\mathbf{X}	ft.
Sinuosity:	Water	velocity:		Bank height		Bar	nk slope	
Straight	(Approx.)	fne		Right:	5 ft.		Righ	t: 70 degrees
⊡Meanderi		ips		Left:	<u> </u>		Lef	t:
	N/A				<u>4</u> 11.			<u>_70</u> degrees
Qualitative Attribu	ites							
(check one)	No water □C	Clear □Turb	id ⊡Sh on	leen ⊡Sur surface scu	face ım	□Algal □O mats	ther:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	le 🛛 Grave	el 🛛 Sand 🗌	∃ Silt/ c	lay 🛛 Organic 🛛	Other:	
(check all that apply) % of Substrate:	<u>NA</u> % <u>NA</u> %	% <u>NA </u> %	<u> 30 </u> %	<u> 50 </u> %	<u>NA_</u> %	<u>20</u> %	<u>NA_</u> %	
Width of Riparian Zone	e: Vegetative	Lavers:						
	(check all that	apply)	[⊠] Trees	: 🛛 🖂	Saplin	igs/Shrubs:	⊠ Herbs	
<u>>100 ft</u> · N/A□	Avg. DBH (approx.)	of Dominants:	<u>14</u> in.	-	<u>2</u> in.			
Dominant Bank Vegeta	tion (list):							
HICKORY, TULIP F	POPLAR, WHIT	FE OAK, CHR	ISTMAS F	ERN, MOSS				
Aquatic Habitats (ex: se NA	ubmerged or emerged	d aquatic vegetation	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood, riffl	es, deep poo	ls):
Aquatic Organisms Ob	served (list):							
NA								
T&E Species Observed	(<i>list</i>):							
NA								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	discharge pipe	es):				
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	🗆 High	□ Mo	derate	⊠ Low				

	Waterbody ID: SCUK034
^a High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; di disturbance by livestock or man.	side; banks stable and protected by verse and stable aquatic habitat; no
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active function or riparian vegetation only moderately compromised; banks moderately unstable; water color is clou greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance by live	channel width on each side; filtering udy, submerged objects covered with estock or man.
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; natural v 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 m severe disturbance from livestock or man.	egetation less than 1/3 of the active (eroding); water color is muddy and ovement; little to no aquatic habitat;
Notes:	
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey bou	ndary, and IDs of associated features)
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Form Rev. 07/09/2014



Waterbody point scuk034 facing East and upstream



Waterbody point scuk034 facing West and downstream



Waterbody point scuk034 facing North and across

Survey Descriptio	on				Weterbedy ID:		Deter
Southeast Reliabili	tv		ne:		SCUK033		B/25/2014
States	Country	BITT ONLER	Componia			De Des	
Siale.	County.					100	05. 0151 TO 0153 U D V
Vilgilia	Cumbenanu		Nearest Mile	nost:	JS, DG	Votland ID(s	-0151 10 0155 0 D X
10-023			211	post.	NA	Wetianu iD(S	·)·
Survey Type:			_ · ·				
(check one)	Centerline	e □Re-F	Route	□Access Road	□Other:		
Physical Attribute	s						
(check one)	Ephemera	al 🗆 Inter	mittent	⊠Perennial			
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Ditc	:h □ Ca	anal 🗌 Other:	:		
OHWM Width: 9 ft	OHWM Indica (check all that apply	tor: /)	⊠ Clear lir on bank	ne ⊠Shelvin	g ⊠Wrested vegetation	□Sco	uring □Water staining
Height: ft.	□Bent, r vegetatio	natted, or missin n	g □Wrack li	ne □Litter ar debris	nd	ant □S change	oil characteristic change
Width of Waterbody -	Top of Width o	of Waterbody - 1	Toe of Slope	Width of Waterb	ody - Water Edge to	Depth of W	/ater:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(Approx.)	
<u>_16_</u> ft.	-	<u>9</u> ft.		N/A 🗆 –	<u>4</u> ft.	N/A□	<u>_1_</u> ft.
Sinuosity:	Water	velocity:		Bank height		Bank slope	9
(check one)	(Approx.)	0.4 fra		Right:	5 ft	R	ight: 45 degrees
Meander		<u>_0.1_</u> tps	i	Left:	<u> </u>		Left:
	N/A⊔				<u> </u>		<u>_70</u> degrees
Qualitative Attribu	utes						
(check one)	□No water ⊠0	Clear □Turb	id ⊡Sh on	een ⊡Sur surface scu	rface ⊡Algal um mats	□Other:	
Substrate:	Bedrock Bo	ulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ clay □ Orgar	nic 🗌 Other	:
% of Substrate:	<u>10</u> % <u>5</u> %	<u> 10 </u> %	<u> 30 </u> %	<u>45</u> %	<u>NA % NA %</u>	<u>NA</u> %	
Width of Riparian Zon	e: Vegetative	e Layers:					
<u>>100 ft</u> ·	(check all that Avg. DBH	apply) of Dominants:	⊠ Trees: _ <u>14_</u> in.	2	☑ Saplings/Shrubs: _2_in.	⊠ Her	rbs
N/A∟ Dominant Bank Veget	ation (list):						
ALDER, GRASSES	6, IRON WOOD	, OAKS, PEF	RSICARIA				
Aquatic Habitats (ex: s RIFFLES, POOLS,	submerged or emerged SOFT SEDIME	d aquatic vegetation	n, overhanging CUT BANK	banks/roots, leaf pac (S, OVERHAN	ks, large submerged wo GING ROOTS, C	od, riffles, deep DVERHANC	^{pools):} SING VEGETATION,
Aquatic Organisms O	bserved (list):						
WATER STRIDER	S, FROGS, FIS	H,					
T&E Species Observe	d (list):						
NA							
Disturbances (ex: lives NA	tock access, manure i	n waterbody, waste	e discharge pipe	es):			
Tributary is: (check one)	⊠ Natural	□ Art	lificial, man-m	ade 🗆 Manipi	ulated		
Stream Quality ^a : (check one)	⊠ High	□ Mo	oderate	□ Low			

	Waterbody ID: SCUK033
^a 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.	s on each side; banks stable and protected by ailable; diverse and stable aquatic habitat; no
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of th function or riparian vegetation only moderately compromised; banks moderately unstable; water co greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbative and the second	ne active channel width on each side; filtering plor is cloudy, submerged objects covered with nce by livestock or man.
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive; channel width on each side; lack of regeneration; filtering function severely compromised; banks turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers severe disturbance from livestock or man.	natural vegetation less than 1/3 of the active unstable (eroding); water color is muddy and to fish movement; little to no aquatic habitat;
Notes:	
TREAM.	
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location,	survey boundary, and IDs of associated features)
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st clullozi	
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Scuiross	
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Form Rev. 07/09/2014



Waterbody point scuk033 facing Northeast and upstream



Waterbody point scuk033 facing Southwest and downstream



Waterbody point scuk033 facing Southeast and across

Survey Description		Watarbady Na	<u></u>		14/	atorbody ID:	Data
Southeast Reliability		UNT to DRY	CREEK		S	CUK035	8/25/2014
State:	ountur		Company		Crow M	Aomhor Initials:	Photos:
Virginia C	Cumberland		W&C		JS, B	G	100-0157 TO 0159 U D X
Tract Number(s):			Nearest Mile	epost:		Associated Wetla	nd ID(s):
10-023			211			NA	
Survey Type: (check one)	⊠Centerline	□Re-F	Route	□Access Road		□Other:	
Physical Attributes							
Stream Classification: (check one)	⊠Ephemera	I 🗆 Inter	mittent	Perennial			
Waterbody Type: (check one)	liver 🛛 Stre	eam 🗆 Dito	h □ Ca	anal 🛛 Other:			
OHWM Width: 1 ft.	OHWM Indicat (check all that apply	or:)	⊠ Clear lir on bank	ne ⊠Shelving	g	⊠Wrested vegetation	⊠Scouring ⊠Water staining
Height: 	□Bent, n vegetatio	natted, or missin n	g ⊠Wrack li	ne ⊠Litter an debris	nd	Abrupt plant	□Soil characteristic change
Width of Waterbody - To	pof Width o	of Waterbody -	Toe of Slope	Width of Waterbo	ody - Wa	ater Edge to Dep	th of Water:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(Appr	ox.)
<u>6</u> ft.	-	<u>1_</u> ft.		N/A⊠	ft.	N/A	ft. ⊠
Sinuosity:	Water	elocity:		Bank height		Ban	k slope
Straight	(Approx.)	fns		Right:	4 ft.		Right: 80 degrees
	N/A 🖂	ips		Left:	4 ft		Left: 80 degrees
Qualitativa Attributa					<u> </u>		dog.ooo
Water Appearance:	:5						
(check one)	lo water □C	Clear □Turb	id ⊡Sh on	leen ⊡Sur surface scu	face ım	□Algal □Ot mats	her:
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	ole 🗆 Grave	el 🛛 Sand 🗌	□ Silt/ cl	lay 🛛 Organic 🛛] Other:
% of Substrate: <u>NA</u>	<u>NA %</u>	% <u>NA</u> %	<u>NA</u> %	<u> 50 </u> %	<u>NA </u> %	<u> 50 </u> %	<u>NA_</u> %
Width of Riparian Zone:	Vegetative	Layers:	-				
<u>_>100_ft</u> ⊷ N/A□	(cneck all that Avg. DBH (approx.)	of Dominants:	[™] Trees <u>14</u> in.	: 🗵	⊴ Saplin _ <u>2_</u> in.	igs/Shrubs:	⊠ Herbs
Dominant Bank Vegetation	on (list):						
HICKORY, TULIP PC	PLAR, WHIT	E OAK, IRO	N WOOD,	CHRISTMAS F	ERN,	MOSS	
Aquatic Habitats (ex: subr NA	merged or emerged	l aquatic vegetatio	n, overhanging	banks/roots, leaf pack	ks, large	submerged wood, riffle	es, deep pools):
Aquatic Organisms Obse	erved (list):						
NA							
T&E Species Observed (list):						
NA							
Disturbances (ex: livestock	caccess, manure ir	n waterbody, waste	e discharge pipe	es):			
Tributary is: (check one)	⊠ Natural	□ Art	lificial, man-m	ade 🗆 Manipu	ulated		
Stream Quality ^a : (check one)	🗆 High	□ Mo	oderate	⊠ Low			

		Waterbody ID: SCUK035	
^a High Quality: Natural channel, naturation roots; water color is clear to tea-condisturbance by livestock or man.	ural vegetation extends at least one or two active plored; no barriers to fish movement; many fish	e channel widths on each side; banks stable cover types available; diverse and stable ac	and protected by quatic habitat; no
Moderate Quality: Altered channe function or riparian vegetation only greenish film; moderate odor; minor	I evidenced by rip-rap; natural vegetation exten moderately compromised; banks moderately un barriers to fish movement; fair aquatic habitat; mi	nds 1/3-1/2 of the active channel width on ea istable; water color is cloudy, submerged obje inimum disturbance by livestock or man.	ach side; filtering acts covered with
Low Quality: Channel is actively of channel width on each side; lack of turbid; obvious pollutants (algal ma severe disturbance from livestock or	lown cutting or widening; rip rap and channeliza of regeneration; filtering function severely compr ats, surface scum, surface sheen); heavy odor; man.	ation excessive; natural vegetation less than romised; banks unstable (eroding); water col severe barriers to fish movement; little to no	1/3 of the active or is muddy and aquatic habitat;
Notes:			
Waterbody Sketch (Include nort	th arrow, centerline, distance from centerline, date	a point location, survey boundary, and IDs of as	sociated features)
	S.		
~	Juanzy	ſ	
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g -0		CREEK ULU33	\searrow
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	- Seula 035 -		
		1-0(1) 12	* `
	Score		
S ,	VIZVIZ Z	Y -	
S	VIZVIZY IZXTENT	Y-	150
S	VIZVIZY IZXTENT	y-	150



Waterbody point scuk035 facing Southeast and upstream



Waterbody point scuk035 facing Northwest and downstream



Waterbody point scuk035 facing Northeast and across

Survey Descriptio	n				14	eterbedy ID:		Deter
Southeast Reliabilit	v	DRY CREEK			S	CUK036		8/25/2014
State:	County:		Company:		Crew N	lember Initials	· Ph	otos:
Virginia	Cumberland		W&C		JS, B	G	10	00-0160 TO 0163 U D X
Tract Number(s):			Nearest Mile	epost:	,	Associated W	etland ID((s):
10-023			211			NA		
Survey Type: (check one)		Re-F	Route	□ Access Road		□Other:		
Physical Attribute	s							
Stream Classification: (check one)	Ephemera	al 🗆 Inter	rmittent	⊠Perennial				
Waterbody Type: (check one)]River ⊠ Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:	:			
OHWM Width: _ <u>8 ft.</u>	OHWM Indica (check all that apply	tor: /)	⊠ Clear lir on bank	ne ⊠Shelving	g	⊠Wrested vegetation	□Sc	ouring ⊡Water staining
Height: ft. N/A□	□Bent, r vegetatio	natted, or missin n	ig ⊡Wrack li	ne □Litter ar debris	nd	□ Abrupt plant community ch	t ⊡ ange	Soil characteristic change
Width of Waterbody - 1 Bank to Top of Bank:	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth of (Approx.)	Water:
<u>_12</u> ft.	-	<u>_8_</u> ft.		N/A	<u>3</u> ft.		N/A□	<u>0.5</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank slop	De
(check one)	(Approx.)	0.1 fps	3	Right:	4_ ft.			Right: 45 degrees
⊠Meanderii	ng N/A 🗆	<u>_0.1_</u> .pc		Left:	4_ ft.			Left: 70 degrees
Qualitative Attribu	tes							
Water Appearance: (check one)	No water ⊠0	Clear 🗆 Turb	oid □Sh on	een ⊡Sur surface scu	face Im	□Algal [mats]Other:	
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ Oth	er:
(check all that apply) % of Substrate:	<u>NA</u> % <u>NA</u> %	% <u>NA</u> %	<u> 30 </u> %	<u> 70 </u> %	<u>NA_</u> %	<u>NA %</u>	<u>NA %</u>	, D
Width of Riparian Zone	e: Vegetative	e Layers:						
<u>_>100_ft</u> · N/A□	(check all that Avg. DBH (approx.)	apply) of Dominants:	[⊠] Trees _ <u>12_</u> in.	: D	⊠ Saplin _2_in.	ngs/Shrubs:	⊠ H	erbs
Dominant Bank Vegeta IRON WOOD, HIGI	ition (list): HBUSH BLUEE	BERRY, CHR	ISTMAS F	ERN, MOSS				
Aquatic Habitats (ex: su RIFFLES, POOLS,	ubmerged or emerged SOFT SEDIME	d aquatic vegetatio ENT, UNDER	n, overhanging CUT BANK	banks/roots, leaf pact	ks, large GING	submerged wood, ROOTS	riffles, dee	p pools):
Aquatic Organisms Ob	served (list):							
T&E Species Observed	(list):							
NA								
Disturbances (ex: livesto NA	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipu	ulated			
Stream Quality ^a : (check one)	⊠ High	□ Mo	oderate	□ Low				

	Waterbody ID:
	SCUK036
^a High Quality: Natural channel, natural vegetation extends at least one or two active roots; water color is clear to tea-colored; no barriers to fish movement; many fish disturbance by livestock or man.	e channel widths on each side; banks stable and protected by o cover types available; diverse and stable aquatic habitat; no
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation exter function or riparian vegetation only moderately compromised; banks moderately ur greenish film; moderate odor; minor barriers to fish movement; fair aquatic habitat; m	nds 1/3-1/2 of the active channel width on each side; filtering nstable; water color is cloudy, submerged objects covered with inimum disturbance by livestock or man.
Low Quality: Channel is actively down cutting or widening; rip rap and channeliz channel width on each side; lack of regeneration; filtering function severely comp turbid; obvious pollutants (algal mats, surface scum, surface sheen); heavy odor; severe disturbance from livestock or man.	ation excessive; natural vegetation less than 1/3 of the active promised; banks unstable (eroding); water color is muddy and severe barriers to fish movement; little to no aquatic habitat;
Notes:	
PERENNIAL STREAM WITH LOW FLOW. SOME EROSION ON BAN ROW. UPSTREAM PORTION OF DRY CREEK.	IKS. SMALL SECTION OF STREAM COMES ON
Waterbody Sketch (Include north arrow, centerline, distance from centerline, dat	a point location, survey boundary, and IDs of associated features)
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	DRY CRIZIZIN
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	E D 0.00014



Waterbody point scuk036 facing East and upstream



Waterbody point scuk036 facing West and downstream



Waterbody point scuk036 facing South and across