Linear Waterbod	y Data Shee	t							
Survey Description	n								
Project Name:	_	Waterbody Na				aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to Sout	h Fork Roc	kfish River	SI	nea022		1	0/9/2015
State:	County:		Company:		Crew I	Member Initials	:: I	Photos:	
Virginia	Nelson		NRG		GB, S	SA		3 Photo	S
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
08-001-B003; red tr	act 08-001-B0	05	158.8			wnea020			
Survey Type: (check one)	⊠Centerline	e □Re-I	Route	□ Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)	Ephemer	al 🗆 Inter	mittent	⊠Perennial (we	eakly).				
Waterbody Type: (check one)	River 🛛 St	ream 🗆 Dito	ch 🗆 Ca	anal 🗌 Other	:				
OHWM Width: <u>8.0</u> ft.	OHWM Indica (check all that appl		⊠ Clear lir on bank	ne ⊠Shelvin	g	□Wrested vegetation	\boxtimes	Scouring	□Water staining
Height: ft. N/A□	□Bent, i vegetatio	matted, or missin on	ig ⊠Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plan community ch		□Soil ch	aracteristic change
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth (Approx.)	of Water:	
<u>15.0_</u> ft.	-	<u>6.0</u> ft.		N/A□	<u>6.5_</u> ft.		N/A□	-	<u>0.25</u> ft.
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height			Bank s	•	
	(1,001,014)	_1.25_ fp	s	Right:	<u>5.0_ft</u> .			Right:	50 degrees
⊠Meanderir	ng N/A□	<u>p</u>	0	Left:	8.0_ ft.			Left:	65 degrees
				-	<u>0.0_</u> n.	•			
Qualitative Attribut Water Appearance:	tes								
(check one)	No water	Clear □Turb		leen ⊡Sui i surface scu		□Algal mats	□Other	:	
	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	clay 🛛 Organio	; 🗆 C	Other:	
(check all that apply) % of Substrate:	%	<u>% 40 %</u>	<u>25</u> %	<u> 30 </u> %	%	<u> 5 </u> %		%	
Width of Riparian Zone	(check all tha	t apply)	⊠ Trees	: D	⊠ Saplir	ngs/Shrubs:	\boxtimes	Herbs	
<u>ft</u> . N/A⊠	Avg. DBH (approx.)	of Dominants:	<u>_13.0_</u> ii	n. <u>-</u>	<u>1.0</u> in	l.			
Dominant Bank Vegeta	tion (list):								
Chestnut oak, north aster. Japanese stilt Aquatic Habitats (ex: su	tarass. butterc	up. clearweed	d	•			-		-
Leaf packs, woody			n, overhanging	banks/roots, real pac	ito, large		, 111103, 1) -
Aquatic Organisms Ob	served (list):								
Water striders, cray	fish, invertebra	ates							
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto Culvert crossings fo		in waterbody, waste	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					

snea022

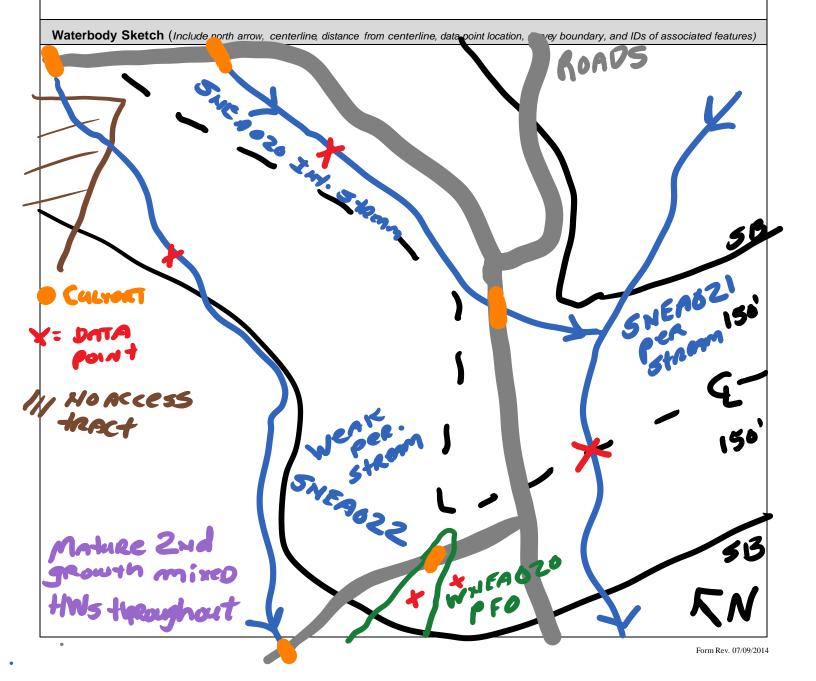
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Upstream continues out of corridor, downstream flows into snea021 outside corridor; crosses under two roads via culvert; flow from wnea020 goes to stream outside corridor. Could not map portion in red tract 08-001-B005.





Waterbody SNEA022 facing northeast upstream



Waterbody SNEA022 facing southwest downstream



Waterbody SNEA022 facing northwest across

Linear Waterbod	y Data Shee	t							
Survey Description	n								
Project Name:		Waterbody Nar				aterbody ID:			te:
Atlantic Coast Pipel	ine	UNT to Sout	n Fork Rocl	kfish River	sr	nea020		10	/9/2015
State:	County:	L	Company:		Crew N	Member Initials	s: Pł	notos:	
Virginia	Nelson		NRG		GB, S	SA	3	Photos	i
Tract Number(s):			Nearest Mile	post:		Associated W	etland ID	D(s):	
08-001-B003			158.9			none			
Survey Type:									
(check one)		e □Re-F	Route	□ Access Road		Other:			
Physical Attributes Stream Classification:	S								
(check one)	Ephemer	al ⊠Inter	mittent	□Perennial					
Waterbody Type:	-								
(check one)	River St		h □ Ca	nal 🗌 Other	:				
OHWM Width: <u>3.0</u> ft.	OHWM Indica (check all that appl		□ Clear lin on bank	e 🗆 Shelvin	g	□Wrested vegetation	⊠S	couring	□Water staining
Height: ft. N/A□	□Bent, i vegetatio	matted, or missin	g □Wrack lir	ne ⊠Litter ar debris	nd	□ Abrupt plar community cł		Soil cha	acteristic change
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - of Slope:		Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of (Approx.)	Water:	
<u></u>	-	<u>1.5</u> ft.		N/A□	<u>2.0_</u> ft.		N/A□	0.	<u>.25</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank slo	ре	
(check one)	(Approx.,	1		Right:				Right:	
Ŭ		<u>_1.0</u> _fps		Left:	<u>3.0_</u> ft.			Left:	<u>65</u> degrees
⊠Meanderir	ng N/A□			-	<u>4.0_</u> ft.				<u>55</u> degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water	Clear □Turb		een ⊡Su surface sci		□Algal mats	□Other:		
	Bedrock 🗆 Bo	oulder 🛛 Cobb	le 🛛 Grave	I 🛛 Sand 🛛	⊠ Silt/ c	lay 🛛 Organio	c □ Otł	ner:	
(check all that apply) % of Substrate:	%	% <u>55</u> %	<u> 10 </u> %	%	<u>5</u> %	<u> 5 </u> %		%	
Width of Riparian Zone	: Vegetativ		⊠ Trees:	Ν	2 Sonlin	ac/Shruha		Jorbo	
<u>ft</u> . N/A⊠		of Dominants:	△ Trees: _ <u>13.0_</u> in		<u>_1.0_</u> in.	ngs/Shrubs:		Herbs	
Dominant Bank Vegeta	tion (list):								
Chestnut oak, north aster. meadow rue. Aquatic Habitats (ex: su	buttercup		-	-					stilt grass, wood
Leaf packs, woody		u aqualic vegetalloi	i, overhanging i	Janks/100ts, lear pac	ks, laige	Submerged wood	i, nines, de	ep pools).	
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, waste	discharge pipe	s):					
Culvert crossings for	or roads								
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-ma	ade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High	⊠ Mc	derate						

snea020

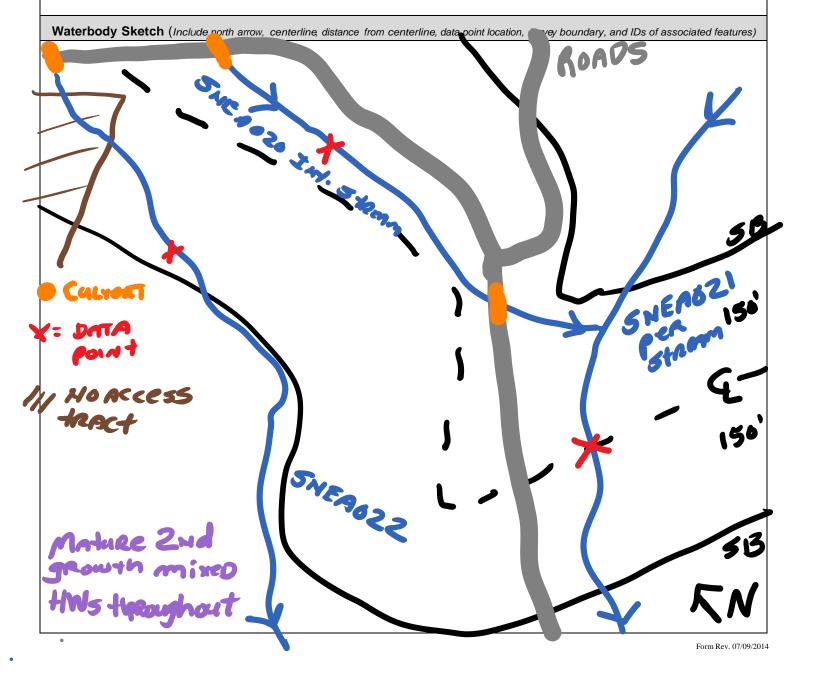
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Upstream continues out of corridor, downstream flows into snea021; crosses under two roads via culvert; flow is underground for short stretch upstream of downstream culvert.





Waterbody SNEA020 facing north upstream



Waterbody SNEA020 facing south downstream



Waterbody SNEA020 facing east across

Linear Waterbod	y Data She	eet								
Survey Description	n									
Project Name:		Waterboo	-				aterbody ID:			ate:
Atlantic Coast Pipel	ine	South F	ork Rockfish	River		sn	ea021		1	0/9/2015
State:	County:		Compan	у:		Crew M	lember Initials	:	Photos:	
Virginia	Nelson		NRG			GB, S	A		3 Photo	S
Tract Number(s):			Nearest	Milepost:			Associated W	etland	ID(s):	
08-001-B003			158.9				none			
Survey Type: (check one)	⊠Center	line [∃Re-Route		ess Road		□Other:			
Physical Attributes										
Stream Classification:	3									
(check one)	Epher	neral [⊠Per	ennial					
Waterbody Type: (check one)	River 🛛	Stream	Ditch	∃ Canal	Other	:				
OHWM Width: <u>16.0_f</u> t.	OHWM Ind (check all that a		⊠ Clea on ban		⊠Shelvin	g	□Wrested vegetation		Scouring	□Water staining
Height: <u>1.75_</u> ft. N/A□	□Ber vegeta	nt, matted, or r ation	nissing ⊠Wra		⊠Litter ar debris	nd	□Abrupt plan community ch		□Soil cha	aracteristic change
Width of Waterbody - T Bank to Top of Bank:		th of Waterbo	ody - Toe of Slo	ope Width o Water E		ody - Wa	ater Edge to	Depth (Approx.)	of Water:	
<u>_26.0</u> ft.		<u>9.0</u> ft.		N/A□		<u>12.0_</u> ft.		N/A□	-	<u>1.0</u> ft.
Sinuosity:		ter velocity:		Bank he	eight			Bank s	slope	
(check one)	(Аррг		- /		Right:	70 ft			Right:	60 dogroos
Maandarin			<u>5_</u> fps		Left:	<u>7.0_</u> ft.			Left:	<u>60</u> degrees
Meanderir	ng N/A					<u>4.0_</u> ft.				45 degrees
Qualitative Attribu	tes									
Water Appearance: (check one)	No water	⊠Clear	□Turbid □	Sheen on surface	⊡Sui sci		□Algal mats	□Othe	r:	
	Bedrock	Boulder 🛛	Cobble 🛛 🖾 G	iravel 🛛 S	Sand [□ Silt/ cl	ay 🗆 Organio	; □0	Other:	
(check all that apply) % of Substrate:	_% _4	<u>0 % 4</u>	<u>0 % 15 </u>	% _5	_%	_%	%		%	
Width of Riparian Zone		tive Layers:								
100 ft-		that apply) BH of Domina	⊠ Tr ants: ₄₄				gs/Shrubs:	\boxtimes	Herbs	
N/A 🗆	(approx.)		<u>_11</u> ,	. <u>0 in</u> .	-	_ <u>1.5 in</u> .				
Dominant Bank Vegeta	. ,									
Chestnut oak, north aster. meadow rue. Aquatic Habitats (ex: su	buttercup. w	<u>vitch hazel.</u>	sweet birch.	knotweed	l. ash. n	nounta	in laurel			
Pools, riffles, wood	•									
Aquatic Organisms Ob										
fish, crayfish, water	striders, fro	g								
T&E Species Observed	(list):									
none										
Disturbances (ex: livestor Parallel road fill to w		ire in waterbody	, waste discharge	pipes):						
Tributary is: (check one)	⊠ Natura	al	Artificial, ma	n-made	🗆 Manip	ulated				
Stream Quality ^a : (check one)	⊠ High		□ Moderate		□ Low					

snea021

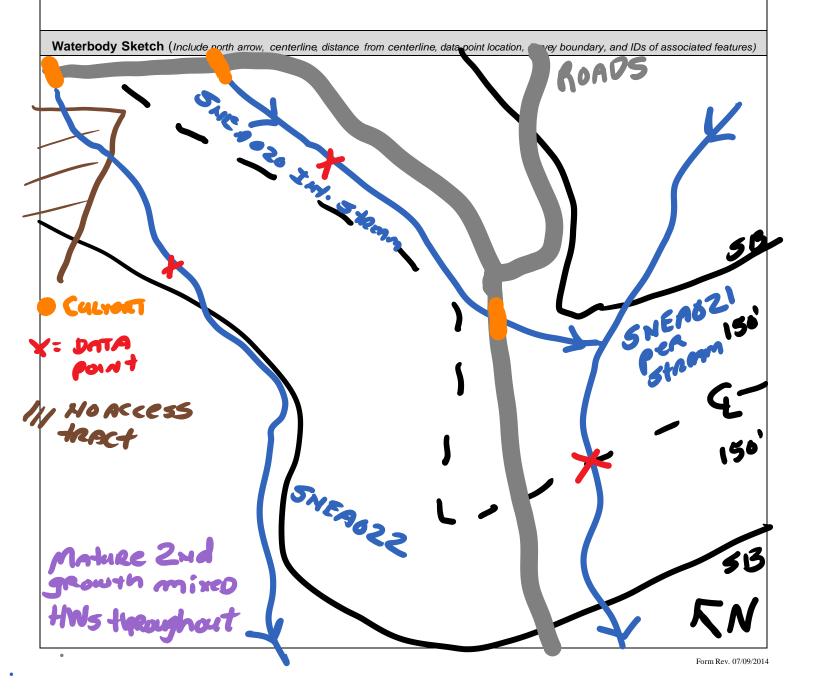
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Continues out of corridor both directions, snea020 is a tributary within corridor, snea022 is a tributary outside corridor; parallel to paved road





Waterbody SNEA021 facing east-northeast upstream



Waterbody SNEA021 facing west-southwest downstream



Waterbody SNEA021 facing south-southeast across

Linear Waterbody Data Sheet

Survey Descriptio	n								
Project Name:		Waterbody Na			w	aterbody ID:			Date:
Atlantic Coast Pipel		UNT to Roc	-			nec053			10/23/2015
State:	County:		Company:		Crew I	Member Initials	: F	hotos:	
Virginia	Nelson		NRG		CR, A	AS		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
08-001-B055			165.4			None			
Survey Type: (check one)	⊠Centerline	e □Re-	Route	□Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)		al ⊡Inte	ermittent	⊠Perennial					
Waterbody Type:									
(check one)	River Sti	ream 🗌 Dit	ch 🗆 C	anal 🛛 Other	:				
ОНѠМ	OHWM Indica							<u> </u>	
Width: _ <u>6_</u> ft.	(check all that appl	y)	⊠ Clear lir on bank	ne ⊡Shelvin	g	□Wrested vegetation		Scouring	g □Water staining
Height:	⊠Bent, r	matted, or missi	ng	ine ⊠Litter ar	nd	□Abrupt plan	t	□Soil cl	haracteristic change
ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody - 1 Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W		Depth ((Approx.)	of Water	:
		•		Mater Euge.					0.2 #
<u>_15_</u> ft.	-	<u>1_</u> ft.		N/A□ -	<u>5_</u> ft.		N/A□		<u>0.3</u> ft.
Sinuosity:		velocity:		Bank height			Bank s	lope	
(check one)	(Approx.))		Right:	o (i			Right	
		<u>_1_</u> fps	5	Left:	<u>8_</u> ft.			Left	<u>80</u> degrees
Meanderiu	ng N/A□				<u>7_</u> ft.				<u>70</u> degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	No water ⊠	Clear □Tur		neen 🗆 Su n surface sci		□Algal [mats	□Other:	:	
	Bedrock 🛛 Bo	oulder 🗆 Cob	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🛛 Organic	□ 0	ther:	
(check all that apply) % of Substrate:	%	%%	<u> 15 </u> %	<u> 35 </u> %	<u>35_</u> %	<u> 15 </u> %		%	
Width of Riparian Zone	e: Vegetativ	e Lavers:							
•	(check all that	t apply)	⊠ Trees	: 5	🛛 Saplir	ngs/Shrubs:	\boxtimes	Herbs	
_ <u>40 ft</u> - N/A□	Avg. DBH (approx.)	l of Dominants:	<u>_10_</u> in.	-	_ <u>2_</u> in.				
Dominant Bank Vegeta	tion (list):								
Tulip poplar, black o Christmas fern, Am	erica hog pear	<u>nut. sassafras</u>	S .	-		•			
Aquatic Habitats (ex: su Leaf packs, overha			on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, rittles, c	eep pool	s):
Aquatic Organisms Ob	served (list):								
Caddisfly larvae, sto	onefly nymph								
T&E Species Observed	l (list):								
None									
Disturbances (ex: liveste	ock access, manure	in waterbody, was	te discharge pipe	es):					
None									
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	nade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High	⊠ M	oderate	□ Low					

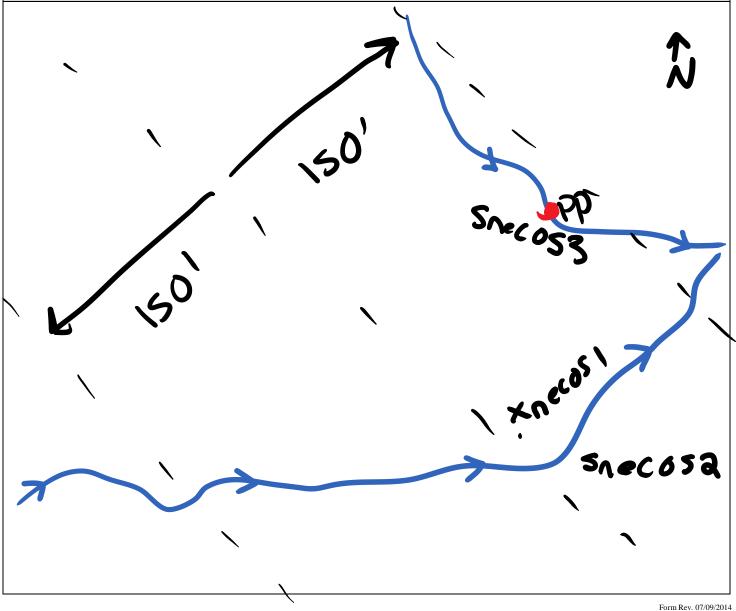
Snec053

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 SNEC053 facing northwest upstream



Waterbody SNEC053 facing southeast downstream



Waterbody SNEC053 facing northeast across

Linear Waterbody Data Sheet

Survey Descriptio	n							
Project Name:		Waterbody N	lame:		W	/aterbody ID:		Date:
Atlantic Coast Pipe		UNT to Ro	ckfish River			nec052		10/23/2015
State:	County:		Company:		Crew I	Member Initials:	Photos:	
Virginia	Nelson		NRG		CR, A		1-3	
Tract Number(s):			Nearest Mil	epost:		Associated Wetla	and ID(s):	
08-001-B055			165.4			None		
Survey Type: (check one)	⊠Centerline	e ⊡Re	e-Route	□Access Roac	1	□Other:		
Physical Attribute	S							
Stream Classification: (check one)		al 🗆 Int	termittent	Perennial				
Waterbody Type:	-							
	□River ⊠ Str	ream 🗆 D	Ditch 🗆 C	Canal 🛛 🗆 Other	:			
ОНѠМ	OHWM Indica							
Width: _ <u>6_</u> ft.	(check all that appl	<i>y)</i>	⊠ Clear li on bank	ne 🗆 Shelvin	g	□Wrested vegetation	Scourin	g □Water staining
Height:	⊠Bent, r	matted, or miss	sing □Wrack	line ⊠Litter a	nd	□Abrupt plant	□Soil c	haracteristic change
ft. N/A□	vegetatio		U U	debris		community chang	ge	Ū.
Width of Waterbody - ⁻ Bank to Top of Bank:		of Waterbody of Slope:	- Toe of Slope	e Width of Waterb Water Edge:	ody - W	Ater Edge to De	pth of Wate	r:
•		-					*	0.2 #
<u>_12_</u> ft.	-	<u>1_</u> ft.		N/A□	<u>5_</u> ft.	N/A		<u>_0.3_</u> ft.
Sinuosity:		velocity:		Bank height		Ba	nk slope	
(check one)	(Approx.)			Right:			Right	
		<u>_1_</u> fp	DS	Left:	<u>4_</u> ft.		Lef	<u>80</u> degrees
Meanderi	ng N/A□				<u>3_</u> ft.			60 degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	[□] No water \boxtimes	Clear □Tu			rface um	□Algal □C mats	other:	
	Bedrock 🗆 Bo	oulder 🛛 Co	bble 🛛 Grav	/el ⊠ Sand	⊠ Silt/ c	clay 🗆 Organic	Other:	
(check all that apply) % of Substrate:	%	<u>% 15</u> %	% <u>20</u> %	<u> 30 </u> %	<u>35_</u> %	%	%	
Width of Riparian Zon	e: Vegetative	e Lavers:						
•	(check all that	t apply)	⊠ Trees	s: [⊠ Saplir	ngs/Shrubs:	⊠ Herbs	
<u>40_ft</u> - N/A□	Avg. DBH (approx.)	of Dominants	s: _ <u>12_</u> in	· .	<u>2</u> in.			
Dominant Bank Vegeta	ation (list):							
Tulip poplar, black Christmas fern, Am	erica hog pear	nutr	•	-			•	
Aquatic Habitats (ex: s Leaf packs, overha			tion, overhanging	j banks/roots, leaf pac	ks, large	e submerged wood, riff	les, deep poo	IS):
Aquatic Organisms Ol	oserved (list):							
Caddisfly larvae, st	onefly nymph							
T&E Species Observe	d (list):							
None								
Disturbances (ex: livest	ock access, manure i	in waterbody, wa	ste discharge pip	bes):				
Two lane dirt track	runs across str	ream						
Tributary is: (check one)	⊠ Natural		Artificial, man-r	nade 🛛 Manip	ulated			
Stream Quality ^a : (check one)	□ High	\boxtimes	Moderate	□ Low				

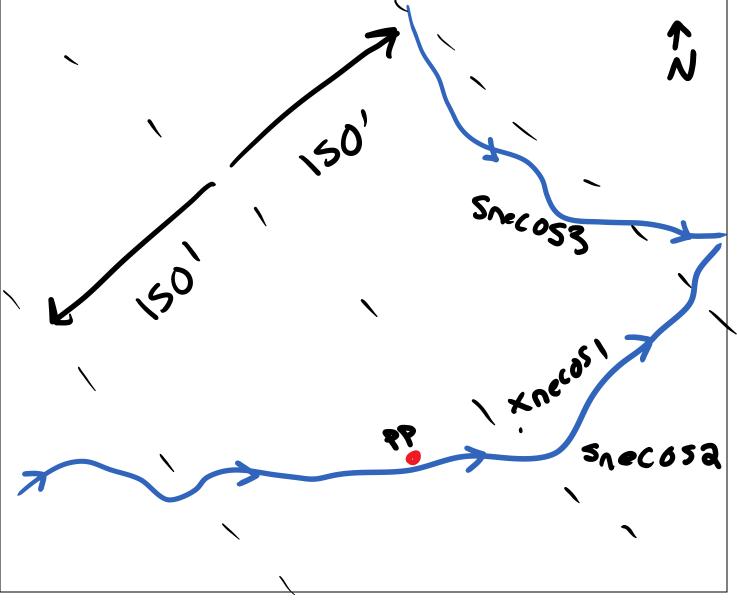
Snec052

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 SNEC052 facing west upstream



Waterbody SNEC052 facing east downstream



Waterbody SNEC052 facing north across

Linear	Waterb	ody Dat	a Sheet
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Survey Description								
Project Name:		Waterbody Na				aterbody ID:		Date:
Atlantic Coast Pipeline	е	UNT to Rock	fish River		S	nec051		10/23/2015
State: C	ounty:		Company:		Crew M	Member Initials:	Pho	tos:
Virginia N	elson		NRG		CR, A	AS	1-3	3
Tract Number(s):			Nearest Mile	epost:	•	Associated We	etland ID(s	5):
08-001-B055			165.5			None		
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)	iver 🛛 Stre	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:				
OHWM Width: 4 ft.	OHWM Indicat (check all that apply		⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	□Sco	ouring □Water staining
Height: 0.5 ft.	□Bent, m vegetation	natted, or missin	g	ne ⊠Litter ar debris	nd	□ Abrupt plant community cha		Soil characteristic change
N/A 🗆							0	
Width of Waterbody - Top Bank to Top of Bank:		of Waterbody - [·] of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W		Depth of W Approx.)	Vater:
<u>_10_</u> ft.	_	<u>1_</u> ft.		-	<u>3_</u> ft.			<u>_0.1_</u> ft.
Sinuosity:	Wator	velocity:		N/A□ Bank height			N/A⊡ Bank slop	0
(check one)	(Approx.)	relocity.		Right:		E	•	e Right:
□Straight		<u>_0.5_</u> fps	6		<u>4_</u> ft.			60 degrees
⊠Meandering	N/A□			Left:	_4ft.			Left: 60 degrees
Qualitative Attribute	s							
Water Appearance: (check one)								
	o water ⊠C	Clear □Turb		leen □Sui surface scu		□Algal □ mats]Other:	
Substrate: B (check all that apply)	Bedrock 🗆 Bo	ulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	□ Othe	r:
% of Substrate:	_%	<u>% 10</u> %	<u> 5 </u> %	_45_%	<u>40_</u> %	%		_%
Width of Riparian Zone:	Vegetative							
10 ft-	(check all that	apply) of Dominants:	⊠ Trees			ngs/Shrubs:	⊠ He	rbs
N/A□	(approx.)	or Dominants.	<u>_10_</u> in.	-	<u>2</u> in.			
Dominant Bank Vegetation	on (list):							
Tulip poplar, black cho multiflora rose. Japan	esé honevsu	ckle, purple a	aster			•	.	•
Aquatic Habitats (ex: subm Leaf packs	nerged or emerged	i aquatic vegetatio	n, overnanging	banks/roots, lear pac	ks, large	submergea wooa,	nmes, deep	pools):
Aquatic Organisms Obse	rved (list):							
Caddisfly larvae, ston								
T&E Species Observed (I	ist):							
None								
Disturbances (ex: livestock	access, manure ir	n waterbody, waste	e discharge pipe	es):				
None								
Tributary is: (check one)	⊠ Natural	□ Ari	tificial, man-m	ade 🗆 Manipi	ulated			
Stream Quality ^a : (check one)	□ High	⊠ Mo	oderate	□ Low				

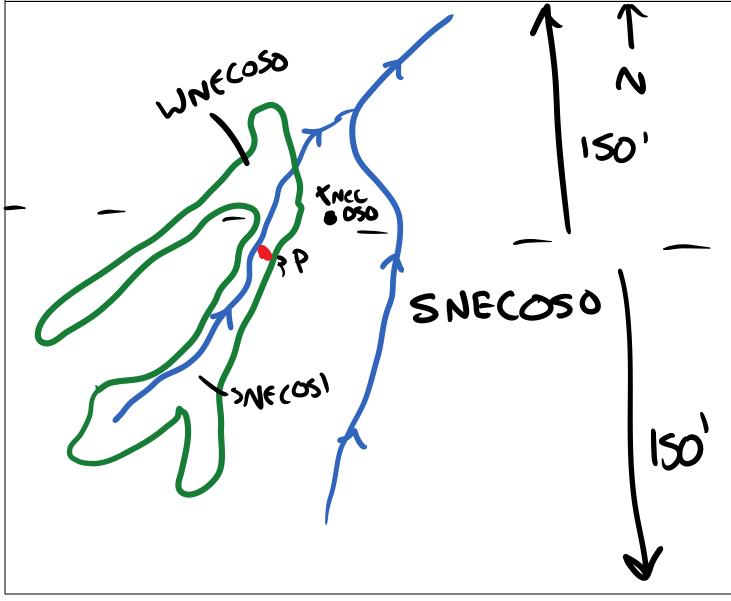
Snec051

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 SNEC051 facing southwest upstream



Waterbody SNEC051 facing northeast downstream



Waterbody SNEC051 facing northwest across

Linear	Water	body	Data	Sheet
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Survey Description									
Project Name:		Waterbody Nan	ne:		W	aterbody ID:		Date:	
Atlantic Coast Pipeline		UNT to Rock	fish River		S	nec050		10/23/2015	
State: Co	ounty:		Company:		Crew I	Member Initials	: Ph	notos:	
5	elson		NRG		CR, A			-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID	D(s):	
08-001-B055			165.5			None			
Survey Type: (check one)	⊠Centerline	□Re-R	loute	□ Access Road		□Other:			
Physical Attributes									
Stream Classification: (check one)	Ephemera	I Inter	mittent	⊠Perennial					
Waterbody Type:	•								
(check one)	ver 🛛 Stre	eam 🗆 Ditc	h 🗆 Ca	anal 🛛 🗆 Other:	:				
ОНѠМ	OHWM Indicat								
Width: _ <u>7</u> ft.	(check all that apply)	1	⊠ Clear lir on bank	ne 🗆 Shelving	g	□Wrested vegetation	⊔Se	couring	
Height:	⊠Bent, m	atted, or missing	g ⊡Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t 🗆	Soil characteristic change	,
<u>0.8</u> ft. N/A□	vegetation	ו		debris		community ch	ange	C C	
Width of Waterbody - Top Bank to Top of Bank:		f Waterbody - 1 of Slope:	oe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of (Approx.)	Water:	
10 ft.		1 ft.			<u>5_</u> ft.			ft.	
		<u>. </u>		N/A 🗆			N/A□		
Sinuosity: (check one)	Water v (Approx.)	elocity:		Bank height			Bank slo	ре	
	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1 100		Right:	_4ft.			Right: 70 degrees	
		<u>_1_</u> fps		Left:				Left:	
Meandering	N/A 🗆				<u>3_</u> ft.			<u>50</u> degrees	
Qualitative Attribute	S								
Water Appearance: (check one)	o water ⊠C	lear 🗆 Turb		leen ⊡Sui surface scu		□ Algal mats	Other:		
Substrate:	edrock 🗌 Bou	ulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	: 🗆 Oth	ner:	
(check all that apply) % of Substrate:	%	_% <u>5</u> %	<u>40</u> %	<u>40</u> %	<u>15_</u> %	%		%	
Width of Riparian Zone:	Vegetative	Lavers:							
	(check all that a	apply)	⊠ Trees	: 🛛 🛛	🛛 Saplir	ngs/Shrubs:	\boxtimes H	lerbs	
_ <u>40_ft</u> - N/A□	Avg. DBH ((approx.)	of Dominants:	<u>8</u> in.	-	<u>2</u> in.				
Dominant Bank Vegetatio	on (list):								
Tulip poplar, black che multiflora rose. Japan	<u>esé honevsu</u>	<u>ckle, purple a</u>	ster				<u> </u>	-	
Aquatic Habitats (ex: subm Leaf packs	nerged or emerged	aquatic vegetatior	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, de	ep pools):	
Aquatic Organisms Obse	rved (list):								
Caddisfly larvae, ston									
T&E Species Observed (li	ist):								
None									
Disturbances (ex: livestock	access, manure in	waterbody, waste	discharge pipe	es):					
None									
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗌 Manipi	ulated				
Stream Quality ^a : (check one)	□ High	⊠ Mo	derate	□ Low					

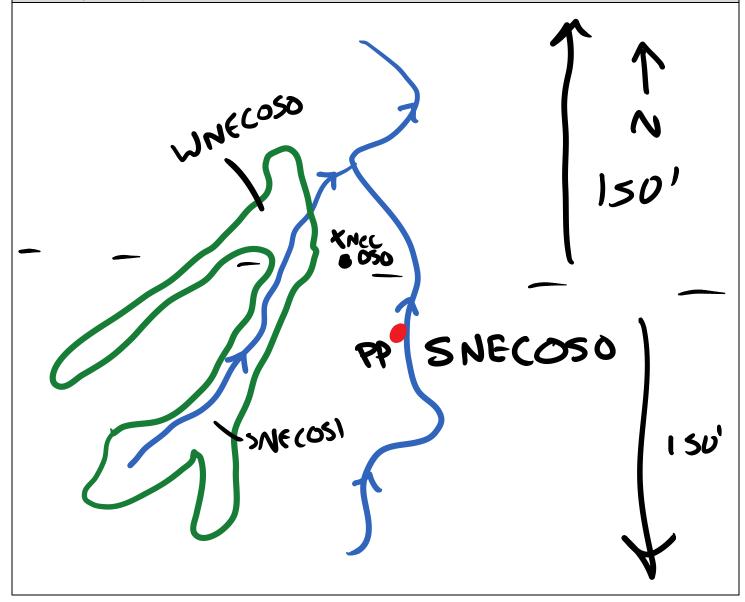
Snec050

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 SNEC050 facing south upstream



Waterbody SNEC050 facing north downstream



Waterbody SNEC050 facing east across

Linear Waterbody Data Sheet

Survey Descriptio	n										
Project Name:		Waterbo	ody Nam	ne:			w	aterbody ID:			Date:
Atlantic Coast Pipe		UNT to	Rockf	ish River			SI	nea051			5/6/2015
State:	County:		0	Company:			Crew I	Member Initials	:	Photos:	
Virginia	Nelson			NRG			GB, S			3 photo	os
Tract Number(s):				Nearest Mile	epost:			Associated W	etland	ID(s):	
08-111-A004				161.6				wnea051			
Survey Type: (check one)	⊠Center	line	□Re-R	oute	□Ac	cess Road	1	□Other:			
Physical Attribute	S										
Stream Classification: (check one)	□Ephem	eral	□Intern	nittent	⊠Pe	erennial					
Waterbody Type: (check one)	∃River ⊠	Stream	Ditch	n 🗆 Ca	anal	□ Other	:				
онwм	OHWM Indi	icator:									
Width: <u>4.0 f</u> t.	(check all that a			⊠ Clear lin on bank	e	□Shelvin	g	□Wrested vegetation		Scouring	g □Water staining
Height: 1.0 ft.	□Ben vegeta	, ,	missing	J □Wrack lii	ne	⊠Litter aı debris	nd	□Abrupt plan community ch		□Soil cl	haracteristic change
N/A 🗆	Ū							,	0		
Width of Waterbody - Bank to Top of Bank:		th of Waterl		oe of Slope	Width Water	of Waterb Edge:	ody - W	ater Edge to	Depth (Approx.,	of Water	
<u>6.0</u> ft.		<u>3.0</u> ft.				_	<u>3.5_</u> ft.			-	<u>_0.50_</u> ft.
0	14/-1				N/A□				N/A□	-1	
Sinuosity: (check one)	(Appr	er velocity:			Bank I	neight Right:			Bank s	slope Right	
□Straight		0	<u>.75_</u> fps			-	<u>2.5_</u> ft.			•	75 degrees
⊠Meanderi	ng N/Al					Left:	<u>1.5_</u> ft.			Left	:: <u>25</u> degrees
Qualitative Attribu	Ites				<u> </u>				<u> </u>		
Water Appearance: (check one)	No water	⊠Clear	□Turbi	d ⊓Sh			rface		□Othe	<i></i>	
					surface		um	□ Algal mats		1.	
Substrate:	Bedrock	Boulder 2	Cobbl	e 🛛 Grave	el 🛛	Sand	⊠ Silt/ c	clay 🛛 Organic	; □(Other:	
% of Substrate:	_%	%	<u>15_</u> %	<u> 15 </u> %	_5	<u>0 </u> %	<u>15_</u> %	<u> 5 </u> %		%	
Width of Riparian Zon		tive Layers:									
150 ft-	·	^{that apply)} BH of Domii	nants:	⊠ Trees:				ngs/Shrubs:		Herbs	
N/A⊠	(approx.)			<u>13.0</u> ir	1.	-	_ <u>1.0</u> _in	•			
Dominant Bank Veget	. ,										
Yellow poplar, syca Japanese honevsu Aquatic Habitats (ex: s	<u>ckle. Virainia</u>	creeper.	poison	ivv	-			0 0		-	-
Small pools, riffles,						, iou, iou, puo	ino, iaigo		.,,		
Aquatic Organisms Of	oserved (list):										
Salamander, frog, i	nvertebrates										
T&E Species Observed	d (list):										
none											
Disturbances (ex: livest	ock access, manu	re in waterboo	ly, waste	discharge pipe	es):						
None apparent											
Tributary is: (check one)	⊠ Natura	al	□ Artif	ficial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High		⊠ Moo	derate		□ Low					

snea051

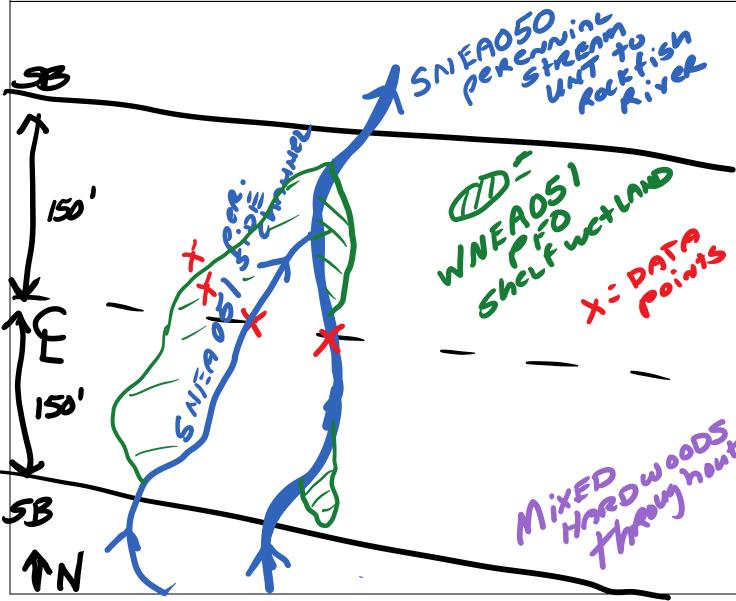
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Unnamed perennial stream, tributary to Rockfish River; side channel to snea050; associated with shelf PFO wetland wnea051.





Waterbody SNEA051 facing southwest upstream



Waterbody SNEA051 facing northeast downstream



Waterbody SNEA051 facing southeast across

Linear	Waterb	ody Dat	a Sheet
--------	--------	---------	---------

Survey Description	n								
Project Name:		Waterbody Nar	ne:		W	aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to Rock			sr	nea050			5/6/2015
State:	County:		Company:		Crew N	Member Initials:	:	Photos:	
Virginia	Nelson		NRG		GB, S	SA		3 phote	DS
Tract Number(s):			Nearest Mile	epost:		Associated We	etland	ID(s):	
08-111-A004			161.6			wnea051			
Survey Type: (check one)		e ⊡Re-R	Route	□ Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)	Ephemera	al 🗆 Inter	mittent	⊠Perennial					
Waterbody Type: (check one)]River ⊠ Str	eam 🗆 Ditc	h 🗆 Ca	anal 🗆 Other:					
OHWM Width: 9.0 ft.	OHWM Indica (check all that appl		⊠ Clear lir on bank	ne Shelving	g	□Wrested vegetation	\boxtimes	Scouring	g ⊟Water staining
Height: 2.0 ft.	□Bent, r vegetatio	natted, or missing	g	ne □Litter ar debris	nd	□Abrupt plant community cha		□Soil cl	haracteristic change
N/A 🗆	-					,	0		
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - 1 of Slope:	foe of Slope	Width of Waterbe Water Edge:	ody - W		Depth Approx.)	of Water	
<u>13.0_</u> ft.	-	<u>7.5</u> ft.			<u>8.5_</u> ft.	1	N/A□	-	<u>1.25</u> ft.
Sinuosity:	Water	velocity:		Bank height		E	Bank s	lope	
(check one)	(Approx.)			Right:	c 0 4			Right	
		<u>_1.5_</u> fps		Left:	<u>6.0_</u> ft.			Left	<u>90</u> degrees
Meanderir	ng N/A 🗆				<u>4.0_</u> ft.				40_degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water ⊠0	Clear □Turb		leen ⊡Sui i surface scu		□Algal □ mats	Other	:	
	Bedrock 🗆 Bo	oulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	<u>10 </u> %	<u>% 45</u> %	<u>20</u> %	<u> 15 </u> %	<u>10_</u> %	%		_%	
Width of Riparian Zone									
<u>150 ft</u> ⊷ N/A⊠	(check all that Avg. DBH (approx.)	of Dominants:	⊠ Trees: _ <u>13.0_</u> ii		⊴ Saplır _ <u>1.0_</u> in	ngs/Shrubs:		Herbs	
Dominant Bank Vegeta	tion (list):								
Yellow poplar, syca Japanese honevsuo	<u>ckle. Virginia ci</u>	reeper, poisor	n ivv			U			-
Aquatic Habitats (ex: su Pools, riffles, overha	5 S		n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles,	deep pool	s):
Aquatic Organisms Ob	served (list):								
Fish, invertebrates									
T&E Species Observed	l <i>(list)</i> :								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	discharge pipe	es):					
None apparent									
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗆 Manipi	ulated				
Stream Quality ^a : (check one)	⊠ High	□ Mo	derate	□ Low					

snea050

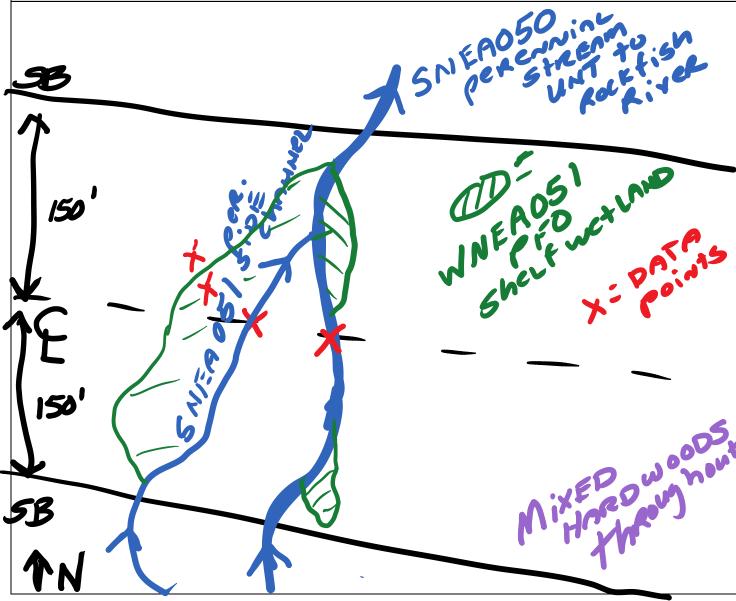
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Unnamed perennial stream, tributary to Rockfish River; continues out of corridor in both directions (downstream continues into no access tract 08-111-A002); snea051 is a side channel; associated with shelf PFO wetland wnea051.





Waterbody SNEA050 facing west-southwest upstream



Waterbody SNEA050 facing east-northeast downstream



Waterbody SNEA050 facing south-southeast across

Survey Description	n								
Project Name:		Waterbody Na			w	aterbody ID:		_	te:
Atlantic Coast Pipel	ine	UNT to Rock	fish River		sr	nea052		5/	6/2015
State:	County:		Company:		Crew N	Member Initials	: Pł	notos:	
Virginia	Nelson		NRG		GB, S	SA	3	photos	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID)(s):	
08-113			162.0			Small fringe	e shelf v	vetland	s within bankful
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□Access Road		□Other:			
Physical Attribute	s								
Stream Classification: (check one)	Ephemer	al 🛛 🗆 Inter	mittent	⊠Perennial					
Waterbody Type: (check one)]River ⊠ Sti	ream 🗆 Dito	ch 🗆 Ca	anal 🗆 Other:					
OHWM Width: <u>9.0</u> ft.	OHWM Indica (check all that appl		⊠ Clear lir on bank	ne Shelving	g	□Wrested vegetation	⊠S	couring	□Water staining
Height:	□Bent.	matted, or missin	iq ⊠Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t 🗆]Soil cha	acteristic change
<u>2.0</u> ft. N/A□	vegetatio	on		debris		community ch	ange		5
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - ' of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W	ater Edge to	Depth of (Approx.)	Water:	
16.0 ft.		55 (+			7.5_ ft.			1	.25_ ft.
<u></u> n.	-	<u>5.5</u> ft.		N/A□	<u>7.5_</u> 11.		N/A□		. <u></u>
Sinuosity: (check one)		velocity:		Bank height			Bank slo	pe	
	(Approx.,		-	Right:	4.0_ ft.			Right:	40 degrees
		<u>_1.75</u> fp	S	Left:				Left:	
Meanderin	ng N/A□				<u>5.0_</u> ft.			_	60 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	No water	Clear 🗆 Turb		leen ⊡Sui i surface scu		□Algal mats	□Other:		
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	Oth	ner:	
(check all that apply) % of Substrate:	_%	<u>% 45</u> %	<u> 20 </u> %	_25_%	<u>10_</u> %	%		%	
Width of Riparian Zone	: Vegetativ	e Layers:							
_125_ft	(check all tha	t apply) of Dominants:	⊠ Trees			ngs/Shrubs:		lerbs	
<u>125 n</u> . N/A⊠	(approx.)	of Dominants.	<u>_13.0_</u> i	n. <u>-</u>	<u>1.5</u> in	•			
Dominant Bank Vegeta	()								
Yellow poplar, syca fern. false nettle. wo Aquatic Habitats (ex: su	ood fern. Virair	nia creeper. Ja	apanese ho	pnevsuckle, wit	ch haz	zel			outtercup, chain
Pools, riffles, overh				banks/roots, real pac	ks, laige	Submerged wood	, mies, de	ep pools).	
Aquatic Organisms Ob	served (list):								
Minnows, crayfish,,	invertebrates								
T&E Species Observed	l (list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, waste	e discharge pipe	es):					
Logging road crossi	ing via culvert								
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manipi	ulated				
Stream Quality ^a : (check one)	🛛 High		oderate	□ Low					

snea052

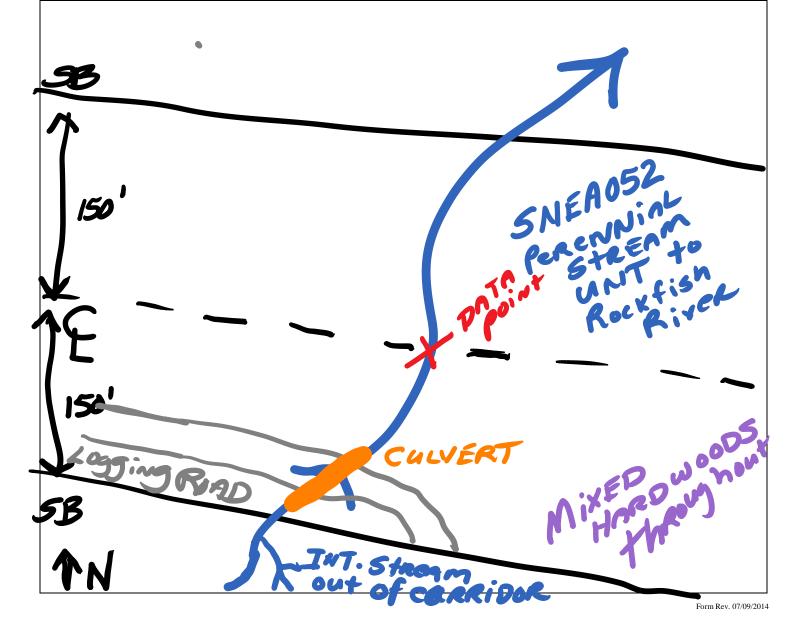
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Unnamed perennial stream, tributary to Rockfish River; continues out of corridor in both directions; culvert crossing for logging road in corridor; tributary confluence approximately 25 feet south of corridor edge.





Waterbody SNEA052 facing west-southwest upstream



Waterbody SNEA052 facing northeast downstream



Waterbody SNEA052 facing northwest across

Survey Description	on								
Project Name:		Waterbody N				Waterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Roo	kfish River		s	snez002		6	5/2/2016
State:	County:		Company:		Crew	Member Initials	:	Photos:	
Virginia	Nelson		ERM		SS			1-3	
Tract Number(s):	1		Nearest Mile	epost:		Associated W	etland	ID(s):	
08-121-A031			171			wnez004			
Survey Type: (check one)	⊠Centerli	ne 🗆 Re	-Route	□ Access Road		Other:			
Physical Attribute	es								
Stream Classification: (check one)	: □Epheme	eral 🛛 Inte	ermittent	Perennial					
Waterbody Type: (check one) [□River ⊠ S	Stream 🗆 Di	tch 🗆 C	anal 🗌 Other:	:				
OHWM Width: 4 ft.	OHWM Indic (check all that ap		⊠ Clear lir on bank	ne ⊠Shelvin	g	□Wrested vegetation		Scouring	□Water staining
Height:	□Bent, vegetat	, matted, or miss ion	ing □Wrack li	ne □Litter ar debris	nd	□Abrupt plan community ch		□Soil ch	aracteristic change
N/A□ Width of Waterbody -	Top of Width	of Waterbody	- Toe of Slope	Width of Waterb	odv - V	Nater Edge to	Depth	of Water:	
Bank to Top of Bank:		e of Slope:		Water Edge:	cuj i	Tutor Lugo to	(Approx.)		
<u>_5</u> ft.		_4_ft.		N/A□	_4_ft.		N/A□		<u>0.5</u> ft.
Sinuosity:		r velocity:		Bank height			Bank s	lope	
(check one)	(Appro.			Right:				Right:	
		_ <u>1_</u> fp:	S	Left:	<u>1_</u> ft.			Left:	<u>90</u> degrees
	ing N/A□]			<u>6</u> ft.				<u>85</u> degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	[□] No water	IClear □Tu		neen ⊡Sui n surface sci		□Algal [mats	□Other		
	Bedrock 🛛 E	Boulder 🛛 🖾 Cot	oble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 30</u> %	<u> </u>	<u>40</u> %		_%%		_%	
Width of Riparian Zon	e: Vegetati	ve Layers:							
<u>250 ft</u> .	(check all th Avg. DB (approx.)	^{aat apply)} H of Dominants	⊠ Trees : _ <u>8_</u> in.		⊠ Sapli _ <u>2_</u> in.	ings/Shrubs:	\boxtimes	Herbs	
N/A□ Dominant Bank Veget	,								
Liriodendron tulipif		um							
Aquatic Habitats (ex: s	submerged or emerg	jed aquatic vegetat	ion, overhanging	banks/roots, leaf pac	ks, larg	e submerged wood	, riffles, o	deep pools):
None									
Aquatic Organisms O	bserved (list):								
Bullfrog									
T&E Species Observe	d (list):								
None									
Disturbances (ex: lives	tock access, manure	e in waterbody, was	ste discharge pipe	es):					
None									
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	ade 🛛 🖾 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High		Noderate	⊠ Low					

y Corr.

: 0

snez002

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:

220

This is a perennial stream with some very small wetland fringe areas. This stream is also culverted at the roadway and within an open field area.



Waterbody snez002 facing west upstream



Waterbody snez002 facing east downstream



Waterbody snez002 facing south across

Survey Descript	ion										
Project Name:			ody Name					laterbody ID:			Date:
Atlantic Coast Pip	eline	UNT to	Rockfis	sh River			s	nez003			6/2/2016
State:	County:		Co	ompany:			Crew I	Member Initials	5:	Photos:	
Virginia	Nelson		E	RM			SS			1-3	
Tract Number(s):			Ne	earest Mile	epost:			Associated W	etland	I ID(s):	
08-121-A031			17	71				None			
Survey Type: (check one)	⊠C	enterline	□Re-Rou	ute		ess Road		□Other:			
Physical Attribut	tes										
Stream Classificatio	n:										
(check one)	□E	phemeral		ttent	⊠Pere	ennial					
Waterbody Type: (check one)	□River	⊠ Stream	Ditch		anal	Other:					
онwм		Indicator:									
Width: <u>3</u> ft.	(check a	ll that apply)		☑ Clear lir on bank	ne 🛛	Shelving	g	□Wrested vegetation		Scouring	g □Water staining
Height:		Bent, matted, o	r missing	□Wrack li		□Litter ar	nd	□Abrupt plan		□Soil cl	naracteristic change
<u>0.75</u> ft. N/A□	Ň	regetation			C	lebris		community ch	nange		
Width of Waterbody		Width of Water		e of Slope			ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank	:	to Toe of Slope	:		Water E	dge:			(Approx.)	
<u>_4_</u> ft.		<u>3</u> ft.				_	<u>3</u> ft.		N/A□	-	<u>0.5</u> ft.
Sinuosity:		Water velocity:			N/A⊡ Bank he	iaht			Bank	slone	
(check one)		(Approx.)				Right:			Dunit	Right	:
⊠Straigh	L	_	<u>1_</u> fps			Left:	<u>1_</u> ft.			Left	<u>85</u> degrees
□Meande	ering	N/A□				Leit.	<u>1_</u> ft.			Leit	<u>85</u> degrees
Qualitative Attrik	outes	1							1		
Water Appearance: (check one)	□No water		Turkid				fa.a.a				
		⊠Clear	□Turbid	□Sh on	surface	⊡Sur scu	ım	mats	□Othe	er:	
Substrate: (check all that apply)	□ Bedrock	□ Boulder [⊠ Cobble	⊠ Grav	el 🛛 S	and [□ Silt/ o	clay 🗆 Organic		Other:	
% of Substrate:	%	%	<u>30_</u> %	<u>30</u> %	40	_%		_%%		%	
Width of Riparian Zo	one: Ve	getative Layers:									
050.4		eck all that apply)		☑ Trees				ngs/Shrubs:	Σ	☑ Herbs	
_ <u>250 ft</u> ⊷ N/A□		vg. DBH of Domi	nants:	<u>8</u> in.		-	<u>2</u> in.				
Dominant Bank Vege	etation (list):										
Liriodendron tulipi	ifera, Acer	rubrum									
Aquatic Habitats (ex:	submerged o	r emerged aquatic v	regetation, c	overhanging	banks/root	s, leaf pacl	ks, large	submerged wood	l, riffles,	deep pool	s):
None											
Aquatic Organisms	Observed (li	st):									
None											
T&E Species Observ	ed (list):										
None											
Disturbances (ex: live	estock access,	manure in waterboo	dy, waste di	scharge pipe	es):						
None											
Tributary is: (check one)		latural	□ Artific	cial, man-m	ade	🗆 Manipu	ulated				
Stream Quality ^a : (check one)		ligh	□ Mode	erate	[⊠ Low					

y Corr.

20

D

snez003

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:

This is a smaller perennial stream.

220



Waterbody snez003 facing south upstream



Waterbody snez003 facing north downstream



Waterbody snez003 facing west across

Survey Description	on						<u> </u>				
Project Name:			ody Name					aterbody ID:			Date:
Atlantic Coast Pipe	eline	UNT to	Rockfis	sh Creek			SI	nez001		Ę	5/26/2016
State:	County:		C	ompany:			Crew I	Member Initials	:	Photos:	
Virginia	Nelson		E	RM			SS, A	S		1 - 3	
Tract Number(s):			N	earest Mile	epost:			Associated W	etland	ID(s):	
08-086-A036			1	71				None			
Survey Type: (check one)	⊠Cer	nterline	□Re-Ro	ute	□Ac	cess Road		Other:			
Physical Attribute											
Stream Classification (check one)	=	nemeral	□Intermi	ttent	⊠Pe	rennial					
Waterbody Type:	-F.										
	□River	⊠ Stream	□ Ditch	□ Ca	anal	Other:					
онwм		Indicator:									
Width: _ <u>4_f</u> t.	(check all t	nat apply)		Clear lir on bank	ne	Shelvin	g	□Wrested vegetation		Scouring	□Water staining
Height:		Bent, matted, or	missing	□Wrack li	ne	□Litter ar	nd	□Abrupt plan		□Soil ch	aracteristic change
ft. N/A□	ve	getation				debris		community ch	nange		
Width of Waterbody -		Vidth of Water		e of Slope			ody - W		Depth (Approx.	of Water	1
Bank to Top of Bank:	Ľ	o Toe of Slope			Water	Eage:			(Approx.		
<u> </u>		<u>4_</u> ft.			N/A□	-	<u>3_</u> ft.		N/A□	-	<u>_0.5_</u> ft.
Sinuosity:	v	Vater velocity:			Bank I	neight			Bank	slope	
(check one)		Approx.)				Right:				Right:	
Betraight			<u>1.5_</u> fps			Left:	<u>1_</u> ft.			Left:	45 degrees
	ring N	N/A□				2011	<u>4_</u> ft.			2011	90 degrees
Qualitative Attrib	utes										
Water Appearance: (check one)	\Box No water	⊠Clear	□Turbid	⊡Sh on	een surface	⊡Sui e scu		□Algal mats	□Othe	r:	
	Bedrock	□ Boulder 2	Cobble 🛛	⊠ Grave	el 🛛	Sand [□ Silt/ c	lay 🗆 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	%	%	<u>5_</u> %	<u>65</u> %	3	0_%		_%%	·	%	
Width of Riparian Zor		etative Layers:									
250 ft.		k all that apply) . DBH of Domi	nante:	⊠ Trees				ngs/Shrubs:	\triangleright	I Herbs	
N/A 🗆	(appro		iunto.	<u> 5 </u> in.		-	<u>2</u> in.				
Dominant Bank Vege											
Acer rubrum, Nyss	a sylvatica	l									
Aquatic Habitats (ex: s	submerged or e	emerged aquatic v	egetation, o	overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	:):
None											
Aquatic Organisms O	bserved (list):									
None											
T&E Species Observe	d (list):										
None											
Disturbances (ex: lives	tock access, m	anure in waterboo	dy, waste di	ischarge pipe	es):						
None											
Tributary is: (check one)	⊠ Na	tural	□ Artific	cial, man-m	ade	Manip	ulated				
Stream Quality ^a : (check one)	🗆 Hig	ŋh	□ Mode	erate		⊠ Low					

snez001

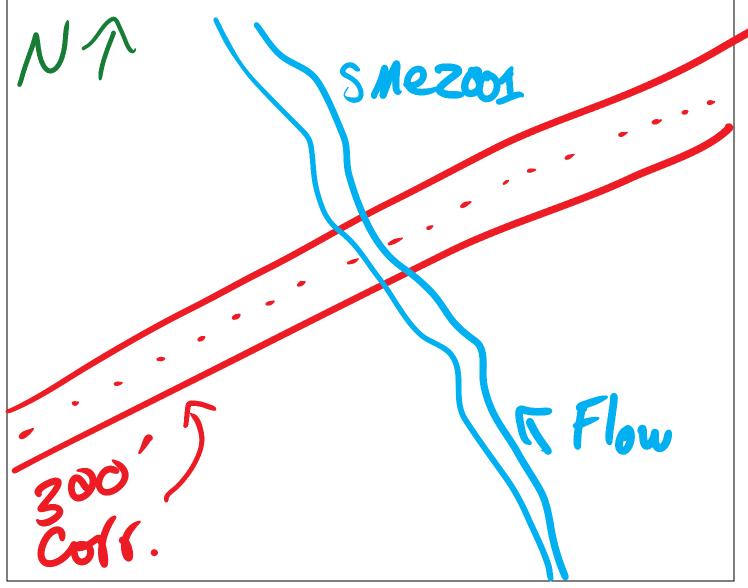
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

This is an incised perennial stream in an open woodland.





Waterbody snez001 facing southwest upstream



Waterbody snez001 facing northeast downstream



Waterbody snez001 facing northwest across

Survey Descriptio	n										
Project Name:			ody Nam					aterbody ID:			Date:
Atlantic Coast Pipe	-	UNT to		ish River				NEC054			12/15/2015
State:	County:		C	company:			Crew N	lember Initials	:	Photos:	
Virginia	Nelson		Ν	IRG			CR, S	SA		1-3	
Tract Number(s):			N	learest Mile	epost:		•	Associated W	etland	ID(s):	
08-086-A036			1	72				None			
Survey Type: (check one)	⊠Cente	erline	□Re-Ro	oute		cess Road		□Other:			
Physical Attribute	S										
Stream Classification: (check one)	□ Epher	meral	□ Interm	ittent	⊠Per	ennial					
Waterbody Type:											
(check one)	□River ⊠	Stream	□ Ditch	🗆 Ca	anal	□ Other:					
OHWM Width:	OHWM Ind (check all that			⊠ Clear lir on bank	ne	Shelvin	g	Wrested		Scourin	
<u>_20_</u> ft.				ULIDALIK				vegetation			staining
Height: ft. N/A□		ent, matted, or tation	[,] missing	⊡Wrack li		⊠Litter ar debris	nd	□Abrupt plan community ch		□Soil cl	naracteristic change
Width of Waterbody -				be of Slope			ody - W	ater Edge to		of Water	•
Bank to Top of Bank:	to	Toe of Slope	:		Water I	Edge:			(Approx.))	
<u>_35_</u> ft.		<u>8_</u> ft.					<u>15_</u> ft.				<u>_1_</u> ft.
Sinuosity:	10/0	ater velocity:			N/A□ Bank h	aight			N/A □ Bank s	lono	
(check one)		prox.)			рапк п	Right:			Danks	Right	
□Straight			<u>1_</u> fps			•	<u>4_</u> ft.			•	60 degrees
⊠Meanderi	ng N/A	A□				Left:	<u>4_</u> ft.			Left	: <u>80</u> degrees
Qualitative Attribu	ites										
Water Appearance: (check one)	[□] No water	⊠Clear	□Turbid	-		□Sur		0	□Othe	r:	
Substrate:	Bedrock D	Boulder	□ Cobble		surface			mats lay		Other:	
(check all that apply)									;(Julier.	
% of Substrate: _	<u>90 % </u>	5_%	_%	%	5	_%		_%%		%	
Width of Riparian Zone		ative Layers:		⊠ Trees			7 Saplir	ngs/Shrubs:		I Herbs	
<u>50 ft</u> ⊷ N/A□		OBH of Domin	nants:	<u>16_in.</u>	•		<u>2</u> in.	igs/Shiubs.			
Dominant Bank Vegeta	ation (list):										
Sweet-gum, sycam	ore, ironwo	od, Japane	se hon	eysuckle,	Christ	mas ferr	, virgi	nia pine			
Aquatic Habitats (ex: s	ubmerged or em	erged aquatic v	egetation,	overhanging	banks/roo	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):
Riffle, pools, leaf pa		anging ban	ks								
Aquatic Organisms Ob	oserved (list):										
Fish, water striders											
T&E Species Observed None	d (list):										
Disturbances (ex: livest	ock access mon	ure in waterbac	waste e	liechargo ping	<i>be)</i> .						
Upstream is a sma dirt road through a	ll two track			• • •	,	nstream	just o	utside the co	rridor	the str	eam flows under a
Tributary is: (check one)	Natu	ral	□ Artifi	cial, man-m	ade	🗆 Manipu	ulated				
Stream Quality ^a : (check one)	🗆 High		⊠ Mod	erate		□ Low					

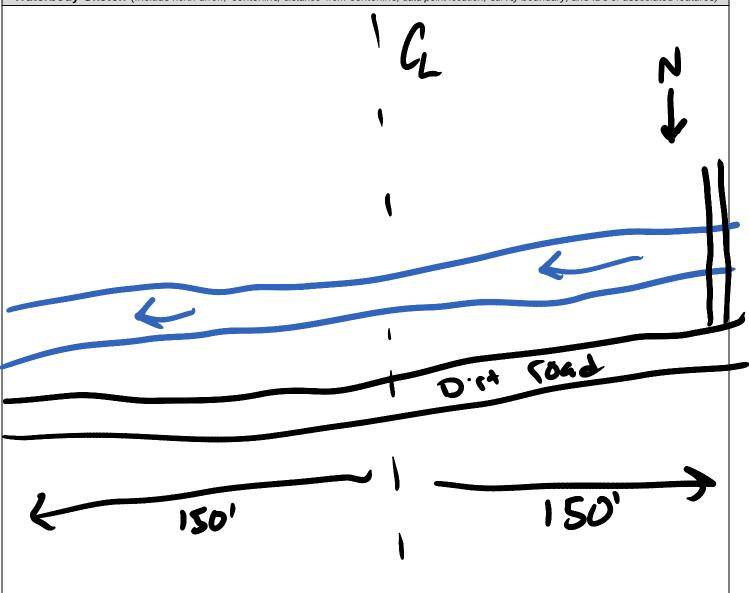
Snec054

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 SNEC054 facing west upstream



Waterbody SNEC054 facing east downstream



Waterbody SNEC054 facing north across

Survey Description	on	.									_
Project Name:		Waterbo	-					aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Rockfi	sh River			sr	nea400			2/19/2016
State:	County:		С	ompany:			Crew N	lember Initials	:	Photos:	
Virginia	Nelson		N	IRG			GB, S	SA		3 photo	DS
Tract Number(s):			N	earest Mile	post:			Associated W	etland	ID(s):	
08-086-A036			1	71.4				wnea400			
Survey Type: (check one)		rline	⊠Re-Ro	ute		Road		□Other:			
Physical Attribute	es										
Stream Classification: (check one)	: □Ephen	neral		ittent	⊠Perenn	ial					
Waterbody Type: (check one)	□River ⊠	Stream	Ditch	□ Ca	anal 🗆	Other:					
OHWM Width: _ <u>9.0_f</u> t.	OHWM Ind (check all that			⊠ Clear lin on bank	e ⊡S	helving		□Wrested vegetation	×	Scouring	□Water staining
Height: <u>1.0_</u> ft. N/A□	□Ber veget	nt, matted, or ation	missing	⊠Wrack lii	ne □L deb	tter and ris	b	□ Abrupt plar community ch		□Soil cł	naracteristic change
Width of Waterbody - Bank to Top of Bank:		th of Waterb oe of Slope:		e of Slope	Width of W Water Edg		dy - W	ater Edge to	Depth (Approx.)	of Water	:
<u>ft</u> .		<u>_7.0</u> ft.			N/A□		<u>9.0_</u> ft.		N/A□	-	<u>0.50</u> ft.
Sinuosity: (^{check one)} ⊠Straight □Meander	(Арр	1	<u>.5_</u> fps			ht: <u>t</u>	<u>5.0_</u> ft. 5.0_ ft.		Bank s	slope Right: Left	50 degrees
Qualitative Attribu							<u></u>				<u></u> dogrood
Water Appearance: (check one)	No water	⊠Clear	□Turbid	□Sh on	een surface	□Surf scur		□Algal mats	□Othe	r:	
Substrate: [(check all that apply) % of Substrate:	Bedrock		Cobble	⊠ Grave <u>35_</u> %	el ⊠ San <u>10_</u> %	b] Silt/ c	lay □ Organic _%%		Other: _%	
Width of Riparian Zon		tive Layers:									
<u>_75_ft</u> ₊ N/A□		I that apply) BH of Domin	ants:	⊠ Trees: _ <u>6.0_</u> in.			Saplir <u>1.0_</u> in.	ngs/Shrubs:	×	I Herbs	
Dominant Bank Veget Black cherry, yellov	w popular, al			e, blackbe	erry, Japa	nese	honey	ysuckle, fesc	cue, bi	ittercres	s, annual
bluegrass, wing ste Aquatic Habitats (ex: s Riffles, occasional	submerged or eme	erged aquatic ve	egetation,					submerged wood	, riffles,	deep pools	3):
Aquatic Organisms O	•			,		<u> </u>					
none											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, manu	ure in waterbod	y, waste d	ischarge pipe	es):						
Culvert crossing fo	r Starvale La	ne; historio	c livesto	ock acces	S						
Tributary is: (check one)	⊠ Natura	al	□ Artific	cial, man-m	ade 🗆	Manipu	lated				
Stream Quality ^a : (check one)	🗆 High		⊠ Mode	erate		.OW					

snea400

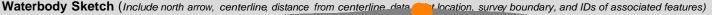
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 parallels rerouted centerline for considerable distance; culvert crossing at Starvale Lane; surrounding area is historic pasture with a thin buffer of dense shrubs with occasional tree. Connected to PEM wetland wnea400; snea401 and snea402 are tributaries.





Survey Descriptio	n	-							
Project Name:		Waterbody N				aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Ro	ckfish River		Sı	nea400		4	2/24/2016
State:	County:		Company:		Crew N	lember Initials	: P	hotos:	
Virginia	Nelson		NRG		CG, A	S	·	1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland I	D(s):	
08-086-A035			171.1						
Survey Type: (check one)		e ⊠Re	e-Route	□ Access Road		Other:			
Physical Attribute	S								
Stream Classification: (check one)	Epheme	ral 🗆 In	termittent	Perennial					
Waterbody Type: (check one)	River ⊠ St	iream 🗆 D	Ditch 🗆 Ca	anal 🗌 Other:	:				
OHWM Width: _ <u>13_</u> ft.	OHWM Indica (check all that app		□ Clear lir on bank	ne 🗆 Shelvin	g	⊠Wrested vegetation		Scouring	l □Water staining
Height: 	⊠Bent, vegetati	,	sing □Wrack li	ne □Litter ar debris	nd	□Abrupt plan community ch		⊡Soil cł	naracteristic change
Width of Waterbody - 1			- Toe of Slope	Width of Waterb	ody - W			of Water	:
Bank to Top of Bank:	to Toe	e of Slope: ft.		Water Edge:	<u>13_</u> ft.		(Approx.) N/A 🗆	-	<u>0.5</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank sl	оре	
(check one)	(Approx	.) fr	DS	Right: Left:	_4_ft.			Right:	35 degrees
⊠Meanderi	ng N/A□			Leit.	<u>6</u> ft.			Leit	<u>50</u> degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	[]] No water ⊠	Clear □Tu	urbid □Sh on	leen □Sul surface scu		□Algal [mats	□Other:		
Substrate:	Bedrock 🛛 B	oulder 🛛 Co	bble 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ 0	ther:	
(check all that apply) % of Substrate:	<u>% 5</u> %	% <u>50</u> %	<u> </u>	<u> 10 % </u>		<u>% %</u>		%	
Width of Riparian Zone		ve Layers:							
<u>ft</u> . N/A⊠	(check all the Avg. DBH (approx.)	at apply) I of Dominants	⊠ Trees s: _ <u>8_</u> in.		⊠ Saplin _ <u>1.5_</u> in.	igs/Shrubs:	\boxtimes	Herbs	
Dominant Bank Vegeta	ation (list):								
Alder, Virginia pine	, cedar, Japan	ese honeysi	uckle						
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegeta	tion, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, d	eep pools	\$):
Woody debris, riffle									
Aquatic Organisms Ob	oserved (list):								
none									
T&E Species Observed none	l (list):								
Disturbances (ex: livest	ock accoss monute	in waterbody wa	ete discharge pier	ac)•					
Two 36 inch culver		in waterbody, Wa	iste distriarge pipe	50) .					
Tributary is: (check one)	⊠ Natural		Artificial, man-m	ade 🗆 Manipi	ulated				
Stream Quality ^a : (check one)	□ High	\boxtimes	Moderate	□ Low					

Snea400

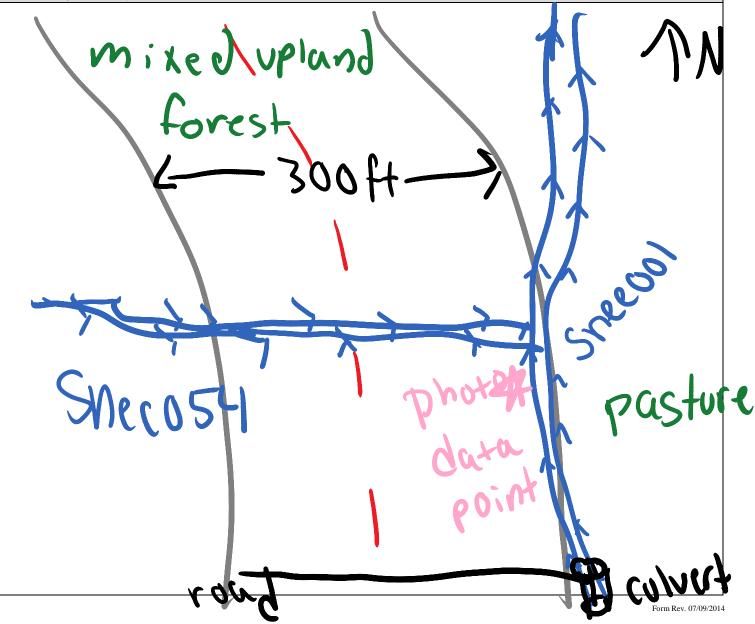
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 snec054 flows into snea400 (renamed snea400)





Waterbody SNEA400 facing south upstream



Waterbody SNEA400 facing north downstream



Waterbody SNEA400 facing east across



SNEA400 facing south upstream



SNEA400 facing north downstream



SNEA400 facing east across

Survey Description	n										
Project Name:			ody Nam					aterbody ID:		Dat	
Atlantic Coast Pipe	line	UNT to	o Rockfi	sh River			S	nea402		2/1	9/2016
State:	County:	·	C	company:			Crew I	Member Initials	:	Photos:	
Virginia	Nelson		Ν	IRG			GB, S	SA		3 photos	
Tract Number(s):	1		N	learest Mile	epost:			Associated W	etland	ID(s):	
08-086-A038			1	71.6				wnea401 a	nd wn	nea402	
Survey Type: (check one)	□Cer	nterline	⊠Re-Ro	oute	□Ac	cess Road		□Other:			
Physical Attribute	s										
Stream Classification: (check one)	_	nemeral	⊠Interm	ittent	□Pe	erennial					
Waterbody Type: (check one)	River	Stream	Ditch	□ Ca	anal	□ Other:					
OHWM Width: _ <u>4.0_f</u> t.	OHWM I (check all ti	hat apply)		☑ Clear lir on bank	ne	Shelvin	g	□Wrested vegetation	×	Scouring	□Water staining
Height: ft. N/A□		Bent, matted, or getation	r missing	□Wrack li	ne	⊠Litter ar debris	nd	□ Abrupt plan community ch		□Soil char	acteristic change
Width of Waterbody - ` Bank to Top of Bank:		Vidth of Water o Toe of Slope		e of Slope	Width Water		ody - W		Depth (Approx.)	of Water:	
<u> 10.0 f</u> t.		<u>3.0</u> ft.			N/A□		<u>4.0_</u> ft.		N/A□	0.1	<u>33_</u> ft.
Sinuosity: (check one) ⊠Straight □Meander		Vater velocity: Approx.) I/A 🗆	<u>1.0_</u> fps		Bank I	Right:	<u>8.0</u> ft. 7.0_ft.		Bank s	Right: _{	30_ degrees 55_ degrees
Qualitative Attribu						-	<u></u>				<u></u> dogrooo
Water Appearance: (check one)	□No water	⊠Clear	□Turbid	-	ieen i surface	⊡Sui e scu		□Algal mats	□Othe	r:	
Substrate: [(check all that apply) % of Substrate:	Bedrock		⊠ Cobble <u>35_</u> %	e ⊠ Grave _ <u>30_</u> %			⊠ Silt/ o <u>5_</u> %	clay ⊠ Organic _ <u>5_</u> %	: □(Other: %	
Width of Riparian Zon _ <u>50</u> ft⊦ N/A⊡	(check Avg. (appro	etative Layers: k all that apply) . DBH of Domi px.)		⊠ Trees: _ <u>6.0_</u> in.			⊠ Sapliı _ <u>1.0_</u> in	ngs/Shrubs:	×	I Herbs	
Dominant Bank Veget yellow poplar, syca fescue. Japanese h	more, eas	tern red ced le	ar, alde	r, black w	/alnut,	multiflor	a rose	, tree of heav	ven, b	lackberry	, panic grass,
Aquatic Habitats (ex: s leaf packs, riffle, so	ubmerged or e	merged aquatic v		overhanging	banks/rc	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools):	
Aquatic Organisms Ol	bserved (list)):									
none											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, m	anure in waterbo	dy, waste o	lischarge pipe	es):						
Culvert crossing fo	r access ro	oad; historic	livestoc	k access							
Tributary is: (check one)	⊠ Na	tural	□ Artifi	cial, man-m	ade	🗆 Manipu	ulated				
Stream Quality ^a : (check one)	🗆 Hig	Jh	⊠ Mod	erate		□ Low					

snea402

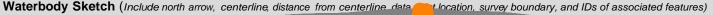
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Upstream continues out of corridor; culvert crossing for access road; downstream flows into snea400 within the corridor; streams snea403, 404, 405, and 406 are tributaries with confluences within the corridor; direct hydrologic connection to PFO wetland wnea401; indirectly (subterranean) hydrologic connection to PEM wetland wnea402.







Waterbody SNEA402 facing south upstream



Waterbody SNEA402 facing north downstream



Waterbody SNEA402 facing east across

Survey Description	on										
Project Name:			ody Nam					aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Rockfi	sh River			sr	nea404		2	2/19/2016
State:	County:		C	company:			Crew N	lember Initials	:	Photos:	
Virginia	Nelson		Ν	IRG			GB, S	SA		3 photo	OS
Tract Number(s):			N	learest Mile	epost:		L	Associated W	etland	ID(s):	
08-086-A038			1	71.9				none			
Survey Type: (check one)	□Cente	rline	⊠Re-Ro	oute		cess Road		□Other:			
Physical Attribute	es										
Stream Classification: (check one)		neral	⊠Interm	ittent	□Pei	rennial					
Waterbody Type:											
	□River ⊠	Stream	□ Ditch	□ Ca	anal	□ Other	:				
OHWM Width: _ <u>4.0</u> ft.	OHWM Inc (check all that			☑ Clear lin on bank	ie	□Shelvin	g	□Wrested vegetation	×	Scouring	□Water staining
Height:		nt, matted, or tation	missing	⊠Wrack li	ne	□Litter ar debris	nd	□Abrupt plan community ch		□Soil ch	aracteristic change
N/A□ Width of Waterbody -	Top of Mir	th of Watar	ody T	o of Slong	Width	of Watorb	odv - W	ater Edge to	Donth	of Water:	
Bank to Top of Bank:		Toe of Slope		be of Stope	Water I		ouy - w		(Approx.)		
<u> 10.0 f</u> t.		<u>3.0</u> ft.			N/A□	-	<u>3.0_</u> ft.		N/A□	_	<u>0.25_</u> ft.
Sinuosity:		ter velocity:			Bank h	eight			Bank s	slope	
(check one)	(App	prox.)				Right:				Right:	
, , , , , , , , , , , , , , , , , , ,		_0	<u>.75_</u> fps			Left:	<u>6.0_</u> ft.			Left:	60 degrees
	ing N/A						<u>8.0_</u> ft.				<u>65</u> degrees
Qualitative Attrib	utes										
Water Appearance: (check one)	No water	⊠Clear	□Turbic		een surface	⊡Su sci		□Algal mats	□Othe	r:	
	Bedrock	Boulder	Cobble	e 🛛 Grave	el 🖂	Sand [⊠ Silt/ c	lay 🛛 Organic	; 🗆 (Other:	
(check all that apply) % of Substrate:	_%	%	<u>35_</u> %	<u>25</u> %	_25	5_%	<u>10_</u> %	<u> 5 %</u>		_%	
Width of Riparian Zon	e: Vegeta	ative Layers:									
	(check al	ll that apply)		⊠ Trees	:		🛛 Saplir	ngs/Shrubs:	\ge	Herbs	
<u>30 ft</u> · N/A□	Avg. D (approx.)	BH of Domi	nants:		in.	-	_ <u>0.75_</u> i	n.			
Dominant Bank Veget	ation (list):										
yellow poplar, white fescue, sensitive fe	ern. deer-ton	aue arass.	bitterc	ress. anni	ual blu	earass.	chickw	veed			
Aquatic Habitats (ex: s leaf packs, woody		erged aquatic v	egetation,	overhanging	banks/roo	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools):
Aquatic Organisms O	bserved (list):										
none											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, man	ure in waterboo	dy, waste o	lischarge pipe	es):						
refuse in channel,	historic lives	tock acces	s, culve	ert crossir	ng for S	Starvale	Lane				
Tributary is: (check one)	⊠ Natur	al	□ Artif	cial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High		⊠ Mod	erate		□ Low					

snea404

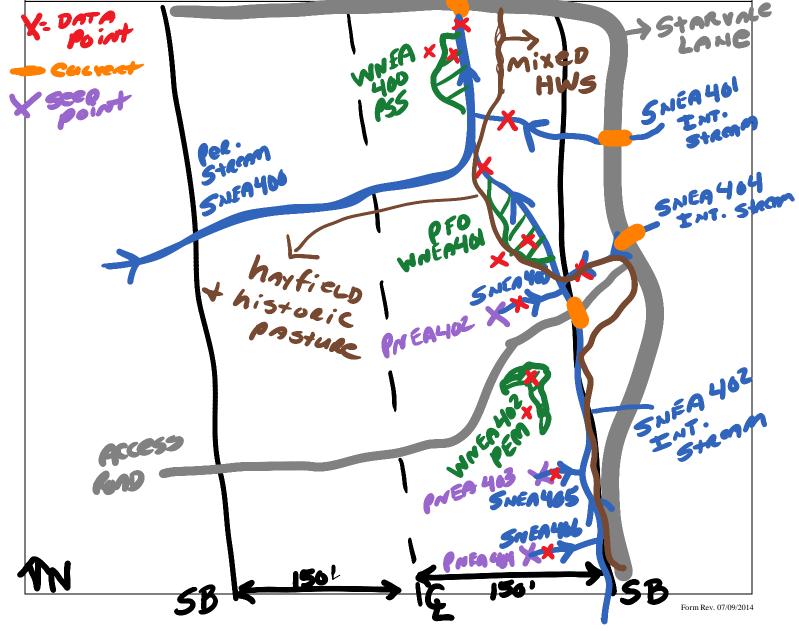
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance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

Upstream continues out of corridor where there is a culvert crossing for Starvale Lane; downstream flows into snea402 within the corridor.





Waterbody SNEA404 facing east upstream



Waterbody SNEA404 facing west downstream



Waterbody SNEA404 facing north across

Survey Description	n							
Project Name:		Waterbody Nam				/aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Rockf	ish River		SI	nea403		2/19/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:
Virginia	Nelson	1	NRG		GB, S	SA		3 photos
Tract Number(s):		1	Nearest Mile	epost:		Associated W	etland	ID(s):
08-086-A038			171.9			none		
Survey Type: (check one)		e ⊠Re-Ro	oute	□Access Road		□Other:		
Physical Attribute	es							
Stream Classification: (check one)		al ⊠Intern	nittent	Perennial				
Waterbody Type: (check one)	□River ⊠ St	ream 🗌 Ditch	n 🗆 Ca	anal 🗌 Other	:			
OHWM Width: _ <u>2.0_f</u> t.	OHWM Indica (check all that app		⊠ Clear lin on bank	ne ⊡Shelvin	g	□Wrested vegetation		Scouring ⊟Water staining
Height: ft. N/A□	□Bent, vegetatio	matted, or missing on	□Wrack lin	ne □Litter ar debris	nd	□ Abrupt plan community ch		□Soil characteristic change
Width of Waterbody - Bank to Top of Bank:		of Waterbody - Te of Slope:	oe of Slope	Width of Waterb Water Edge:	ody - W		Depth (Approx.)	of Water:
<u>3.0</u> ft.	-	<u>2.0</u> ft.		N/A□ –	<u>1.0_</u> ft.		N/A□	<u>0.15</u> ft.
Sinuosity: (^{check one)} ⊠Straight □Meander	(Approx.	velocity: / 		Left:	<u>3.0_</u> ft. 3.0_ ft.		Bank s	slope Right: <u>80</u> degrees Left: <u>90</u> degrees
Qualitative Attribu					<u> </u>			uog.coo
Water Appearance:								
(check one)	□No water ⊠	Clear		een 🗆 Sui surface scu		□Algal [mats	☐Other	r:
Substrate: [(check all that apply) % of Substrate:	□ Bedrock □ B	oulder ⊠ Cobble % <u>10_</u> %	e ⊠ Grave _ <u>15_</u> %		⊠ Silt/ c _ <u>25_</u> %	blay ⊠ Organic <u>5_</u> %		Dther:%
Width of Riparian Zon	e Vegetativ	e Layers:						
M/A⊠	(check all that		□ Trees: in.		⊠ Saplir _ <u>0.50</u> _i	ngs/Shrubs: n.] Herbs
Dominant Bank Veget								
sumac, alder, blacł	kberry, fescue,	goldenrod, win	igstem, Ja	panese honey	suckle	e, broom sed	ge	
Aquatic Habitats (ex: s none	ubmerged or emerge	ed aquatic vegetation	, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles,	deep pools):
Aquatic Organisms Ol	bserved (list):							
none								
T&E Species Observe	d (list):							
none								
Disturbances (ex: lives		in waterbody, waste	discharge pipe	es):				
historic livestock ad	ccess							
Tributary is: (check one)	⊠ Natural	□ Artif	icial, man-m	ade 🗆 Manip	ulated			
Stream Quality ^a : (check one)	🗆 High	⊠ Moo	lerate	□ Low				

snea403

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:

Begins at seep pnea402 and flows into intermittent stream snea402 – all within the corridor; within hayfield/historic pasture; seep origin is at toe of slope/floodplain interface.

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





Waterbody SNEA403 facing west-southwest upstream



Waterbody SNEA403 facing east-northeast downstream



Waterbody SNEA403 facing south-southeast across

Survey Description	n							
Project Name:		Waterbody Nam				laterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Rockf	fish River		S	nea405		2/19/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:
Virginia	Nelson	1	NRG		GB, S	SA		3 photos
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):
08-086-A038			172.0			none		
Survey Type: (check one)		e ⊠Re-R	oute	□Access Road		□Other:		
Physical Attribute	S							
Stream Classification: (check one)		al ⊠Intern	nittent	□Perennial				
Waterbody Type: (check one)	□River ⊠ St	ream 🛛 Ditch	n 🗆 Ca	anal 🗌 Other	:			
OHWM Width: _ <u>2.0_f</u> t.	OHWM Indica (check all that app		⊠ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation]Scouring ⊟Water staining
Height: ft. N/A□	□Bent, vegetatio	matted, or missing on	g	ne □Litter ar debris	nd	□ Abrupt plan community ch		□Soil characteristic change
Width of Waterbody - Bank to Top of Bank:		of Waterbody - T of Slope:	oe of Slope	Width of Waterb Water Edge:	ody - W		Depth (Approx.)	of Water:
<u>3.0</u> ft.	-	<u>2.0</u> ft.			<u>1.0_</u> ft.		N/A□	<u>0.15</u> ft.
Sinuosity: (^{check one)} ⊠Straight □Meanderi	(Approx.	velocity:) 		Left:	<u>3.0_</u> ft. 3.0_ ft.		Bank ទ	slope Right: <u>85</u> degrees Left: <u>85</u> degrees
Qualitative Attribu				-	<u> </u>			<u></u> asg.coo
Water Appearance:	_							
(check one)	□No water ⊠	Clear DTurbi		leen ⊡Sul surface scu		□Algal [mats	□Othe	r:
Substrate: [(check all that apply) % of Substrate:	□ Bedrock □ Be	oulder ⊠ Cobbl % <u>_10_</u> %	e ⊠ Grave _ <u>15_</u> %		⊠ Silt/ o _ <u>25_</u> %	clay ⊠ Organic <u>5_</u> %	: □ (Dther: %
Width of Riparian Zon	e: Vegetativ	e Layers:						
	(check all tha		□ Trees: in.		⊠ Sapliı _ <u>0.50_</u> i	ngs/Shrubs: in.	\boxtimes	I Herbs
Dominant Bank Veget								
sumac, alder, black	kberry, fescue,	goldenrod, wir	ngstem, Ja	panese honey	suckle	e, broom sed	ge	
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegetation	, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools):
Aquatic Organisms Ol	served (list)							
none								
T&E Species Observe	d <i>(list)</i> :							
none								
Disturbances (ex: livest	ock access, manure	in waterbody, waste	discharge pipe	es):				
historic livestock ad	ccess							
Tributary is: (check one)	⊠ Natural	□ Arti	ficial, man-m	ade 🗆 Manip	ulated			
Stream Quality ^a : (check one)	🗆 High	⊠ Moo	derate	□ Low				

snea405

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.

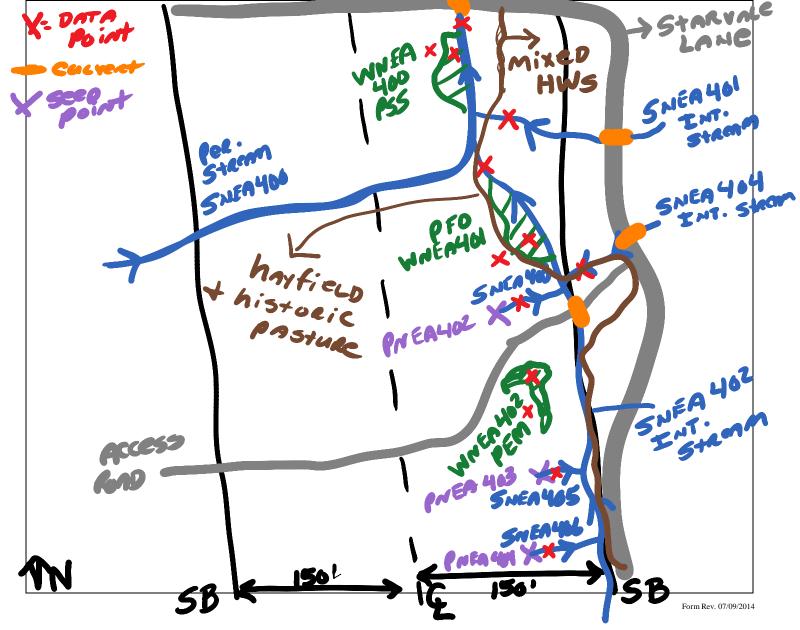
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Begins at seep pnea403 and flows into intermittent stream snea402 – all within the corridor; within hayfield/historic pasture; seep origin is at toe of slope/floodplain interface.

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





Waterbody SNEA405 facing west upstream



Waterbody SNEA405 facing east downstream



Waterbody SNEA405 facing south across

Survey Description	n							
Project Name:		Waterbody Nam				laterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Rockf	ish River		SI	nea406		2/19/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:
Virginia	Nelson	1	NRG		GB, S	SA		3 photos
Tract Number(s):		1	Nearest Mile	epost:		Associated W	etland	ID(s):
08-086-A038			172.05			none		
Survey Type: (check one)		e ⊠Re-Ro	oute	□Access Road		□Other:		
Physical Attribute	S							
Stream Classification: (check one)		al ⊠Interm	nittent	Perennial				
Waterbody Type: (check one)	□River ⊠ St	ream 🗌 Ditch	n 🗆 Ca	anal 🗌 Other:	:			
OHWM Width: _ <u>2.0_f</u> t.	OHWM Indica (check all that app		⊠ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation]Scouring ⊟Water staining
Height: ft. N/A□	□Bent, i vegetatio	matted, or missing	□Wrack li	ne □Litter ar debris	nd	□ Abrupt plan community ch		□Soil characteristic change
Width of Waterbody - Bank to Top of Bank:		of Waterbody - To of Slope:	oe of Slope	Width of Waterbo Water Edge:	ody - W		Depth (Approx.)	of Water:
<u>3.0</u> ft.	-	<u>2.0</u> ft.			<u>1.25_</u> ft		N/A□	<u>0.15</u> ft.
Sinuosity: (^{check one)} ⊠Straight □Meanderi	(Approx.,	velocity: fps		Left:	<u>3.0_</u> ft. 3.0_ ft.		Bank s	slope Right: <u>80</u> degrees Left: <u>80</u> degrees
Qualitative Attribu				-	<u> </u>	·		<u></u> dog.000
Water Appearance:	_							
(check one)	□No water ⊠	Clear DTurbio		een ⊡Sui surface scu		□Algal [mats	□Othe	r:
Substrate: [(check all that apply) % of Substrate:	□ Bedrock □ Bo	oulder ⊠ Cobble % <u>10</u> %	e ⊠ Grave _ <u>10_</u> %		⊠ Silt/ c _ <u>25_</u> %	clay ⊠ Organic <u>5_</u> %		Dther:%
Width of Riparian Zon 	(check all tha		□ Trees: in.		⊠ Saplir _ <u>0.50_</u> i	ngs/Shrubs: in.		l Herbs
Dominant Bank Vegeta sumac, alder, black		aoldenrod. win	lastem. Ja	panese honev	suckle	e. broom sede	ae	
Aquatic Habitats (ex: s	•	•	.				-	deep pools):
none								
Aquatic Organisms Ol	oserved (list):							
none								
T&E Species Observe	d (list):							
none								
Disturbances (ex: livest	ock access, manure	in waterbody, waste	discharge pipe	es):				
historic livestock ad	ccess							
Tributary is: (check one)	⊠ Natural	□ Artif	icial, man-m	ade 🗆 Manipi	ulated			
Stream Quality ^a : (check one)	🗆 High	⊠ Moc	lerate	□ Low				

snea406

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.

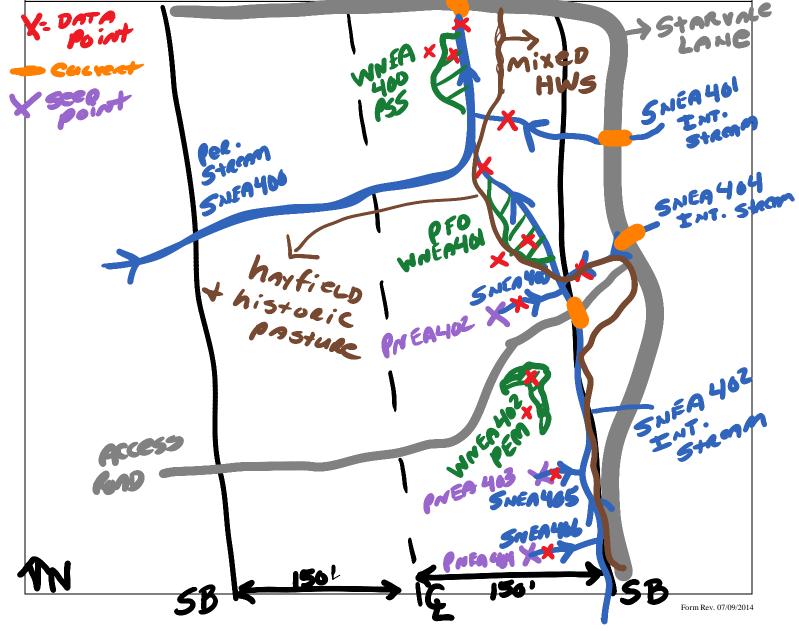
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Begins at seep pnea404 and flows into intermittent stream snea402 – all within the corridor; within hayfield/historic pasture; seep origin is at toe of slope/floodplain interface.

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





Waterbody SNEA406 facing west upstream



Waterbody SNEA406 facing east downstream



Waterbody SNEA406 facing south across

Survey Descriptio	n							
Project Name:		Waterbody N	ame:		v	aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Dut	tch Creek		S	ney001		8/26/2016
State:	County:		Company:		Crew I	Member Initials:	Photos	5:
Virginia	Nelson		Dominion		KO, 8	SA	1-3	
Tract Number(s):	•		Nearest Mil	epost:		Associated We		
08-086-A045			173			none		
Survey Type: (check one)	⊠Centerlin	e ⊡Re	e-Route	⊠Access Road		□Other:		
Physical Attribute	S							
Stream Classification: (check one)	Ephemer	al ⊡Int	ermittent	⊠Perennial				
Waterbody Type:								
(check one)	□River ⊠ St	ream 🗆 D	itch 🗆 C	anal 🛛 🗆 Other	:			
онwм								
Width: <u>4_ft.</u>	(check all that app	<i>y)</i>	Clear li on bank	ne 🗆 Shelvin	g	⊠Wrested vegetation	Scour	ing ⊠Water staining
Height:	⊠Bent,	matted, or miss	ing □Wrack I	ine ⊠Litter a	nd	□Abrupt plant	⊠Soil	characteristic change
_ <u>.3_</u> ft. N/A□	vegetatio		0	debris		community cha		C C
Width of Waterbody - ⁻ Bank to Top of Bank:			- Toe of Slope	e Width of Waterb Water Edge:	ody - W		epth of Wat	ter:
Ballk to Top of Ballk.	to Toe	of Slope:		water Euge:		(*	ηρριολ.)	
<u>_9</u> ft.	-	<u>5 ft.</u>		N/A□	<u>5</u> ft.	N	I/A□	<u>2_</u> ft.
Sinuosity:	Water	velocity:		Bank height			ank slope	
(check one)	(Approx.			Right:			Rig	ht:
		<u>75_</u> f	ps	Left:	<u>3_</u> ft.		14	65_degrees
⊠Meanderi	ng N/A□			Lon.	<u>4_</u> ft.			<u>65</u> degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	[□] No water ⊠	Clear □Tu		heen □Su n surface sci	rface um	□Algal □ mats	Other:	
Substrate:	Bedrock B	oulder 🛛 Col	bble 🛛 Grav	vel ⊠ Sand I	⊠ Silt/ o	clay 🗆 Organic	Other:	
(check all that apply) % of Substrate:	%	<u>% 5%</u>	45 %	25 %	25 %	%	%	
			<u>43</u> /0	/0	20_70	70	70	
Width of Riparian Zone	e: Vegetativ (check all that		⊠ Trees	s: D	⊠ Sapliı	ngs/Shrubs:	⊠ Herbs	6
_ <u>40_ft</u> - N/A□	Avg. DBH (approx.)	I of Dominants			_ <u>1_</u> in.	.g.,		
Dominant Bank Vegeta								
Mountain Laurel, Smilax peanut vine			•					
Aquatic Habitats (ex: s			tion, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep po	pols):
Overhanging roots,		ools						
Aquatic Organisms Ob			<i></i>					
Dragonfly, Stonefly	, minnows, mo	squito larvae	e, crawfish					
T&E Species Observed	d (list):							
none								
Disturbances (ex: livest	ock access, manure	in waterbody, wa	ste discharge pip	es):				
none								
Tributary is: (check one)	⊠ Natural		Artificial, man-m	nade 🛛 🗆 Manip	ulated			
Stream Quality ^a : (check one)	□ High		Moderate	□ Low	_			

Sney001

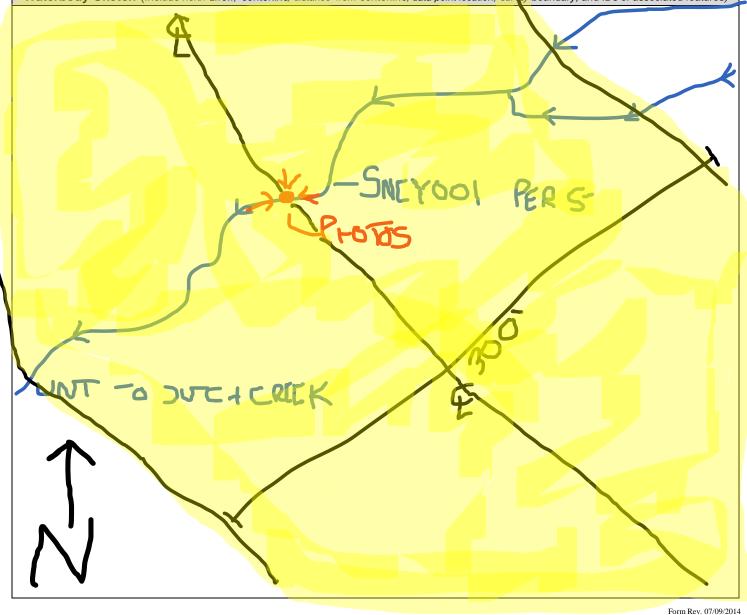
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SNEY001 facing east upstream



Waterbody SNEY001 facing west downstream



Waterbody SNEY001 facing south across

Survey Description	on										
Project Name:		Waterbody Na			w	aterbody ID:		Date:			
Atlantic Coast Pipe	eline	UNT to Dute	ch Creek		S	ney002		8/26/2016			
State:	County:		Company:		Crew I	Member Initials:	: Phot	tos:			
Virginia	Nelson		Dominion		KO, S	SA	1-3	i			
Tract Number(s):			Nearest Mile	Nearest Milepost:			Associated Wetland ID(s):				
08-086-A045			173			none					
Survey Type: (check one)	⊠Centerline	e □Re-l	Route	□ Access Road		□Other:					
Physical Attribute	es										
Stream Classification (check one)	Ephemera	al 🛛 Inter	rmittent	Perennial							
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Dite	ch □ Ca	anal 🛛 Other							
OHWM Width: <u>4</u> ft.	OHWM Indica (check all that appl		□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	⊠Sco	uring ⊠Water staining			
Height:	⊠Bent, r	natted, or missir	ng ⊡Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t ⊠S	oil characteristic change			
<u>1_</u> ft. N/A□	vegetatio			debris		community ch	ange				
Width of Waterbody - Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of W (Approx.)	/ater:			
<u>8</u> ft.		<u>5 ft.</u>			3 ft.			<u>1_</u> ft.			
				N/A 🗆			N/A□				
Sinuosity: (check one)	(Approx.)	velocity:		Bank height			Bank slope				
□Straight		5_ fps		Right:	<u>3_</u> ft.		ĸ	ight: <u>65</u> degrees			
⊠Meande	ring N/A	<u></u> ,		Left:	<u>3_</u> ft.			Left: 65_ degrees			
Qualitative Attrib	·										
Water Appearance:											
(check one)	□No water ⊠0	Clear □Turk		leen ⊡Su i surface sci		□Algal [mats	□Other:				
Substrate: (check all that apply)	Bedrock Bedro	oulder 🗆 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	Other	r:			
% of Substrate:	%	%%	<u> 5 </u> %	_25_%	<u>70_</u> %	%		<u>_</u> %			
Width of Riparian Zor											
_40_ft	(check all that Avg. DBH	of Dominants:	⊠ Trees: _ <u>10_</u> in.		⊠ Saplir _ <u>1_</u> in.	ngs/Shrubs:	⊠ He	rbs			
N/A 🗆	(approx.)		<u>_10</u>	-	<u> </u>						
Dominant Bank Vege Mountain Laurel, Smila		ed Maple, Tulip I	Poplar, Clubm	loss, Wood Aster,	Green A	Ash, Hickory, Ye	llow Birch,	low bush blueberry, hog			
peanut vine Aquatic Habitats (ex:	submerged or emerge	d aquatic vegetatio	n. overhanging	banks/roots. leaf pac	ks. large	submerged wood.	riffles. deep	pools):			
none			,		-, - 3-	,	,				
Aquatic Organisms C Stonefly, mosquito											
T&E Species Observe	ed (list):										
none											
Disturbances (ex: lives	stock 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		oderate	Low							

Sney002

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) TNTST SNEV002 705

Form Rev. 07/09/2014



Waterbody SNEY002 facing east upstream



Waterbody SNEY002 facing west downstream



Waterbody SNEY002 facing north across

Survey Descriptio	n										
Project Name:			ody Nam					aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT	to Dutcl	h Creek			SI	NEC057			12/16/2015
State:	County:			Company:			Crew N	lember Initials	:	Photos:	
Virginia	Nelson		1	NRG			CR, S	SA		1-3	
Tract Number(s):			I	Nearest Mile	epost:			Associated W	etland	ID(s):	
08-086-A036				172				None			
Survey Type: (check one)	⊠Center	line	□Re-R	oute	□Acc	ess Road		Other:			
Physical Attribute											
Stream Classification: (check one)	□Ephem	eral	□Intern	nittent	⊠Per	ennial					
Waterbody Type:											
(check one)	□River ⊠	Stream	□ Ditch	n 🗆 Ca	anal	□ Other	:				
OHWM Width:	OHWM Indi (check all that a			⊠ Clear lir	ne	Shelvin	g	□Wrested		Scouring	
<u>25</u> ft.				on bank				vegetation			staining
Height: ft. N/A□	⊠Ben vegeta		r missing	j ⊡Wrack li		⊠Litter ar debris	nd	□ Abrupt plan community ch		□Soil c	haracteristic change
Width of Waterbody -	Top of Widt	h of Water	body - T	oe of Slope	Width o	f Waterb	ody - W	ater Edge to	Depth	of Water	r:
Bank to Top of Bank:		be of Slope			Water E			U	(Approx.,)	
<u>_35</u> ft.		<u>_10_</u> ft.				_	<u>22_</u> ft.				<u>1.5</u> ft.
Sinuccitur	Wot				N/A 🗆	ight			N/A 🗆	long	
Sinuosity: (check one)	(Appr	er velocity: ox.)	i		Bank he	Right:			Bank s	Right	
□Straight			<u>1.5_</u> fps			•	<u>6_</u> ft.			•	70 degrees
⊠Meanderi	ng N/A					Left:	<u>4_</u> ft.			Left	:: <u>50</u> degrees
Qualitative Attribu	ites										
Water Appearance:	No water	⊠Clear	□Turbi	d ⊡Sh	neen	□Su	rface	□Algal	□Othe	r.	
(surface	SCI		mats		1.	
Substrate:	Bedrock	Boulder	Cobbl	e 🛛 Grav	el 🛛 S	Sand [□ Silt/ c	lay 🗆 Organic	; 🗆 (Other:	
	<u>10 % 20</u>	<u>)</u> %	<u>15_</u> %	<u> 50 </u> %	_5	% _		<u>%</u> _%		%	
Width of Riparian Zon		ive Layers	:								
50 ft.	•	that apply) 3H of Dom i	inants [.]	⊠ Trees				igs/Shrubs:	\geq	Herbs	
N/A 🗆	(approx.)		inants.	<u>_12_</u> in.		-	<u>2</u> in.				
Dominant Bank Vegeta											
Sweet-gum, sycam	ore, red ceda	ar, mount	ain laur	el, Japane	ese hor	eysuck	le, Chr	ristmas fern,	lycop	odium	
Aquatic Habitats (ex: s	ubmerged or eme	ged aquatic	vegetation	, overhanging	banks/roo	ts, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):
Riffle, pools, leaf pa	acks, overha	nging bar	nks								
Aquatic Organisms Of	oserved (list):										
Fish, water striders											
T&E Species Observed	d (list):										
None											
Disturbances (ex: livest	ock access, manu	re in waterbo	dy, waste	discharge pipe	es):						
None											
Tributary is: (check one)	⊠ Natura	l	□ Arti	ficial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	□ High		⊠ Moo	derate		□ Low					

Snec057

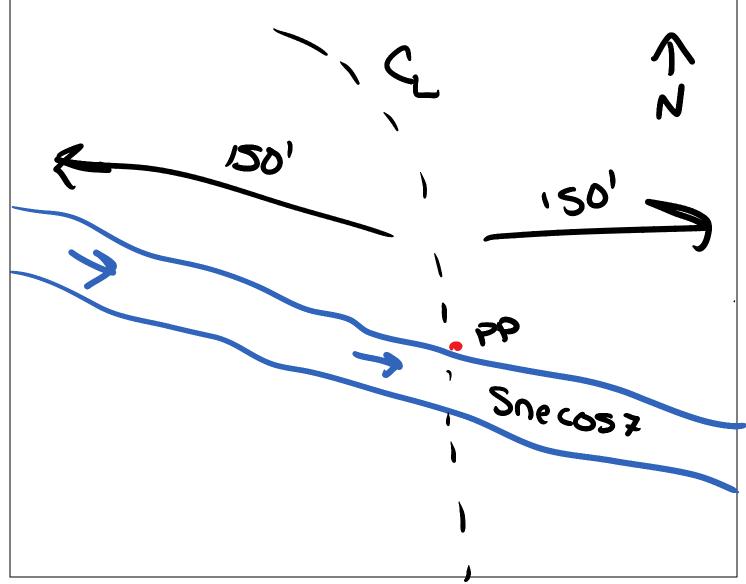
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SNEC057 facing northwest upstream



Waterbody SNEC057 facing southeast downstream



Waterbody SNEC057 facing southwest across

Survey Description	on										
Project Name:			body Nan					aterbody ID:			Date:
Atlantic Coast Pipe	-	Dutc	h Creek					NEC056			12/16/2015
State:	County:			Company:			Crew I	Member Initials	5:	Photos:	
Virginia	Nelson			NRG			CR, S	SA		1-3	
Tract Number(s):				Nearest Mile	epost:			Associated W	etland	ID(s):	
08-086-A036				172				None			
Survey Type: (check one)	⊠Cei	nterline	□Re-R	oute		ess Road		□Other:			
Physical Attribute											
Stream Classification: (check one)		hemeral	□Interr	nittent	⊠Pere	ennial					
Waterbody Type:	-										
	River	Stream Stream	□ Ditc	h 🗆 C	anal	Other:	:				
ОНШМ		Indicator:									
Width:ft.	(check all i	татарру)		☑ Clear lir on bank	ne l	Shelvin	g	□Wrested vegetation	L	∃Scourin	g □Water staining
Height:		Bent, matted,	or missing	g ⊡Wrack li		⊠Litter ar	nd	□Abrupt plar		□Soil c	haracteristic change
ft. N/A□	ve	getation			(debris		community ch	nange		
Width of Waterbody -		Nidth of Wate		oe of Slope			ody - W	ater Edge to	Depth (Approx.	of Water	:
Bank to Top of Bank:	C	o Toe of Slop	e:		Water E	age:			(Approx.)	
<u>_40</u> ft.		<u>_10_</u> ft.			N/A□	_	<u>27_</u> ft.		N/A□		<u>_1_</u> ft.
Sinuosity:		Water velocity	/:		Bank he	eight			Bank	slope	
(check one)		Approx.)				Right:				Right	:
		-	<u>1.5</u> fps			Left:	<u>3.5_</u> ft.			Left	<u>70</u> degrees
⊠Meander	ing r	N/A□					<u>8_</u> ft.				<u>85</u> degrees
Qualitative Attribu	utes										
Water Appearance: (check one)	□No water	⊠Clear	□Turbi		neen n surface	⊡Sui sci		□Algal mats	□Othe	r:	
	Bedrock	Boulder		le 🛛 Grav	el 🗆 S	and [□ Silt/ c	clay 🗆 Organio	; [] (Other:	
(check all that apply) % of Substrate:	<u>5_</u> %	%	5 %	90 %	%			% %		%	
-				%		-		_/0/0		/0	
Width of Riparian Zon		etative Layers	S:	⊠ Trees	:	Σ	🛛 Saplir	ngs/Shrubs:	\triangleright	I Herbs	
<u>50 ft</u> - N/A□	Avg (appr	. DBH of Dom	ninants:	<u>18</u> in.			_ <u>2_</u> in.	0			
Dominant Bank Veget											
Sweet-gum, sycam		nese honeys	suckle,	red maple							
Aquatic Habitats (ex: s	submerged or e	emerged aquatic	vegetation	n, overhanging	banks/root	s, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	s):
Riffle, pools, leaf p	acks, over	hanging ba	nks								
Aquatic Organisms Ol	bserved (list	[•]):									
Fish, water striders	i										
T&E Species Observe	d (list):										
None											
Disturbances (ex: lives	tock access, m	nanure in waterb	ody, waste	discharge pipe	es):						
Flows under railroa	ad tracks u	ıpstream									
Tributary is: (check one)	⊠ Na	itural	□ Arti	ificial, man-m	ade	🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 Hię	gh	⊠ Mo	derate		Low	-				

Snec056

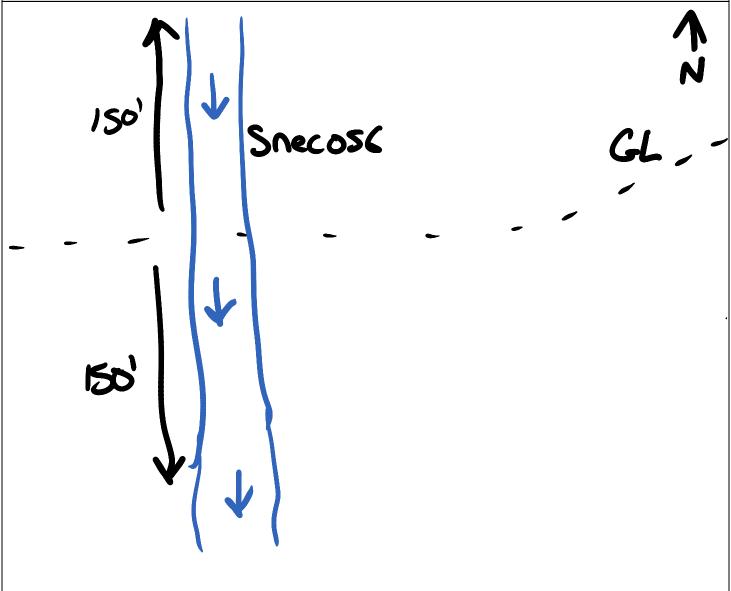
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SNEC056 facing northwest upstream



Waterbody SNEC056 facing southeast downstream



Waterbody SNEC056 facing northeast across

Survey Description	on												
Project Name:		Waterbo						aterbody ID:			Date:		
Atlantic Coast Pipe	eline	UNT to	Dutch	Creek			Sr	nee201			4/27/2016		
State:	County:			Company:		С	rew M	lember Initials	5:	Photos:			
Virginia	Nelson		I	NRG		С	G, S	A		1-3			
Tract Number(s):			l	Nearest Mile	epost:			Associated Wetland ID(s):					
08-086-A094				175.8				none					
Survey Type:					— •	_							
(check one)	Center	line	□Re-R	oute		Road		Other:					
Physical Attribute Stream Classification													
(check one)	Epherr	neral	Intern	nittent	⊠Perenni	al							
Waterbody Type:													
(check one)	□River ⊠	Stream	□ Ditch	n 🗆 Ca	anal 🗆	Other:							
онwм	OHWM Ind												
Width: 10 ft.	(check all that a	apply)		Clear lir on bank	ne ⊡S	nelving		⊠Wrested vegetation	\geq	Scouring	g ⊟Water staining		
Height:	MDor	t mattad a	mianing	ı ⊡Wrack li	no 🖂 :	Horond		□Abrupt plar			Ū		
<u>2</u> ft.	veget		missing		deb	tter and is		community ch			haracteristic change		
N/A□ Width of Waterbody -	Top of Wid	th of Water	ody - T	oe of Slone	Width of W	aterhod	v - W	ater Edge to	Denth	of Water	•		
Bank to Top of Bank:		oe of Slope			Water Edge		y - 110	ater Luge to	(Approx.				
_15 ft.		_5_ ft.				9	ft.				<u>_1_</u> ft.		
					N/A□				N/A□				
Sinuosity: (check one)	Wat (Appl	rox.)			Bank heigh				Bank s	•			
□Straight			1_fps		Rig		<u>5_</u> ft.			Right	<u>60</u> degrees		
⊠Meande	ring _{N/A}		<u> </u>		L	eft:	8ft.			Left	60 degrees		
							<u></u>						
Qualitative Attrib Water Appearance:	utes												
(check one)	\Box No water	⊠Clear	□Turbi		een surface	□Surfac scum		□Algal mats	□Othe	r:			
	Bedrock	Boulder 2	Cobbl	e 🛛 Grave	el 🛛 🛛 Sano		Silt/ cl	ay 🗆 Organio	; [](Other:			
(check all that apply) % of Substrate:	% 1	5 %	30 %	<u> 20 </u> %	30 %	_5	%	%	,	%			
							_						
Width of Riparian Zor		tive Layers: that apply)		⊠ Trees	:	\boxtimes S	Saplin	gs/Shrubs:	\triangleright	I Herbs			
<u>50 ft</u> -	Avg. D	BH of Domi	nants:	<u>8</u> in.			_in.	•					
N/A□ Dominant Bank Vege													
Witch hazel, jewel		lip tree, be	eech, n	naple									
Aquatic Habitats (ex:	submerged or eme	rged aquatic v	egetation	, overhanging	banks/roots, le	af packs,	large	submerged wood	l, riffles,	deep pool	s):		
Riffles, pools, over	-		-			•		Ū					
Aquatic Organisms O	bserved (list):												
Insects, minnows													
T&E Species Observe	ed (list):												
none													
Disturbances (ex: lives	stock access, manu	ire in waterboo	dy, waste	discharge pipe	es):								
none													
Tributary is: (check one)	⊠ Natura	al	□ Artii	ficial, man-m	ade 🗆 N	<i>l</i> anipula	ited						
Stream Quality ^a : (check one)	⊠ High			derate		ow							

Snee201

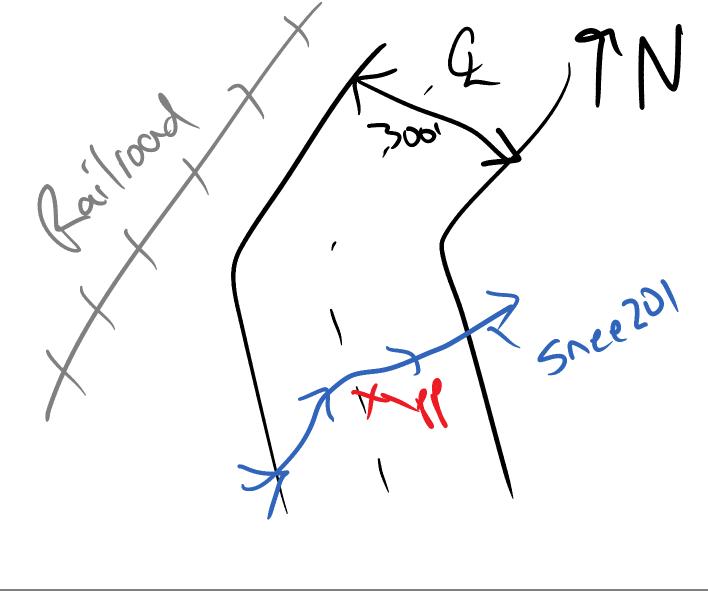
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SNEE201 facing west upstream



Waterbody SNEE201 facing east downstream



Waterbody SNEE201 facing north across

Survey Description	on										
Project Name:			ody Nam	e:			Waterbody ID:			Date:	
Atlantic Coast Pipe			Creek				Snee200		-	4/18/2016	
State:	County:		C	company:		Crev	w Member Initial	s:	Photos:		
Virginia	Nelson		٢	IRG		CG	, JS		1-3		
Tract Number(s):	L		r	learest Mile	epost:		Associated Wetland ID(s):				
08-086-A112			1	76.2			none				
Survey Type: (check one)	⊠c	Centerline	□Re-Ro	oute	□Access R	load	□Other:				
Physical Attribute											
Stream Classification: (check one)		phemeral	□Interm	littent	⊠Perennia	I					
Waterbody Type:											
	River	⊠ Stream	□ Ditch	□ Ca	anal 🗆 O	ther:					
ОНШМ		M Indicator:									
Width:ft.	(спеск а	all that apply)		Clear lir on bank	ne ⊡She	elving	☐Wrested vegetation	Þ	Scouring	□Water staining	
Height:		Bent, matted, c	or missing	□Wrack li	ne 🗆 Litte	er and	⊠Abrupt pla	nt	⊠Soil ch	aracteristic change	
_ <u>2_</u> ft. N/A□	,	vegetation			debris	3	community c	hange			
Width of Waterbody - Bank to Top of Bank:	Top of			pe of Slope		terbody -	Water Edge to	Depth (Approx.	of Water:		
Bank to Top of Bank:		to Toe of Slope			Water Edge:			(Αρριολ.			
<u>_25_</u> ft.		<u>8</u> ft.			N/A□	<u>_8_</u> f	t.	N/A□	-	<u>_0.3_</u> ft.	
Sinuosity:		Water velocity	:		Bank height			Bank	slope		
(check one)		(Approx.)			Righ	t:			Right:		
		-	<u>1_</u> fps		Lef	<u>4</u>	ft.		Left:	80 degrees	
⊠Meander	ing	N/A□			Lei	<u>_7_</u> 1	ft.		Lent.	45 degrees	
Qualitative Attrib	utes										
Water Appearance: (check one)	☐No water	r ⊠Clear	□Turbic	I ⊡Sh	een 🗆	Surface	□Algal	□Othe	er:		
				on	surface	scum	mats				
Substrate: [(check all that apply)	⊠ Bedrock	k 🛛 Boulder		e 🛛 Grave	el 🛛 Sand	⊠ Sil	t/ clay 🛛 Organi	c 🗆	Other:		
	<u>10_</u> %	<u>20</u> %	<u>15_</u> %	<u> 5 </u> %	<u>20</u> %	30 9	%%	6	_%		
Width of Riparian Zon		egetative Layers	:								
25 ft-		heck all that apply) vg. DBH of Dom	inants.	⊠ Trees			plings/Shrubs:	Σ	☑ Herbs		
N/A 🗆	(a)	pprox.)	manto.	<u>15</u> in.		<u>_1_</u> ir	1.				
Dominant Bank Veget											
Autumn olive, sedg											
Aquatic Habitats (ex: s			vegetation,	overhanging	banks/roots, lea	f packs, lai	rge submerged woo	d, riffles,	deep pools):	
Step pools, riffles,											
Aquatic Organisms O	bserved (/	list):									
insects											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access	, manure in waterbo	dy, waste o	discharge pipe	es):						
Adjacent to road											
Tributary is: (check one)		Natural	□ Artif	icial, man-m	ade 🗌 Ma	anipulated	b b b b b b b b b b b b b b b b b b b				
Stream Quality ^a : (check one)	\boxtimes	High	□ Mod	erate	□ Lo	w					

Snee200

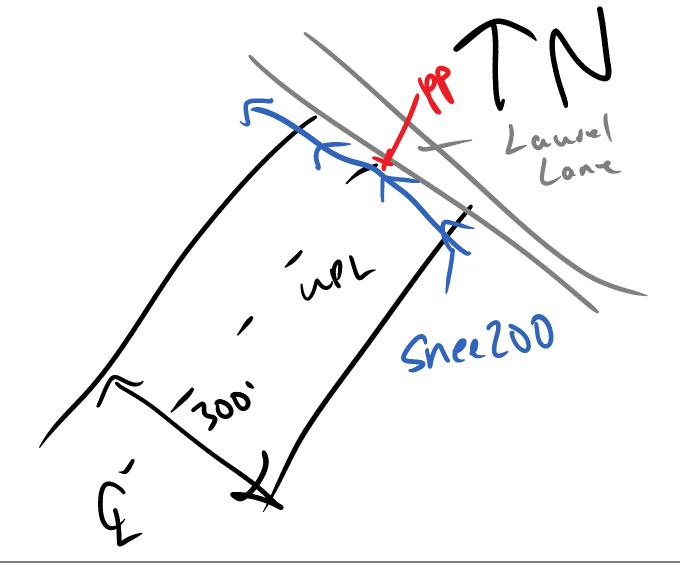
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SNEE200 facing southeast upstream



Waterbody SNEE200 facing northwest downstream



Waterbody SNEE200 facing southwest across

Linear Waterbody Data Sheet

Survey Description	on							
Project Name:		Waterbody Na	me:		W	aterbody ID:		Date:
Atlantic Coast Pipe	line	Buffalo Cree	ek		SI	nea001		10/14/2014
State:	County:		Company:		Crew I	Member Initials:	Photos	1
Virginia	Nelson		NRG		GB, L	E	3 pho	tos
Tract Number(s):	-		Nearest Mile	epost:		Associated Wet	land ID(s):	
08-210			177.7			none		
Survey Type: (check one)		e □Re-	Route	□ Access Road		□Other:		
Physical Attribute	s							
Stream Classification: (check one)	Ephemera	al ⊡Inte	rmittent	⊠Perennial				
Waterbody Type:								
	□River ⊠ Str	eam 🗆 Dite	ch 🗆 Ca	anal 🗌 Other:	:			
онwм	OHWM Indica							
Width: <u>16.0</u> ft.	(check all that apply	/)	⊠ Clear lir on bank	ie 🗆 Shelvin	g	□Wrested vegetation	Scourin	ng □Water staining
Height:	□Bent, n	natted, or missir	ng ⊠Wrack li	ne 🗆 Litter ar	nd	□Abrupt plant	□Soil o	characteristic change
<u>3.0</u> ft. N/A□	vegetatio	n	-	debris		community char	ige	-
Width of Waterbody - Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterbo Water Edge:	ody - W		epth of Wate	er:
_20.0 ft.		_9.0_ ft.			15.0_ ft.			<u>2.5</u> ft.
<u></u> n.	-	<u>_0.0_</u> n.		N/A□	<u>10.0_</u> 1t.		A	
Sinuosity: (check one)	Water (Approx.)	velocity:		Bank height		Ba	ank slope	
□Straight	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_0.25_ fp		Right:	9.0_ ft.		Righ	t: <u>85</u> degrees
Moondor		<u>_0.25</u> _ip	15	Left:			Let	it:
				-	<u>9.0_</u> ft.			<u>80</u> degrees
Qualitative Attribu Water Appearance:	utes							
(check one)	□No water ⊠0	Clear DTurk		een ⊡Sui surface scu		□Algal □0 mats	Other:	
	Bedrock 🛛 Bo	ulder 🛛 Cobl	ole 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	ay 🗆 Organic	□ Other:	
(check all that apply) % of Substrate:	_%	<u>% 15</u> %	<u>20</u> %	<u>30</u> %	<u>35_</u> %	%	%	
Width of Riparian Zon	e: Vegetative	E Layers:						
150 ft	(check all that		⊠ Trees			ngs/Shrubs:	⊠ Herbs	
<u>150 ft</u> ⊷ N/A⊠	аvg. DBП (approx.)	of Dominants:	_ <u>10.0_</u> ii	n. <u>-</u>	_ <u>1.0_</u> in			
Dominant Bank Veget	ation (list):							
Yellow poplar, blac honeysuckle. Chris	tmas fern. burn	ina bush. mi	ıltiflora rose)		-		
Aquatic Habitats (ex: s Pools, debris piles,				-	-	submerged wood, ri	ffles, deep poo	sis):
Aquatic Organisms Ol								
Fish, frog, crayfish,	beaver							
T&E Species Observe	d (list):							
none								
Disturbances (ex: lives	tock access, manure i	n waterbody, wast	e discharge pipe	es):				
Hayfield to northwe	est, selectively l	ogged mixed	hardwoods	s to southeast,	multip	le beaver dam	S	
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	ade 🗆 Manip	ulated			
Stream Quality ^a :				<u>.</u>				
(check one)	🗆 High	🖂 Mo	oderate	🗆 Low				

Waterbody ID:

snea001

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.

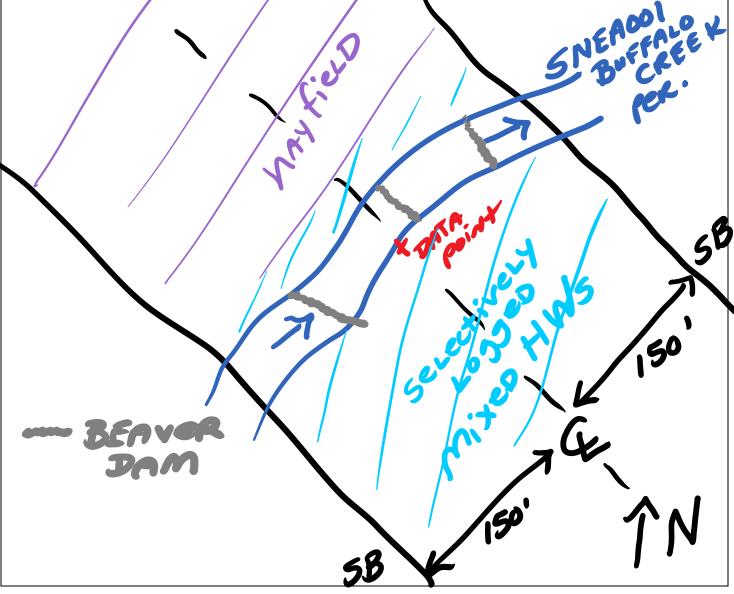
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Buffalo Creek, continues out of corridor in both directions; beavers have a series of dams within corridor.

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



Linear Waterbody	y Data	Sheet										
Survey Description	า											-
Project Name:			Vaterbody						Naterbody ID:			Date:
Atlantic Coast Pipeli	ne	E	Suffalo C	reek	(SNEA001			11/4/2014
State:	County:				Company:			Crew	Member Initials	S:	Photos:	
Virginia	Nelson				NRG			CR,	CG		3	
Tract Number(s):				l	Nearest Mile	post:		1	Associated W	/etland	I ID(s):	
08-210					178				None			
Survey Type: (check one)	⊠C	enterline		Re-R	oute	Access	Road	1	□Other:			
Physical Attributes	5											
Stream Classification: (check one)	□E	phemeral		Intern	nittent	⊠Perenni	al					
Waterbody Type: (check one)	River	⊠ Strea	im 🗆	Ditch	h 🗆 Ca	anal 🗆 (Other	:				
OHWM Width: _ <u>12_</u> ft.		Indicato	r:		□ Clear lin on bank	e ⊠Sł	nelvin	g	□Wrested vegetation		∃Scourin	g ⊟Water staining
Height: ft. N/A□		⊠Bent, ma /egetation	itted, or m	issing	g ⊡Wrack lii	ne ⊡Lit debr	ter ar is	nd	□Abrupt plar community ch		⊡Soil c	haracteristic change
Width of Waterbody - To Bank to Top of Bank:	op of	Width of to Toe of		dy - T	oe of Slope	Width of Water Edge		ody - V	Vater Edge to	Depth (Approx.	of Wate	r:
<u>18</u> ft.		_3	ft.			N/A□	-	<u>8</u> ft.		N/A□		<u>0.8</u> ft.
Sinuosity: (check one) □Straight		Water ve (Approx.)	•	_fps		Bank heigh Rig	ht:	<u>4_</u> ft.		Bank	Right	70 degrees
⊠Meanderin	ıg	N/A□				Le	eft:	<u>7_</u> ft.			Lef	t: degrees
Qualitative Attribut	tes									•		
Water Appearance: (check one)	No water	⊠Cle	ear 🗆	Turbi		een surface	⊡Su scu		□Algal mats	□Othe	er:	
	Bedrock	🗆 Boul	der 🛛 🖓	Cobbl	e 🛛 Grave	el 🛛 🛛 Sanc	[⊠ Silt/	clay 🗆 Organio		Other:	
(check all that apply) % of Substrate:	%		<u>% 50</u>	_%	<u>20</u> %	<u> 20 </u> %	-	<u>10 </u> %	%		%	
Width of Riparian Zone					⊠ т		5				7	
<u>_30_ft</u> - N/A□	Av	eck all that ap /g. DBH o pprox.)		nts:	⊠ Trees: _ <u>10_</u> in.			⊠ Sapi _ <u>2_</u> in.	ings/Shrubs:	L	☐ Herbs	
Dominant Bank Vegeta	. ,											
Green Ash, White O	ak, Sug	gar Maple	e, Ameri	can	Elm, Chris	tmas Ferr)					
Aquatic Habitats (ex: su	bmerged o	r emerged a	quatic vege	etation	, overhanging	oanks/roots, le	af pac	ks, larg	e submerged wood	d, riffles,	deep poo	ls):
Overhanging roots a	and rock	k piles, le	eaf pack	s, rif	fles							
Aquatic Organisms Ob	served (li	st):										
None												
T&E Species Observed	(list):											
None												
Disturbances (ex: livesto	ck access,	manure in v	waterbody,	waste	discharge pipe	s):						
None												
Tributary is: (check one)		Natural		∃ Arti	ficial, man-m	ade 🗆 N	lanip	ulated				
Stream Quality ^a : (check one)		ligh	Þ	⊠ Mo	derate		ow					

Waterbody ID: SNEA001

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.

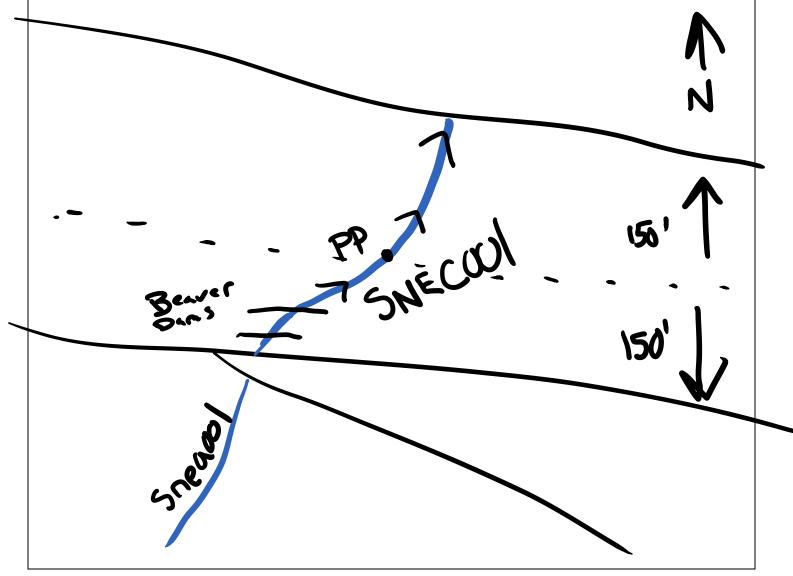
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 has recent beaver activity upstream including the construction of a beaver dam which has altered the hydrology. Team C did not call this an extension because the rerouted corridor had shifted 170 feet NE of where SNEA001 was taken by Team A. This is now part of SNEA001.

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





Waterbody SNEA001 facing southwest upstream



Waterbody SNEA001 facing northeast downstream



Waterbody SNEA001 facing northwest across



Waterbody SNEA001 facing south upstream



Waterbody SNEA001 facing east downstream



Waterbody SNEA001 facing southeast across stream

Survey Description	n						-			
Project Name:			oody Nar				Waterbody ID:		Date	
Atlantic Coast Pipel	ine	UNT 1	o Buffa	llo Creek			SNEC002		11/4	1/2014
State:	County:			Company:		Cre	w Member Initials	s: P	hotos:	
Virginia	Nelson			NRG		CR	, CG	:	3	
Tract Number(s):				Nearest Mile	post:		Associated W	etland I	D(s):	
Unnamed tract betv	veen 08-21	0 & 08-21	4-	178.1			None			
Survey Type: (check one)	⊠Cente	erline	□Re-F	Poute	Access	Soad	□Other:			
. ,		ennie		louie		loau				
Physical Attributes Stream Classification:	S									
(check one)	□Ephe	emeral	⊠Inter	mittent		al				
Waterbody Type: (check one)	River	I Stream	Ditc	h □ Ca	anal 🗆 C	Other:				
ОНШМ	OHWM In (check all that								<u> </u>	
Width: _ <u>7_</u> ft.		а арруу		⊠ Clear lin on bank	e 🗆 Sr	elving	□Wrested vegetation		Scouring	□Water staining
Height: ft. N/A□		ent, matted, o etation	or missin	g	ne ⊠Lit debri	ter and s	□ Abrupt plar community cl		□Soil chara	cteristic change
Width of Waterbody - T				Foe of Slope	Width of Wa	terbody	- Water Edge to	Depth c (Approx.)	of Water:	
Bank to Top of Bank:	to	Toe of Slop	e:		Water Edge			(Approx.)		
<u>_13_</u> ft.		<u>3</u> ft.			N/A□	4	ft.	N/A□	0.5	ft.
Sinuosity:		ater velocity	<i>r</i> :		Bank heigh			Bank sl	оре	
(check one)	(Ap	oprox.)			Rigl				Right:	
		-	<u>_0.1_</u> fps		Le		<u>.</u> π.		Left:)_degrees
Meanderir	ng N/	A□				_5_	ft.		9()_degrees
Qualitative Attribu	tes									
Water Appearance: (check one)	No water	⊠Clear	□Turb			Surface	0	□Other:		
Substrate:	Dedroek	Douldor			surface	scum	mats		thow	
(check all that apply)	Bedrock	Boulder				⊠ 31	lt/ clay 🛛 Organio	c 🗆 O	ther.	
% of Substrate:	%	%		_%	% <u>80</u> %	10	<u>% 10</u> %		%	
Width of Riparian Zone		tative Layers	s:							
<u>30 ft</u> -		all that apply) DBH of Dom	inants:	⊠ Trees: _ <u>8_</u> in.		⊠ Sa _ <u>2_</u> i	plings/Shrubs: n.		Herbs	
N/A 🗆	(approx	r.)		<u> </u>						
Dominant Bank Vegeta American Beech, S	. ,	Vhite Oak,	Red C	lover, Red	Maple					
Aquatic Habitats (ex: su	ubmerged or em	nerged aquatic	vegetatio	n, overhanging	banks/roots, lea	af packs, la	rge submerged wood	d, riffles, d	eep pools):	
Overhanging roots,	leaf packs	, submerg	ed woo	dy debris (4-6 in dian	neter)				
Aquatic Organisms Ob	served (list):									
Minnows, Water Sk	immers									
T&E Species Observed	l (list):									
None										
Disturbances (ex: livesto	ock access, mai	nure in waterb	ody, waste	e discharge pipe	s):					
4 foot diameter pipe	e located ju	ist upstrea	m of th	e data poin	t which ha	s a logo	ing road going	over to	op of it	
Tributary is: (check one)	⊠ Natu	ural	□ Art	ificial, man-m	ade 🗆 N	lanipulate	d			
Stream Quality ^a : (check one)	□ High	1		derate)W				

Linear Waterbody Data Sheet

Form Rev. 07/09/2014

Waterbody ID: SNEC002

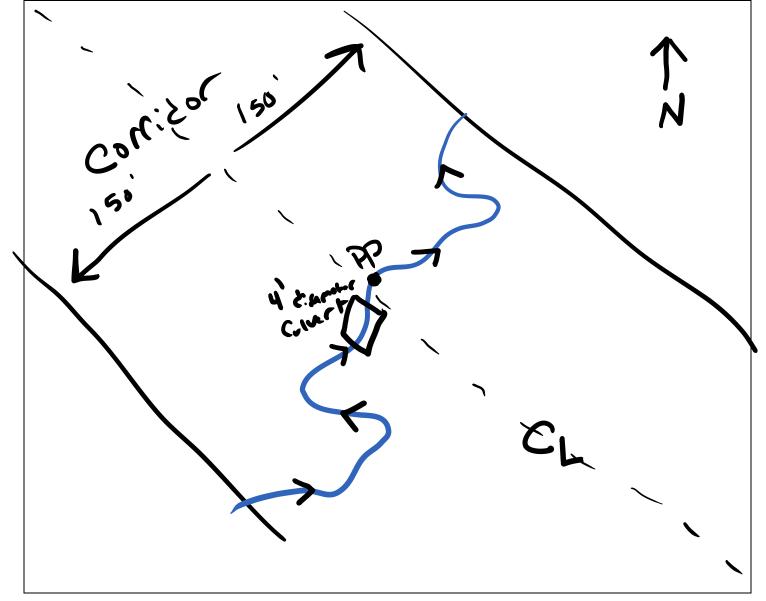
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SNEC002 facing south upstream



Waterbody SNEC002 facing northeast downstream



Waterbody SNEC002 facing west across stream

Linear Waterbod	y Data	Sheet										
Survey Description	1 <u> </u>											
Project Name:			Waterbo	-					Vaterbody ID:			Date:
Atlantic Coast Pipeli	ne		UNT to	Buffa	lo Creek			5	SNEC003			11/4/2014
State:	County:				Company:			Crew	Member Initials	S:	Photos:	
Virginia	Nelson				NRG			CR,	CG		3	
Tract Number(s):	l				Nearest Mile	post:			Associated W	/etland	d ID(s):	
Unnamed tract betw A002	veen 08-	-210 ar	nd 08-2	14-	178.5				None			
Survey Type: (check one)	⊠C	enterline		□Re-R	loute	□Ac	cess Road	I	□Other:			
Physical Attributes	6											
Stream Classification: (check one)	— –			_		_						
	⊔E	phemera	I	⊠Inter	mittent	⊔Pe	erennial					
Waterbody Type: (check one)	River	⊠ Stre	eam	□ Ditc	h 🗆 Ca	anal	□ Other	:				
ОНШМ		I Indicat										
Width: <u>1.5</u> ft.	(check a	ll that apply)		⊠ Clear lir on bank	e	Shelvin	g	□Wrested vegetation	[Scouring	g ⊟Water staining
Height: ft.		Bent, m egetatior		missing	g	ne	□Litter ar debris	nd	□Abrupt plar community cl		□Soil cl	haracteristic change
N/A□ Width of Waterbody - T	on of	Width o	f Watark	ody - 1	Too of Slana	Width	of Waterb	ody - V	Vater Edge to	Denth	n of Water	-
Bank to Top of Bank:	орог		of Slope		loe of Slope	Water		ouy-v	Valer Luge lo	(Approx		
<u>_2_ft</u> .			<u>1_</u> ft.			N/A⊠			<u>f</u> t.	N/A⊠	_	ft.
Sinuosity:			elocity:			Bank h	neight			Bank	slope	
(check one)		(Approx.)					Right:	4 5 4			Right	
_				fp	S		Left:	<u>1.5_</u> ft	I.		Left	<u>70</u> degrees
Meanderin	ıg	N/A⊠					-	<u>1.5_</u> ft	t.			70 degrees
Qualitative Attribut	tes											
Water Appearance: (check one)	No water		lear	□Turb	id □Sh	00n	□Su	rface	□Algal	□Othe	ər:	
	no water		ieai			surface	e sci	um	mats		51.	
Substrate:	Bedrock	🗆 Boi	ulder 🛛	Cobb	le 🗆 Grave	el 🛛	Sand	⊠ Silt/	clay 🛛 Organi	c □	Other:	
% of Substrate:	_%		_%	<u>20_</u> %		% <u>1</u>	<u>0 </u> %	<u>70_</u> %	%		%	
Width of Riparian Zone	: Ve	getative eck all that a			⊠ Trees		D	⊲ Sapli	ings/Shrubs:	[☐ Herbs	
<u>5 ft</u> -		g. DBH	of Domiı	nants:	<u>_10_</u> in.			<u>2</u> in.	J			
N/A□ Dominant Bank Vegeta		prox.)										
Black gum, tulip pop	. ,	amore,	Christ	nas fe	ern, grape v	vine						
Aquatic Habitats (ex: su							ots leaf nac	ks laro	e submerged woor	1 riffles	deen nool	c).
Overhanging roots	binorgou oi	l'onlorgou	uquuio v	ogotation	i, ovolnanging	banno,ro	oto, 1001 pub	ito, iti g		, 111100	, doop poor	o).
Aquatic Organisms Ob	sorved (li	ot)=										
None	seiveu (iii	51).										
T&E Species Observed	(list):											
None												
Disturbances (ex: livesto	ck access.	manure ir	waterboo	ly, waste	discharge pipe	es):						
None				,,		.,						
Tributary is:												
(check one)	\boxtimes N	latural		□ Art	ificial, man-m	ade	🗆 Manip	ulated				

Stream Quality^a: (check one)

🗆 High

⊠ Moderate

 \Box Low

Form Rev. 07/09/2014

Waterbody ID: SNEC003

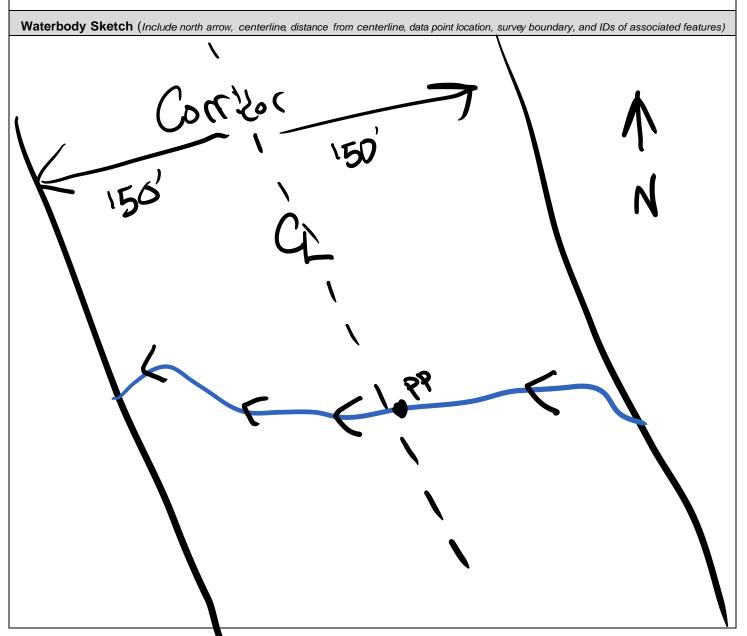
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 is weakly intermittent and it receives groundwater from a seep just outside the corridor. The stream becomes more strongly intermittent downstream of the centerline due to increased inputs of groundwater.





Waterbody SNEC003 facing east upstream



Waterbody SNEC003 facing west downstream



Waterbody SNEC003 facing northeast across stream

Linear Waterbod	y Data She	et							
Survey Description Project Name:	n	Waterbody Na	me:		W	aterbody ID:			Date:
Atlantic Coast Pipeli	ine	UNT to May				NEC004			11/5/2014
State:			-			lember Initials	-	Photos:	11/0/2011
	County:		Company:				-		
5	Nelson		NRG		CR, C			3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
08-214-A007			179			None			
Survey Type: (check one)	⊠Centerli	ne ⊡Re-	Route	□Access Road	l	□Other:			
Physical Attributes	S								
Stream Classification: (check one)	Epheme	eral 🛛 Inte	ermittent	Perennial					
Waterbody Type: (check one)	River 🛛 S	Stream	ch 🗆 Ca	anal 🗌 Other	:				
OHWM Width: _3_ft.	OHWM India (check all that ap		⊠ Clear lir on bank	ne ⊠Shelvin	g	□Wrested vegetation		Scourin	g ⊟Water staining
Height:ft.	□Bent vegeta	, matted, or missi tion	ng	ne □Litter ar debris	nd	□Abrupt plan community ch		□Soil c	haracteristic change
N/A□ Width of Waterbody - T Bank to Top of Bank:		h of Waterbody - e of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - Wa		Depth (Approx.)	of Wate	r:
_ <u>5</u> ft.		<u>1</u> ft.		N/A⊠	ft		N/A⊠	-	ft.
Sinuosity:	Wate	er velocity:		Bank height			Banks	slope	
(check one)	(Appro	эх.)		Right:				Right	
			fps	Left:	<u>1_</u> ft.			Lef	<u>70</u> degrees t:
Meanderin	ng N/A⊵	3			<u>1.5_</u> ft.				70 degrees
Qualitative Attribut	tes								
Water Appearance: (check one)	No water	□Clear □Tur		leen ⊡Sui surface scu		□Algal [mats	□Othe	r:	
	Bedrock 🗆 I	Boulder 🛛 Cob	ble 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ cl	ay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	%	_% <u>20 </u> %	<u>70</u> %	<u>10 </u> %	%		%	
Width of Riparian Zone	: Vegetati	ive Layers:	× +		7 0 1'	(0)	5	7	
_ <u>20_ft</u> - N/A□	·	H of Dominants:	⊠ Trees _ <u>10_</u> in.		⊴ Sapiin; _ <u>2_</u> in.	gs/Shrubs:	Z	I Herbs	
Dominant Bank Vegeta	. ,								
Red Maple, Red Ma	ple, Tulip Po	plar, Chestnut	: Oak, Comi	mon Smilax, So	outherr	h Lady Fern			
Aquatic Habitats (ex: su			on, overhanging	banks/roots, leaf pac	ks, large s	submerged wood	, riffles,	deep pool	s):
Leaf packs and ove	rhanging roo	ts							
Aquatic Organisms Ob	served (list):								
None									
T&E Species Observed	(list):								
None									
Disturbances (ex: livesto	ock access, manur	e in waterbody, was	te discharge pipe	es):					
Logging operations	occurring ab	out 200 upslo	be of the str	eam which like	ly lead	s to increase	ed inp	out of ru	unoff
Tributary is: (check one)	⊠ Natural		rtificial, man-m	ade 🗆 Manip	ulated				
Stream Quality ^a : (check one)	🗆 High	×N	oderate	□ Low					

Waterbody ID: SNEC004

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.

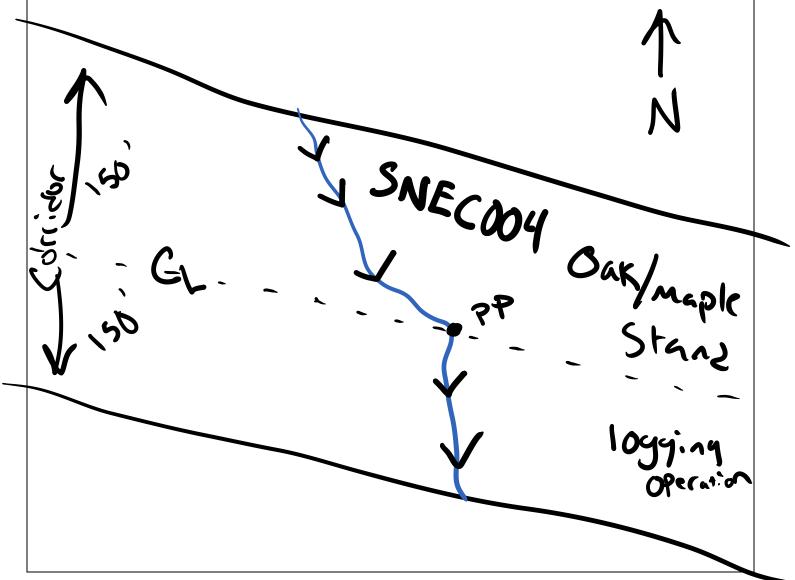
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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:

Is present in deep pools within the channel and some cobble is present.

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 SNEC004 facing north upstream



Waterbody SNEC004 facing southeast downstream



Waterbody SNEC004 facing east across stream

Survey Descripti	on							
Project Name:		Waterbody Na			w	aterbody ID:		Date:
Atlantic Coast Pip	eline	Mayo Creek	ζ.		S	NEC005		11/5/2014
State:	County:		Company:		Crew I	Member Initials	: Photos	S:
Virginia	Nelson		NRG		CR, C	CG	3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(s):	
08-214-A007			179.45			None		
Survey Type: (check one)	⊠Centerlin	ne □Re-	Route	□Access Road	1	□Other:		
Physical Attribut	es							
Stream Classification (check one)	n: □Epheme	ral 🗌 Inte	ermittent	⊠Perennial				
Waterbody Type:								
(check one)		tream 🗌 Dit	ich 🗆 Ca	anal 🗌 Other	:			
OHWM Width: _ <u>10_</u> ft.	OHWM Indic (check all that app		⊠ Clear lir on bank	ne 🛛 Shelvin	g	□Wrested vegetation	□Scour	ing ⊡Water staining
Height: <u>1.5</u> ft.	□Bent, vegetati	matted, or missi	ng □Wrack li	ne □Litter aı debris	nd	□Abrupt plan community ch		characteristic change
N/A□ Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	odv - W	ater Edge to	Depth of Wat	er:
Bank to Top of Bank		e of Slope:		Water Edge:	ou,	ator Eugo to	(Approx.)	
<u>_13_</u> ft.		<u>3</u> ft.			<u>5</u> ft.		N/A□	<u>0.8</u> ft.
Sinuosity:	Water	velocity:		N/A D Bank height			Bank slope	
(check one)	(Approx			Right:			Rig	ht:
		<u>_0.5_</u> fp	S	L offi	<u>2</u> ft.			50 degrees
⊠Meande	ring N/A			Left:	<u>3_</u> ft.			eft: <u>90</u> degrees
Qualitative Attrib	outes							
Water Appearance: (check one)	□No water ⊠	Clear DTur			rface um	□Algal [mats	□Other:	
Substrate:	Bedrock B	oulder 🖂 Cob				lay 🗆 Organic	Other:	
(check all that apply)						, ,		
% of Substrate:	%	<u>% 10</u> %	<u> 50 </u> %	<u> 30 </u> %	<u>10 </u> %	%	%	
Width of Riparian Zo	ne: Vegetativ	/e Layers:	Traca		2 Conlin	aco/Chruhau		
<u>50 ft</u> - N/A□		H of Dominants:	⊠ Trees _ <u>12_</u> in.		⊴ Sapiir _ <u>2_</u> in.	ngs/Shrubs:	⊠ Herbs	\$
Dominant Bank Vege	,							
Sycamore, Red M	aple, Basswoo	d, Red Oak, C	Christmas F	ern, Common S	Smilax	, Southern L	ady Fern	
Aquatic Habitats (ex:	submerged or emerge	ed aquatic vegetati	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, deep po	pols):
Overhanging roots	s, leaf packs, rif	fles						
Aquatic Organisms C	Observed (list):							
Minnows, Water S	strikers, tadpole	S						
T&E Species Observe	ed (list):							
None								
Disturbances (ex: live	stock access, manure	in waterbody, was	te discharge pipe	es):				
None								
Tributary is: (check one)	⊠ Natural	□ A	rtificial, man-m	nade 🗆 Manip	ulated			
Stream Quality ^a : (check one)	🗆 High	⊠ M	oderate	□ Low				

Linear Waterbody Data Sheet

Waterbody ID: SNEC005

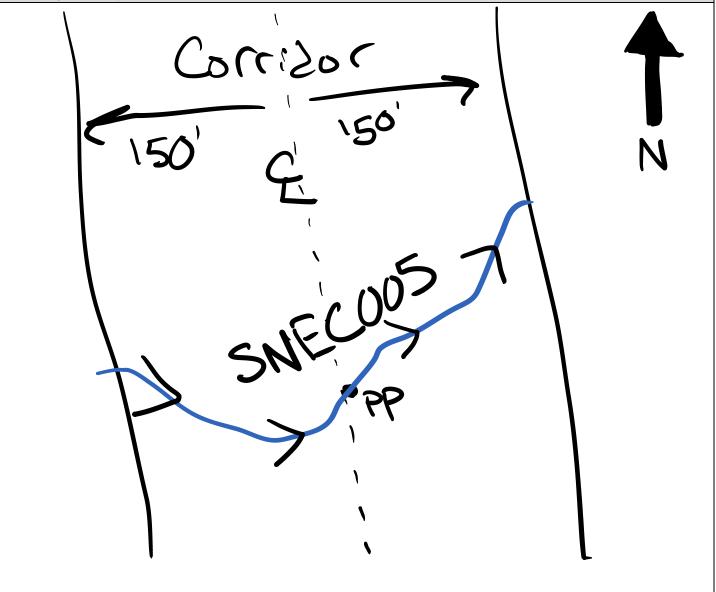
High Quality: Natural channel, natural vegetation extends at least one or two active channel widths on each side; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance 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 SNEC005 facing southwest upstream



Waterbody SNEC005 facing east downstream



Waterbody SNEC005 facing southeast across stream

Survey Description	n	Matarka du Na				lata ika du IDi		Deter
Project Name: Atlantic Coast Pipel	ine	Waterbody Nar UNT to Mayo				/aterbody ID: NEC006		Date: 11/5/2014
State:						Member Initials	s: Photos	
	County: Nelson		Company: NRG		CR, C		3	
Virginia Tract Number(s):	Neison		Nearest Mile	nost:	υς, τ	Associated W		
08-214-A007			180.08	:post.		None	elianu id(s).	
Survey Type:			100.00			1 tono		
(check one)	⊠Centerline	e ⊡Re-F	Route	Access Road	d	□Other:		
Physical Attributes Stream Classification: (check one)	S □Ephemera	al ⊠Inter	mittent	Perennial				
Waterbody Type:								
(check one)	River Sti	ream 🗆 Dito	ch □ Ca	anal 🗌 Othe	r:			
OHWM Width: _5_ft.	OHWM Indica (check all that appl		⊠ Clear lir on bank	ne ⊠Shelvir	ng	□Wrested vegetation	□Scourir	ng ⊟Water staining
Height: ft. N/A□	⊠Bent, r vegetatio	matted, or missin	g	ne □Litter a debris	and	□ Abrupt plar community ch		characteristic change
Width of Waterbody - T Bank to Top of Bank:		of Waterbody - of Slope:	Toe of Slope	Width of Waterk Water Edge:	oody - W	ater Edge to	Depth of Wate (Approx.)	er:
<u>_7_f</u> t.		<u>2</u> ft.		N/A□	<u>4</u> ft.		N/A□	<u>_0.5_</u> ft.
Sinuosity:		velocity:		Bank height			Bank slope	
(check one)	(Approx.)	_0_ fps		Right:	<u>2</u> ft.		Righ	t: 90 degrees
⊠Meanderir	ng N/A	<u></u> ips		Left:	<u>3_</u> ft.		Lei	Ŭ
					<u> </u>		<u> </u>	
Qualitative Attribu Water Appearance:	tes							
(check one)	[]] No water ⊠0	Clear			urface cum	□Algal mats	□Other:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🗆 Grave	el 🛛 Sand	Silt/ o	clay 🗆 Organio	c 🗆 Other:	
% of Substrate:	%	<u>% 10 %</u>		% <u>10</u> %	<u>80</u> %	%	%	
Width of Riparian Zone	Creative		⊠ Trees		🛛 Sanlir	ngs/Shrubs:	⊠ Herbs	
<u>30 ft</u> ⊷ N/A□		of Dominants:	<u>_8_</u> in.		<u>_2_</u> in.	nga/onruba.		
Dominant Bank Vegeta	,							
Red Oak, Tulip Pop	lar, White Oak	, Red Maple,	American	Elm, Christma	s Fern	, Southern L	ady Fern	
Aquatic Habitats (ex: su	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pa	cks, large	submerged wood	l, riffles, deep poo	bls):
Overhanging roots								
Aquatic Organisms Ob	served (list):							
None								
T&E Species Observed	l (list):							
None								
Disturbances (ex: livesto 3 foot wide culvert i		-			culver	rt is a logging	g road.	
Tributary is: (check one)	□ Natural	ΠΔr	tificial, man-m	ade 🛛 Manip	oulated			
Stream Quality ^a :								
(check one)	🗆 High	🖂 Mo	oderate	🗆 Low				

Linear Waterbody Data Sheet

Waterbody ID: SNEC006

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.

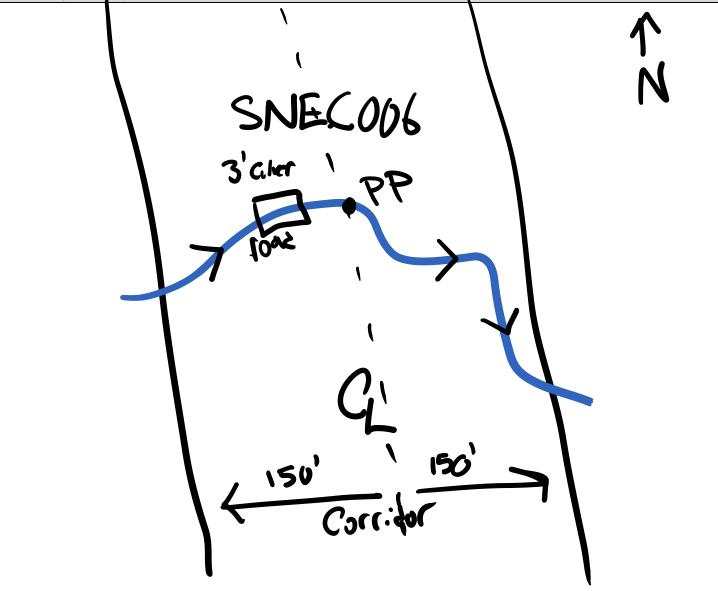
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 appears to have been rerouted as a result of the construction of the logging road and the culvert. The channel as mapped by NHD is still visible but flow is now routed through the culvert.

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





Waterbody SNEC006 facing northwest upstream



Waterbody SNEC006 facing southeast downstream



Waterbody SNEC006 facing southwest across stream

L	inear	Wate	rbody	Data	Sheet

Survey Description	n de la terreta de la composición de la Na composición de la c			y the state			
Project Name:		Waterbody Nar		,	Waterbody ID:		
ACP			O MAYO	Creek	snepc		7/14/15
State:	County/Parish:		Company:		Crew Member Initia	- I	
VH	Nelson		ESI		RT, LK		
Tract Number(s):		•	Nearest Milepo			Wetland ID(s):	
08-214-	H60/. A	FK		NA	wn	ep001	
Survey Type: (check one)			Route [□Access Road			
Physical Attribute Stream Classification:	stantin (E., 1994) Stantin (Stanting)			alf de la carte da c Calificación de la carte da carte da Calificación da carte	· · · · · · · · · · · · · · · · · · ·	nga daga sa	
(check one)	Ephemera	I ⊡Inter	mittent				
Waterbody Type: (check one)	River Stre	eam 🛛 Dito	h 🛛 Cana	i 🗆 Other	:		
OHWM Width: 4 ft.	OHWM Indicat (check all that apply,		D Clear line	□Shelvin	g DWrested vegetation		□Water staining
Height:	☐ Bent, m vegetation		g 🗇 Wrack line	□Litter a debris	÷		racteristic change
N/A⊡ Width of Waterbody - ⊺	Top of Midth o	Materbody -		idth of Watarh	ody - Water Edge to	-	
Bank to Top of Bank:		of Slope:		ater Edge:	ouy - water Edge to	(Approx.)	
<u> </u>	_	<u>Ц</u> _{ft.}			ft.		<u>15 ft.</u>
					1	N/AD	
Sinuosity: (check one)	Water v (Approx)	velocity:	Ba	ank height Right:		Bank slope	
Straight		<u>< </u>	ps	-	ft.	Right:	<u>75</u> degrees
DMeanderi	ing N/A			Left:	ft.	Left:	<u>90</u> degrees
Qualitative Attrib.	ites						
Water Appearance: (check one)	⊐No water ႘ၴ	Clear 🗆 Turi	oid ⊡Shee	n ∏Si	urface □Algal	□Other:	
					um mais		
Substrate: [(check all that apply)	Bedrock 🛛 Bo	ulder 🛛 Cob	ble 🛛 Gravel	XI Sand	Silt/ clay 🛛 Orga	nic 🛛 Other:	,
% of Substrate:	%	_%	_%%	<u>. 30 %</u>	<u>70 %</u>	_%%	
Width of Riparian Zon	e Vegetative	avers:					···
3D ft.	(check all that		A Trees:		,/ Ç.Saplings/Shrubs:	Herbs	
	Avg. DBH (approx)	of Dominants:	_ <u>in</u> in		<u> </u>	<u>NA</u> in.	
Dominant Bank Veget	ation (list):						· · · · · · · · · · · · · · · · · · ·
Athyrium a	asplénioid	tes, Fag	ivs grar	nditoli	à		
Aquatic Habitats (ex. s						ood, riffles, deep pools)	:
leaf packs							
Aquatic Organisms O	bserved (list):						· · · · · · · · ·
nohe of	aserved						
T&E Species Observe				<u> </u>			<u> </u>
none of	served					ý	
Disturbances (ex: lives		in waterbody, was	te discharge pipes)):			
none of	oserved			-			
Tributary is: (check one)	Natural		tificial, man-mac	de 🗆 Mani	pulated		
Stream Quality * : (check one)	🗶 High	N	Noderate	Low			

Waterbody ID: Shep 002 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. ١. Notes: · • 3. Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) "snep001 .datapoint E $(\mathbf{\bar{x}})$ WhenDO snepooz 5nep003

1,

Environmental Field Surveys Waterbody Photo Page



Waterbody snep002 facing southwest upstream.



Waterbody snep002 facing northeast downstream.



Waterbody snep002 facing northwest across bank.

Linear Waterbody	y Data Sheet	<u></u>			
Survey Description					
Project Name:	Waterboo	•	_	Waterbody ID:	Date:
ACP		o Mayo Cee		SnepD	
State:	County/Parish:	Company:		Crew Member Initial	
VH	Nelson	ESI		RT, L	R SW, NE, SE
Tract Number(s):		Nearest Milep	oost:	Associated V	
	AOO7, AR		NA	Whe	2P00
Survey Type: (check one)		Re-Route	Access Road	□Other:	1
Physical Attributes	the second s)			الحاف کې د مېچىنى دار د مېغ سەرور د د د چوك مېمېكى. 1945 - مېچىنى د د مېغ سەرور د د د چوك مېزىكى د 1955 - مېكلا كې د د د مېزى د د د د د د د
Stream Classification: (check one)	_] Intermittent	Perennial		
	River 🖞 Stream	🗆 Ditch 🔲 Car	nal 🗆 Other		
OHWM Width:	OHWM Indicator: (check all that apply)	Clear line	e ⊡Shelvin	g ⊟Wrested vegetation	□Scouring □Water staining
Height: <u>1,5</u> ft. N/A□	□Bent, matted, or vegetation	missing 🛛 Wrack lin	e □Litter a debris	nd ⊡Abrupt pla community c	
Width of Waterbody - T	op of Width of Waterb	ody - Toe of Slope	Width of Waterb	ody - Water Edge to	Depth of Water:
Bank to Top of Bank:	to Toe of Slope: ~2		Water Edge:	2	(Approx.)
ft.	f		N/ACI	<u>Zft.</u>	
Sinuosity: (check one)	Water velocity: (Approx)		Bank height		Bank slope
□Straight	<	fps	Right:	<u> </u>	Right: <u>90</u> degrees
Meanderir			Left:	Z_ ft.	Left: 90 degrees
Qualitative Attribu			· · · · · · · · ·		
Water Appearance:					
(check one)	No water	⊡Turbid ⊡She on		ırface ⊡Algal um mats	□Other:
] Bedrock 🛛 Boulder 🛛] Cobble 」 Grave	I 🛛 Sand	Silt/ clay 🛛 Organ	ic 🛛 Other:
(check all that apply) % of Substrate:	%%	<u> </u>	<u>% 30</u> %	<u> 40 </u>	_%%
Width of Riparian Zone	: Vegetative Layers:	5		•	,
<u>40</u> ft.	(check all that apply)	Trees	:	Saplings/Shrubs:	⊡ / Herbs
N/AD	Avg. DBH of Domin (approx)	nants: (10.5)	_in.	in.	<u>MA</u> in.
Dominant Bank Vegeta					
	anditolia				
	ubmerged or emerged aquatic v			cks, large submerged wo	od, riffies, deep pools):
leut pa	uks, over t	anging	banks		
Aquatic Organisms Ob	served (list):				
	observed			-	
T&E Species Observed	<u>`</u> .	······		·····	
	observed				
	ock access, manure in waterboo	dy, waste discharge pipe	es):		
	bserved				
Tributary is: (check one)	N Natural	🛛 Artificial, man-m	nade 🗇 Mani	pulated	
Stream Quality * :	A High	· ·			· · · · · · · · · · · · · · · · · · ·
(check one)	JA: High	🖸 Moderate	🗆 Low		

			Waterbody ID:
			snep00)
* High Quality: N roots; water col disturbance by li	atural channel, natural vegetation extends at least one or t or is clear to tea-colored; no barriers to fish movement; m restock or man.	wo active channel widths on each s any fish cover types available; dive	side; banks stable and protected by
or riparian yege	y: Altered channel evidenced by rip-rap; natural vegetation e ation only moderately compromised; banks moderately una for; minor barriers to fish movement; fair aquatic habitat; mi	stable; water color is cloudy, subme	erged objects covered with greenish
width on each si	annel is actively down cutting or widening; rip rap and chann le; lack of regeneration; filtering function severely comprom mats, surface scum, surface sheen); heavy odor; severe b man.	ised: banks unstable (eroding); wate	er color is muddy and turbid; obvious
Notes:	an a	· · · · · · · · · · · · · · · · · · ·	
Notes:	<u>in an an</u>	<u></u>	
Waterbody Si	etch (Include north arrow, centerline, distance from cente	rline, data point location, survey boun	dary, and IDs of associated features)
		,	
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Environmental Field Surveys Waterbody Photo Page



Waterbody snep001 facing southwest upstream.



Waterbody snep001 facing northeast downstream.



Waterbody snep001 facing southeast across bank.

Linear Waterbody	Data Sheet	t						
Survey Description	n elent La consta	 	1					
Project Name:		Waterbody Nam	•			body ID:	Da	te:
HCP				o Creek		iep00.		1114115
State: C	ounty/Parish:		Company:			ber Initials:	Photos:	Facing ,W
	Nelson		ESI			<u>ilr</u>		,w 0
Tract Number(s):	- <u>^</u>		Nearest Mile	· • • •	Ass	sociated Wetla		
8-214-A00-	<u> , </u>			NA		whep	001	
Survey Type: (check one)				□Access Road		Other:		
Physical Attributes		\mathbb{R}^{n}			e sieve "			ا در از این میتونید کرد. و برخانید. از بر از این این این این اور
Stream Classification: (check one)	Ephemera	al Dinten	nittent					
	River Str	eam 🛛 Ditc	h ⊡Ca	anal 🗆 Other				
OHWM Width:ft.	OHWM Indica (check all that appl		ງ⊠ Clear lin ∂n bank	e ⊡Shelvin		Wrested getation	□Scouring	□Water staining
Height: <u>0,5</u> ft.	⊡Bent, r vegetatio	matted, or missing on	g ⊡Wrack lin	ne ⊡Littera debris		Abrupt plant		racteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - 7 of Slope:	Foe of Slope	Width of Waterb Water Edge:	ody - Wate		pth of Water:	
3	10 100	1,5 ft.		Tuter Luge.	1	(* 14)		.5 _{ft.}
ft.	-	π.			ft.	N//	AD	<u> </u>
Sinuosity: (check one)	Water (Approx)	velocity:		Bank height		Ba	ink slope	
□Straight	(1.000-000)	11	os	Right:	۱ _{. ft.}		Right:	60 degrees
Meandering		·		Left:	l _{ft.}		Left:	60 degrees
Qualitative Attribut								
Water Appearance:				 				
(check one)	No water 🖻	Clear DTurb		_	urface [cum	⊐Algal ⊡0 mats	Other:	
	Bedrock 🗆 B	oulder 🛛 Cobb	ole 🛛 Grav	el 🗹 Sand) Q Silt/ clay	Organic	Other:	
(check all that apply) % of Substrate:	%	%	<u>% 30</u>	<u>)% Z0%</u>	<u>50%</u>		%	
Width of Riparian Zone:	Vegetativ	e i avers:						
20 ft.	check all the			S:		/Shrubs;	🕅 Herbs	
<u>∧ ∽ π</u> . N/A□	Avg. DBH (approx)	l of Dominants:	<u> </u>	_in.	<u> </u>		<u>_NA_i</u> n.	
Dominant Bank Vegetat	ion (list):	 ^	1				•	
		fer ru						
Aquatic Habitats (ex: sui					icks, large sui	omerged wood, ri	iffles, deep pools	
leaf pack:	S, OVer	mangir	Vq i b	anks				
Aquatic Organisms Obs	served (list):							
none obse	erved							
T&E Species Observed NONE Ob:	(list): SENEC	Ţ						
Disturbances (ex: livesto	ck access, manure	e in waterbody, was	te discharge pip	pes):				
hone ob: Tributary is:	served	k						
(check one) Stream Quality *:	Natura		rtificial, man-r	made 🗆 Man	ipulated		<u> </u>	
(check one)	High	<u> </u>	oderate	🗆 Low				

Waterbody ID: 200 She. 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. a an an the form Notes: Ξţ Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) wrie POOL snep002 snepbol snep003



Waterbody snep003 facing south upstream.



Waterbody snep003 facing north downstream.



Waterbody snep003 facing east across bank.

Linear Waterbody Data Shee	et			
Survey Description	·····	4. 3	<u> </u>	· _ · · · .
Project Name:	Waterbody Name:		aterbody ID:	Date:
HCP	UNITO Mayo	Concer	snep004	1/14/15
State: County/Parish: VA Nelst	on ESI	Crew	TLR N	s: 5, W
Tract Number(s):	Nearest Mile	post:	Associated Wetland ID(s):	
08-214-B003 Survey Type:		NA	NA	
(check one) Centerli		Access Road	DOther:	
Physical Attributes			eren en e	an a
Stream Classification: (check one)	eral LyIntermittent	□ Perennial		
Waterbody Type: (check one) □River 廿 S	stream 🗆 Ditch 🗖 Ca	anal 🛛 Other:		
OHWM OHWM Indic Width:ft.		e 🗆 Shelving	□Wrested □Scou vegetation	ring ⊡Water staining
Height: <u>0,5</u> ft. □Bent N/A□	, matted, or missing □Wrack lir tion	ne Litter and debris	□Abrupt plant □So community change	il characteristic change
	h of Waterbody - Toe of Slope e of Slope:	Width of Waterbody - W Water Edge:	Ater Edge to Depth of Wa	ater:
	ft.		ft.	<u>0.5</u> ft.
Sinuosity: Wate	er velocity:	N/A□ Bank height	N/A Bank slope	
(check one) (Appro		Right: 7		ght:
	<u> </u>	Left:	<u>ft.</u>	
Meandering N/AD	3	3	ft.	degrees
Qualitative Attributes				·
Water Appearance: (check one) No water Y	ZClear ⊡Turbid ⊡Sh	neen DSurface In surface scum	□Algal □Other: mats	
Substrate: Greek all that apply) % of Substrate:%	Boulder □ Cobble Ø Gravi %%0	Λ Λ .	clay 🛛 Organic 🗌 Other	%
	ive Layers:			
N/AD 20 ft. (check all (s: DX Sapi _ini	ings/Shrubs: bi Hert inNA	os <u><</u> in.
Dominant Bank Vegetation (list):		~	3.01	
Polystichum a				
Aquatic Habitats (ex: submerged or emer	ged aquatic vegetation, overhanging) banks/roots, leàrpacks, larg	e submerged wood, riffles, deep	pools):
leaf packs				
Aquatic Organisms Observed (list):	201			
unknown tre	<u>دن،</u>			
T&E Species Observed (IIst): hthe obser	rved			
Disturbances (ex: livestock access, manu		pes):		
none obser	red			
Check one)	ral 🔲 Artificial, man-r	nade 🗆 Manipulated		
Stream Quality * : (check one) High	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Low	· · · · · · · · · · · · · · · · · · ·	
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	Waterbody ID:
	snep 004
^a High Quality: Natural channel, natural vegetation extends at least one or two active channel roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover typ disturbance by livestock or man.	widths on each side; banks stable and protected by
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the or riparian vegetation only moderately compromised; banks moderately unstable; water color film; moderate odor; minor barriers to fish movement; fair aquatic habitat; minimum disturbance	is cloudy, submerged objects covered with greenish
Low Quality: Channel is actively down cutting or widening; rip rap and channelization excessive width on each side; lack of regeneration; filtering function severely compromised; banks unstab pollutants (algal mats, surface scum, surface sheen); heavy odor; severe barriers to fish move from livestock or man.	le (eroding); water color is muddy and turbid; obvious
Notes:	
NOLES, and the second	
Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point loca	ation survey houndary and IDs of associated features)
Trace body Orceon (medde now anon, centering bedance non contening) and permitted	
\mathbf{N}	
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Waterbody snep004 facing north upstream.



Waterbody snep004 facing south downstream.



Waterbody snep004 facing west across bank.

Linear Waterbody Data Shee	•t			
Survey Description				
Project Name:	Waterbody Name:			Date:
ACP	4NT to May	o Greek 1	snepoos	7/15/15
State: County/Parish:	Company:		lember Initials: Photos:	
VA Nels	on Est	K	TILR	
Tract Number(s):	Nearest Mile	post:	Associated Wetland ID(s):	
08-214-B004		NA	NA	
Survey Type: (check one) Centerlin		□Access Road	□Other:	
Physical Attributes			and a second	and the second sec
Stream Classification: (check one) DEpheme	ral Dintermittent			
Waterbody Type: (check one)	tream 🗆 Ditch 🔲 Ca	inal 🗍 Other:		
OHWM Indic Width:ft.		e 🗆 Shelving	□Wrested □Scourin vegetation	g 🛛 Water staining
Height: <u>D.S.</u> ft. □Bent, N/A□	matted, or missing □Wrack lin ion	ne □Litter and debris	□Abrupt plant □Soil o community change	characteristic change
	of Waterbody - Toe of Slope	Width of Waterbody - W Water Edge:	Ater Edge to Depth of Wate	ar:
	7	l 1		1.5 ft.
t.	<u> </u>		ft.] N/A⊡	<u></u> n.
	r velocity:	Bank height	Bank slope	
(check one) (Appro: □Straight		Right:	Righ	^{tt} 80
	fps	Left:	ft.	ft: <u>80</u> degrees
Qualitative Attributes		· ·	· · · · · · ·	
Water Appearance:		<u> </u>		
/		surface scum	□Algal □Other: mats	· · · #=
Substrate: Bedrock	Boulder 🛛 Cobble 🛱 Grav		clay 🛛 Organic 🛛 Other:	
% of Substrate:%	<u>%</u> <u>%</u> <u>%</u> <u>40</u>	<u>_% 40 % 7.0</u>	_%%%	
Width of Riparian Zone: Vegetat	ive Layers:			
30 ft. Over DE		s: DSapl	ings/Shrubs: 🖞 Herbs	
N/A	BH of Dominants: 10	_in.	_in. <u>NA</u>	in.
Dominant Bank Vegetation (list): ACEN NUBRUM	Polystichum	acrostic	noides	
Aquatic Habitats (ex: submerged or emer	······································			oois):
leaf packs, o	verhanging k	oanks		
Aquatic Organisms Observed (list):				
turtle, frogs				
T&E Species Observed (list): NONE OBSER	red			
Disturbances (ex: livestock access, manu		pes):		
none observed				
Tributary is: (check one)	ral 🛛 Artificial, man-i	made 🖸 Manipulated		
Stream Quality ": (check one) High	Moderate	D Low		
	· \			

Waterbody ID: 5ned 005 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. 55 V 2 Notes: 1.75.4 ** 200 K Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) t one poos apoint ١

Form Rev. 05/16/2014

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Waterbody snep005 facing southwest upstream.



Waterbody snep005 facing northeast downstream.



Waterbody snep005 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Description		• • •		ning Marine and an annual annual annual an annual an annual annual annual annual annual annual annual annual an Annual an annual an annual annual annual an annual annual annual annual annual annual annual annual annual annua			
Project Name:		Waterbody Nan			Waterbody ID:		ate:
ACP		UNI to	2 Mayo	Greek	snepc		7/15/15
State: C	County/Parish:		Company:		Crew Member Initial	S: Photos: Photos: N, E,	acing
	Nelso		ESI	- at:	171164		w 0
Tract Number(s): 08-214-8	1004		Nearest Milep N	1A	Associated V	Vetland ID(s):	
Survey Type:	7007		N	irs			
(check one)		Re-R	oute	Access Road	Other:		the second of the second of the second
Physical Attributes Stream Classification:							n an an an Araba an Araba. An an Araba an Araba
(check one)	□Ephemera	I ⊠Inten	nittent	Perennial			
Waterbody Type: (check one)	River 🕅 Stre	am 🗆 Ditc	h □Can	al 🛛 Other			
OHWM Width:ft.	OHWM Indicat (check all that apply,		Clear line	Shelvin	g ⊡Wrested vegetation	Scouring	□Water staining
Height: 0.5 ft.	□Bent, m vegetatio	natted, or missing n	g 🗆 Wrack line	e ⊟Litteran debris	nd ⊡Abrupt pla community c		aracteristic change
Width of Waterbody - To Bank to Top of Bank:		of Waterbody - " of Slope:		Width of Waterb Water Edge:	ody - Water Edge to	Depth of Water (Approx.)	-
<u> </u>	-	ft.	1	v/A⊠	ft.	N/AXZ	ft.
Sinuosity: (check one)	Water (Approx.)	elocity:	E	3ank height		Bank slope	
⊡Straight		fr	os	Right:	<u>1ft.</u>	Right	60 degrees
	J N/A\⊅			Left:	1 _{ft.}	Left	: 60_ degrees
Qualitative Attribut	· · · · · · · · · · · · · · · · · · ·			<u> </u>		<u> </u>	· · · ·
Water Appearance:							
	No water LIC	Xear ⊡Turb			irface ⊡Algal ⊔m mats	□Other:	
Substrate:			ian		प्रि Silt/ clay □ Orgar		
	%	_%	<u>% _20 </u>	% <u>~~</u> %	<u>l₀0 %</u>	_%%	
Width of Riparian Zone:	: Vegetative (check all that	•	XTrees:		Saplings/Shrubs:	Ġ ∕ Herbs	
ZO ft.	Avg. DBH	of Dominants:	-	in.	in.	NA in	
N/AC Dominant Bank Vegetat	(epprox) tion (list):			``````````````````````````````````````		Poly	istichum
Liriodend	ron tul	ipifera	, VALLI	nium l	ory m bosi		ostichoides
Aquatic Habitats (ex: su							
none of	oserve	4	•				
Aquatic Organisms Ob	served (list):	-					
none o	bserve	9					
T&E Species Observed	· ·						<u></u>
none ol			<u> </u>				
Disturbances (ex: livesto		-	te alsonarge pipe	25);			
Tributary is: (check one)		 D A	rtificial, man-m	ade 🛛 Mani	pulated		
Stream Quality * : (check one)	🗶 High	O N	loderate	🗆 Low			

Waterbody ID: sned OOb 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. 2 Notes: . í Waterbody Sketch (Include north arrow, centerline, distance from centerline, data point location, survey boundary, and IDs of associated features) snep00b datapoint

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Waterbody snep006 facing southwest upstream.



Waterbody snep006 facing northeast downstream.



Waterbody snep006 facing southeast across bank.

Linear Waterbody Data Sheet

Survey Descriptio	n							
Project Name:		Waterbody Na			w	aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to May	o Creek		Si	Snec058		3/12/2016
State:	County:		Company:		Crew N	lember Initials	: P	Photos:
Virginia	Nelson		NRG		SA, C	R	•	1-3
Tract Number(s):			Nearest Mile	epost:		Associated W	etland I	ID(s):
08-214-B004			184			None		
Survey Type: (check one)	⊠Centerline	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 🗆 Dite	ch 🗆 Ca	anal 🛛 Other	:			
OHWM Width: 2 ft.	OHWM Indica (check all that appl		□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation		Scouring ⊟Water staining
Height: 	□Bent, i vegetatio	matted, or missir on	ng	ine ⊠Litter ar debris	nd	□Abrupt plan community ch		□Soil characteristic change
Width of Waterbody -	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	odv - W	ater Edge to	Depth c	of Water:
Bank to Top of Bank:		of Slope:		Water Edge:	,		(Approx.)	
<u>4</u> ft.	-	<u>1</u> ft.			f		N/A⊠	ft.
Sinuosity:		velocity:		Bank height			Bank sl	Іоре
(check one)	(Approx.)			Right:	<u>2</u> ft.			Right: _ <u>60</u> degrees
		I	ps	Left:				Left:
Meanderi	ng N/A⊠				<u>2</u> ft.			<u>60</u> degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	No water	Clear □Turł		neen ⊡Su n surface sci		□Algal [mats	□Other:	:
	Bedrock 🗆 Bo	oulder 🗆 Cobl	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	□ 0	other:
(check all that apply) % of Substrate:	%	%	_% <u>30</u> %	<u>70</u> %		_%%		%
Width of Riparian Zone								
ft.	(check all tha	t apply) I of Dominants:	⊠ Trees			ngs/Shrubs:	\boxtimes	Herbs
N/A⊠	(approx.)	of Dominanto.	<u>8</u> in.	-	_ <u>2_</u> in.			
Dominant Bank Vegeta Northern red oak, r		olly pine						
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegetation	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, d	deep pools):
None								
Aquatic Organisms Ob	served (list):							
None								
T&E Species Observed	l (list):							
None								
Disturbances (ex: livest None	ock access, manure	in waterbody, wast	e discharge pipe	es):				
Tributary is:								
(check one) Stream Quality ^a :	⊠ Natural	□ Ar	tificial, man-m	nade 🗌 Manip	ulated			
(check one)	⊠ High		oderate	□ Low				

Waterbody ID:

Snec058

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.

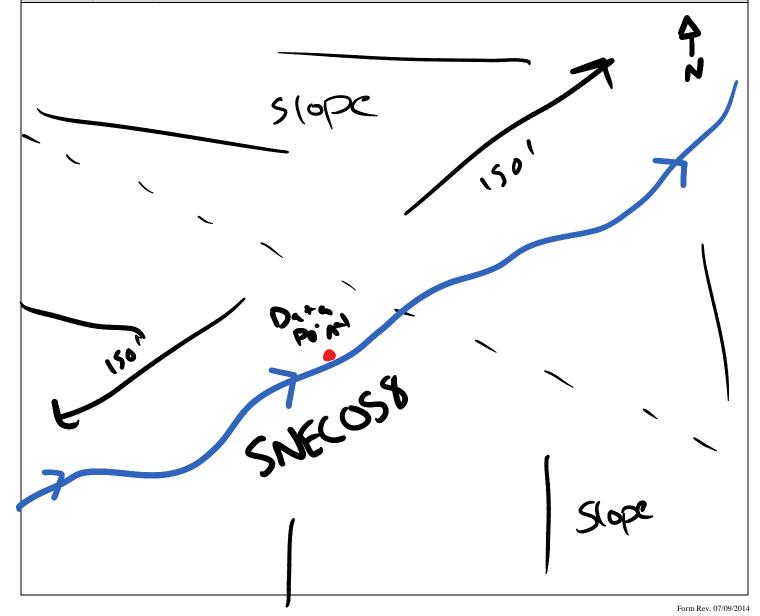
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 channel has numerous fibrous roots throughout the bed and the channel loses bed and bank characteristics in some locations. There was no flowing water at the time of survey.

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





Waterbody SNEC058 facing southwest upstream



Waterbody SNEC058 facing northeast downstream



Waterbody SNEC058 facing northwest across

Linear Waterbody Data Sheet

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Survey Descript	ion					<u> </u>	
Project Name:		Waterbody Nar			Waterbody ID:		ite:
ACP		4NT to	James		snep 008		8/3/2015
State:	County/Parish:		Company:	Cre	ew Member Initials:	Photos:	
VA	Nelson		ESI		RT, CM	Facm NW, SE	A NE
Fract Number(s):	·	•	Nearest Miler	ost:	Associated We		-,
08-214	- B004			NA	none		
Survey Type: check one)		ne ERe-I	Route	□Access Road	□Other:		
Physical Attribu	Ites	-	••••				•
Stream Classificatio (check one)	on: DEpheme	ral 🛛 Inte	mittent				
Waterbody Type: (check one)	□River ଢ∕\$	itream 🗆 Dit	ch 🛛 Ca	nal 🗌 Other:			i
OHWM Width:	OHWM Indic (check all that ap		E Clear line on bank	e 🗆 Shelving	⊡Wrested vegetation		⊡Water staining
Height: 2	ft. vegeta	, matted, or missii tion	ng 🗍 Wrack lir	ne ⊡Litter and debris	□ Abrupt plant community ch	ange	aracteristic change
Width of Waterbod Bank to Top of Bar		h of Waterbody - e of Slope:		Width of Waterbod Water Edge:		Depth of Water: (Approx.)	· _ · _ ·
20	_ft.	<u>6</u> ft.		N/ACI	ft.		_/ft.
Sinuosity:	Wate	er velocity:		Bank height		Bank slope	
(check one) Straig	(Appro	эх.)		Right:		Right:	1.5.0
Jonal	ji it	<u> 21</u>	fps		<u>O_</u> ft.		<u> </u>
Billiear	dering N/A			Left:	8 _{ft.}	Left	15 degrees
Qualitative Attr	l						
Water Appearance (check one)		⊡Cl ear □Tu		neen 🗆 Surfa	-	□Other:	
			•	1 surface scur			
Substrate: (check all that apply)	🗆 Bedrock 🛛	Boulder BCo			Silt/ clay 🛛 Organio	c 🛛 Other:	
% of Substrate:	%	<u> </u>	<u>_% 60</u>	<u>_% <u>30</u>% _</u>	%%	%%	
Midth of Discussion	7	41					·····
Width of Riparian	(check all	tive Layers: that apply)		s: 🛛	Saplings/Shrubs:	X Herbs	
100	tt. Avg. D	BH of Dominant		in.	l in.	NAir	i.
N/AD Dominant Bank V	(approx)		· · · ·				
1 3	- , ,	ts	N	14/0			
	ndo, Carpin						
		erged aquatic vegeta	ation, overhanging	g banks/roots, leaf pack	ks, large submerged woo	od, riffles, deep poo	ds):
Deep ports,	leaf packs						
Aquatic Organism	ns Observed (list):	· · · · · · · · · · · · · · · · · · ·		······			<u> </u>
Fish, frog							
T&E Species Obs None obser							
Disturbances (ev	livestock access mar	ure in waterbody w	aste discharge o	ines):			
none obser		iore in water DOUY M	oore glooner6e h				
Tributary is: (check one)	I Nat	ural C	Artificial, man	-made 🖸 Manip	ulated		
Stream Quality ²	. /			· · · · · · · · · · · · · · · · · · ·			
(check one)	년 Hig	h [Moderate	🗆 Low			

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Waterbody ID snep 00 8 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 Sueb 008 snep009 Kailroad



Waterbody snep008 facing northwest upstream.



Waterbody snep008 facing southeast downstream.

Photo Sheet 1 of 2



Waterbody snep008 facing northeast across bank.