Survey Description	on										
Project Name:		Waterbody	Name:				w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to M	itchell R	un			Si	rae171		e	6/6/2016
State:	County:		Comp	any:			Crew N	lember Initials	:: I	Photos:	
West Virginia	Randolph		NRG				CG, S	SA		1-3	
Tract Number(s):			Neare	st Mile	post:			Associated W	etland	ID(s):	
04-002-B009			NA					none			
Survey Type: (check one)		ne 🗆 🛙	Re-Route		⊠Acc	ess Road		□Other:			
Physical Attribute	as a second s	-									
Stream Classification:											
(check one)	⊠Epheme	ral □I	ntermittent		□Pere	ennial					
Waterbody Type: (check one)	□River ⊠ S	tream 🗆	Ditch	□ Ca	anal	Other	:				
ОНШМ	OHWM Indic	ator:									
Width: ft.	(check all that ap	oly)	□ C on b	Clear lin bank	e I	Shelvin	g	☐Wrested vegetation		Scouring	g ⊠Water staining
Height:	□Bent,	matted, or mi	ssing □W	/rack lir	ne l	□Litter ar	nd	⊠Abrupt plar	nt	⊠Soil cł	naracteristic change
<u>0.5</u> ft. N/A□	vegetati	on			(	debris		community ch	nange		
Width of Waterbody -	Top of Width	of Waterbod	y - Toe of	Slope	Width o	f Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to Toe	e of Slope:			Water E	dge:			(Approx.)		
<u>4</u> ft.		<u>2</u> ft.				-	<u>2</u> ft.			-	<u>_0.1_</u> ft.
Sinuccitur	Wata	volocitur			N/A∐ Bonk bo	ight			N/A∟ Bonk a	lono	
(check one)	(Approx	<i>velocity.</i>				right <sup>.</sup> Riaht <sup>.</sup>			Dalik S	Right	
⊠Straight		0.2_	_fps				<u>4_</u> ft.				<u>70</u> degrees
□Meander	ing N/A□					Left:	1 ft.			Left	: 30 degrees
Qualitative Attrib	Ites										
Water Appearance:	_										
(check one)	No water ⊠	lClear □ <sup>-</sup>	Furbid	⊡Sh on	een surface	⊡Su scu	rface um	□Algal mats	□Other	r:	
Substrate:	Bedrock B	oulder 🛛 🛛	obble 🗵	Grave	el ⊠ S	Sand [	□ Silt/ c	lay 🛛 Organio	; □C	Other:	
(check all that apply) % of Substrate:	%	% 20	% 7	0%	10	%		% %		%	
width of Riparian Zon	e: vegetativ (check all the	/e Layers: at apply)		Trees:			⊠ Saplin	as/Shrubs:	$\boxtimes$	Herbs	
<u>5 ft</u> .	Avg. DBI	H of Dominan	ts:	<u>6_</u> in.		_	<u>1_</u> in.	0			
N/A⊔ Dominant Bank Veget	ation (list):										
Birch, hyacinth, gol	ldenrod, sedge	es, grasses	, Japane	se spi	iraea						
Aquatic Habitats (ex: s	submerged or emerge	ed aquatic vege	tation, overh	anging l	banks/root	s, leaf pac	ks, large	submerged wood	, riffles,	deep pools	5):
none											
Aquatic Organisms O	bserved (list):										
none											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, manure	in waterbody, v	vaste discha	rge pipe	es):						
Roadside ditch, flo	ws over road										
Tributary is: (check one)	□ Natural		Artificial,	man-ma	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		Moderate			⊠ Low					

### Srae171

**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 SRAE171 facing north-northeast upstream



Waterbody SRAE171 facing south-southwest downstream



Waterbody SRAE171 facing west-northwest across

Survey Descriptio	n								
Project Name:	_	Waterbody	Name:		W	/aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to Mi	tchell Run		S	srae170		6	5/6/2016
State:	County:	1	Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, S	SA		1-3	
Tract Number(s):	1		Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B009			NA			none			
Survey Type: (check one)		ne 🗆 R	e-Route	⊠Access Road		□Other:			
Physical Attribute	s								
Stream Classification:									
(check one)	⊠Epheme	ral □Ir	termittent	Perennial					
Waterbody Type: (check one)	]River ⊠ S	tream 🗆 [	Ditch 🗆 C	anal 🛛 Other:					
онwм	OHWM Indic	ator:							
Width: _2_ft.	(check all that ap	oly)	Clear lineon bank	ne 🗆 Shelving	g	□Wrested vegetation		Scouring	i ⊠Water staining
Height:	□Bent,	matted, or mis	sing □Wrack I	ine 🛛 Litter ar	nd	⊠Abrupt plan	t	⊠Soil cł	naracteristic change
<u>0.5</u> ft. N/A□	vegetat	ion		debris		community ch	lange		
Width of Waterbody - 1	op of Width	of Waterbody	- Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to To	e of Slope:		Water Edge:			(Approx.)		
<u>_4_</u> ft.		<u>2</u> ft.			<u>2</u> ft.			-	<u>0.1</u> ft.
Sinuosity:	Wate	r velocity:		N/A			Bank s	lone	
(check one)	(Approx	<i>.)</i>		Right:			Dunito	Right	:
		0.2	fps	Loft	<u>4_</u> ft.			Loft	<u>70</u> degrees
	ng N/A□	l		Leit.	<u>1_</u> ft.			Leit	<u>30</u> degrees
Qualitative Attribu	tes								
Water Appearance:	No wator		urbid 🗆 Sk		faco				
			or	i surface scu	lace Im	mats		-	
Substrate:	Bedrock 🗆 E	Boulder 🛛 Co	obble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ o	clay 🗆 Organic		Other:	
% of Substrate:	%	<u>% 20 </u>	% <u>70</u> %	<u>   10  </u> %		_%%		%	
Width of Riparian Zone	e: Vegetativ	ve Layers:							
- <i>4</i>	(check all th	at apply)	⊠ Trees	: 🛛 🖂	🛛 Saplii	ngs/Shrubs:	$\boxtimes$	Herbs	
<u> </u>	avg. DBI (approx.)	H of Dominant	<b>s:</b> <u>6</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):								
Birch, hyacinth, gol	denrod, sedge	es, grasses							
Aquatic Habitats (ex: se	ubmerged or emerg	ed aquatic vegeta	ation, overhanging	banks/roots, leaf pacl	ks, large	submerged wood	, riffles, o	deep pools	3):
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	l (list):								
none									
Disturbances (ex: liveste	ock access, manure	e in waterbody, wa	aste discharge pip	es):					
Roadside ditch, flow	vs over road								
Tributary is: (check one)	□ Natural		Artificial, man-m	nade 🛛 🖂 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		Moderate	⊠ Low					

Srae170

**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 SRAE170 facing north upstream



Waterbody SRAE170 facing south downstream



# Waterbody SRAE170 facing west across

Survey Descriptio	n									
Project Name:		Waterbody Na	me:		Waterbody ID: Date:					
Atlantic Coast Pipe	line	UNT to Mitch	hell Run		S	rae168		6/6/2016		
State:	County:		Company:		Crew M	Member Initials:	Photo	os:		
West Virginia	Randolph		NRG		CG, S	SA	1-3			
Tract Number(s):	1		Nearest Mile	epost:	1	Associated We	tland ID(s)	1		
unknown			NA			none				
Survey Type: (check one)		e □Re-I	Route	⊠Access Road		□Other:				
Physical Attribute	e									
Stream Classification: (check one)	□ Ephemera	al 🛛 Inter	rmittent	Perennial						
Waterbody Type:	-									
(check one)	River Sti	ream 🗆 Dite	ch 🗆 Ca	anal 🛛 Other	:					
OHWM Width: 6 ft.	OHWM Indica (check all that appl	tor: y)	□ Clear lir on bank	ne ⊡Shelvin	g	□Wrested vegetation	⊠Scou	ring ⊠Water staining		
Height:	⊠Bent, r	matted, or missir	ng ⊡Wrack li	ne 🛛 Litter ar	nd	□Abrupt plant	⊠So	il characteristic change		
_ <u>1_</u> ft. N/A□	vegetatio	n		debris		community cha	ange			
Width of Waterbody - Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of Wa Approx.)	iter:		
<u>_10</u> ft.	-	<u>5</u> ft.		N/A	<u>5</u> ft.	Ν	J/A 🗆	<u>0.2</u> ft.		
Sinuosity:	Water	velocity:		Bank height		B	Bank slope			
(check one)	(Approx.)			Right:	- "		Rig	ght:		
		<u>_1_</u> fps		Left:	<u>5</u> π.		L	.eft:		
	ng N/A□				<u>2_</u> ft.			<u>30</u> degrees		
Qualitative Attribu	ites									
Water Appearance: (check one)	No water ⊠0	Clear DTurk	oid □Sh on	leen ⊡Su surface sci	rface um	□Algal □ mats	Other:			
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic	Other:			
(check all that apply) % of Substrate:	<u>% 40 9</u>	% <u>30</u> %	<u> 15 </u> %	<u>15</u> %		_%%	9	6		
Width of Riparian Zone	e: Vegetativ	e Layers:								
10 ft.	(check all that	t apply)	⊠ Trees	: 5	Saplir	ngs/Shrubs:	🛛 Herb	S		
<u>10 n</u> . N/A□	(approx.)	or Dominants.	<u>_10_</u> ın.	-	<u>2</u> ın.					
Dominant Bank Vegeta	ation (list):									
Maple, birch, tulip ti	ree, hyacinth, g	grasses								
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, deep p	ools):		
boulders										
Aquatic Organisms Ob	served (list):									
salamanders										
T&E Species Observed	l (list):									
none										
Disturbances (ex: livest	ock access, manure	in waterbody, wast	e discharge pipe	es):						
Culverted beneath	rod, bank reve	tment								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated					
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low						

Srae168

**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 SRAE168 facing northeast upstream



Waterbody SRAE168 facing west downstream



Waterbody SRAE168 facing north across

Survey Descriptio	n										
Project Name:		Waterbody Na	me:		w	aterbody ID:			Date:		
Atlantic Coast Pipe	line	UNT to Mitc	hell Run		S	brae167			6/6/2016		
State:	County:		Company:		Crew I	Member Initials:	F	Photos:			
West Virginia	Randolph		NRG		CG, S	SA		1-3			
Tract Number(s):			Nearest Mile	epost:		Associated Wetland ID(s):					
unknown			NA			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: (check one)	River ⊠ Str	ream 🗆 Dit	ch 🗆 Ca	anal 🗌 Other:	:						
OHWM Width: _7_ft.	OHWM Indica (check all that apply	tor: y)	□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation		Scouring	g □Water staining		
Height: ft. N/A□	⊠Bent, r vegetatio	matted, or missir on	ng   ⊡Wrack li	ne ⊠Litter ar debris	nd	□Abrupt plant community cha	i ange	⊠Soil cl	naracteristic change		
Width of Waterbody - 1 Bank to Top of Bank	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to		of Water	:		
	to roe	of Slope:		water Edge:	_7_ft.	(	Αρριοχ.)	-	<u>_0.4_</u> ft.		
0				N/A 🗆		1					
Sinuosity: (check one)	(Approx.)	velocity:		Bank height		1	Bank s	lope Pight			
⊠Straight		_ <u>1.25_</u> fp	DS	Kight.	<u>5_</u> ft.			Night	60 degrees		
□Meanderi	ng N/A 🗆			Left:	2_ ft.			Left	: 45 degrees		
Qualitative Attribu	ites										
Water Appearance:	<b>.</b>										
(check one)	JNo water ⊠0	Clear LTurl	oid ⊔Sh on	leen ⊔Sui i surface scu	rface um	∐Algal L mats	JOther				
Substrate:	Bedrock 🛛 🖾 Bo	oulder 🛛 Cobl	ble 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic		)ther:			
% of Substrate:	<u>     %   10  </u> %	% <u>30</u> %	<u>    30   </u> %	<u>    30   </u> %		_%%		_%			
Width of Riparian Zone	e: Vegetative	e Lavers:									
45.6	(check all that	apply)	☑ Trees	: D	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs			
<u>15 π</u> ∙ N/A□	avg. DBH (approx.)	of Dominants:	<u>_12_</u> in.	-	_ <u>1_</u> in.						
Dominant Bank Vegeta	ation (list):										
Ash, beech, hyacin	th, goldenrod										
Aquatic Habitats (ex: so boulders	ubmerged or emerge	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, c	deep pool	3):		
Aquatic Organisms Of	served (list)										
salamanders											
T&E Species Observed	l (list):										
none											
Disturbances (ex: livest	ock access, manure i	n waterbody, wast	e discharge pipe	es):							
Bank revetment, cu	lverted beneat	h road, roads	side ditch								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manipi	ulated						
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ M	oderate	□ Low							

Srae167

**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 SRAE167 facing east upstream



Waterbody SRAE167 facing west downstream



# Waterbody SRAE167 facing north across

Survey Description	on									
Project Name:		Waterb	ody Nam	e:			Waterbody ID:			Date:
Atlantic Coast Pipe	eline	UNT to	o Mitche	ell Run			Srae165			6/6/2016
State:	County:	ľ	C	company:		Cre	w Member Initial	s:	Photos:	
West Virginia	Randolp	h	Γ	IRG		CC	G, SA		1-3	
Tract Number(s):			Ν	learest Mile	epost:		Associated V	Vetland	ID(s):	
unknown			٦	A			none			
Survey Type:		ntarlina		u to		Dood	Other			
	⊔Ce	ntenine		oute	Access	Road				
Physical Attribute Stream Classification:	es :									
(check one)	□Epl	hemeral	⊠Interm	ittent	Perenni	al				
Waterbody Type:										
(check one)	River	Stream Stream	□ Ditch	□ Ca	anal 🗆 (	Other:				
ОНWM	онум	Indicator:						_		
Width: 5 ft.	(check all	that apply)		Clear lir on bank	ne ⊡Sł	nelving	☐Wrested vegetation		Scouring	g □Water staining
Height:		Ropt mattad a	r missing	□Wrack li		tor and		nt		baractoristic change
<u><u> </u></u>	ve	egetation	rmssing		debr	is	community c	hange		naracteristic change
N/A∟ Width of Waterbody -	Top of	Nidth of Water	hody - Tr	e of Slone	Width of W	aterbody	- Water Edge to	Denth	of Water	••
Bank to Top of Bank:	t	to Toe of Slope	:		Water Edge	:	Trate: Lage to	(Approx.	)	
_10_ft.		_4_ ft.				_4	ft.			<u>0.2</u> ft.
					N/A□			N/A□		
Sinuosity: (check one)		Water velocity: (Approx.)			Bank heigh	t 		Bank	slope	
⊠Straight			0.8 fps		Rig	nt: 4_	_ft.		Right	: <u>30</u> degrees
□Meander	ina				Le	eft:	ft		Left	: 45 degrees
Qualitative Attribu	utes									
(check one)	☐No water	⊠Clear	□Turbic	l ⊡Sh on	een surface	□Surface scum	e □Algal mats	□Othe	er:	
Substrate:	Bedrock	⊠ Boulder	Cobble 🛛	e 🛛 Grave	el 🛛 Sand	□ S	ilt/ clay 🛛 Organi	c 🗆	Other:	
(check all that apply) % of Substrate:	<u>10_</u> %	10_%	<u>20_</u> %	40_%	_20_%		%%	6	_%	
Width of Pinarian Zon	o. Voo	otativa Lavara								
width of Riparian 201	chec	ck all that apply)		⊠ Trees:	:	⊠ Sa	aplings/Shrubs:	Σ	∃ Herbs	
<u>20 ft</u> ·		J. DBH of Domi	nants:	<u>8</u> in.		<u>_1</u>	in.			
Dominant Bank Veget	ation (list):									
Birch, nettle, golde	nrod, sedę	ges								
Aquatic Habitats (ex: s	submerged or	emerged aquatic v	egetation,	overhanging	banks/roots, le	af packs, la	arge submerged woo	d, riffles,	deep pool	s):
Step pools										
Aquatic Organisms O	bserved (lisi	t):								
Salamanders, ston	e flies, ins	sects								
T&E Species Observe	<b>d</b> (list):									
none										
Disturbances (ex: lives	tock access, n	nanure in waterbo	dy, waste o	lischarge pipe	es):					
Culverted beneath	road									
Tributary is: (check one)	🗆 Na	atural	□ Artif	cial, man-m	ade 🛛 🕅	lanipulate	ed			
Stream Quality <sup>a</sup> : (check one)	🗆 Hi	gh	⊠ Mod	erate		wc				

Srae165

**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 SRAE165 facing north upstream



Waterbody SRAE165 facing south downstream



# Waterbody SRAE165 facing west across

Survey Descriptio	n										
Project Name:		Waterbody Na	me:		N	aterbody ID:			Date:		
Atlantic Coast Pipe	line	UNT to Mitch	nell Run		S	rae166		e	6/6/2016		
State:	County:		Company:		Crew I	Member Initials	: F	Photos:			
West Virginia	Randolph		NRG		CG, S	Э, SA 1-3					
Tract Number(s):	1		Nearest Mile	epost:		Associated Wetland ID(s):					
unknown			NA			none					
Survey Type: (check one)		e □Re-F	Route	⊠Access Road	1	□Other:					
Physical Attribute	s										
Stream Classification:											
(check one)	<sup>⊠</sup> Ephemera	al 🗌 Inter	rmittent	Perennial							
Waterbody Type: (check one)	River ⊠ Str	ream 🗆 Dito	ch 🗆 C	anal 🛛 🗆 Other	:						
ОНШМ	OHWM Indica	tor:						<u> </u>			
Width: _2_ft.	(cneck all that appl	Y)	Clear lir on bank	ne ⊡Shelvin	g	☐Wrested vegetation		Scouring	staining		
Height:	⊠Bent, r	matted, or missin	ng ⊡Wrack li	ne 🗆 Litter al	nd	□Abrupt plan	t	⊠Soil cł	naracteristic change		
π. N/A□	vegetatio	n		debris		community ch	ange				
Width of Waterbody - 1 Bank to Top of Bank	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth (	of Water	:		
Ballk to Top of Ballk.	to roe	of Slope:		water Euge.			(Approx.)		o. 4. <i>4</i>		
_ <u>4_</u> ft.	-	<u>2</u> ft.			<u>1_</u> ft.		N/A□	-	<u>_0.1_</u> ft.		
Sinuosity:	Water	velocity:		Bank height			Bank s	lope			
(check one)	(Approx.)			Right:				Right			
		<u>_0.1_</u> fps	6	Left:	<u>2</u> ft.			Left	<u>60</u> degrees		
□Meanderi	ng N/A□				<u>2</u> ft.				60 degrees		
Qualitative Attribu	ites										
Water Appearance:		Cloar ⊠Turk	vid 🗆 Sk		rfaco		Othor				
(			or	surface sci	um	mats		•			
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic		Other:			
% of Substrate:	_%	%	<u>% 40</u> %	<u>30</u> %	<u>30 %</u>	%		%			
Width of Riparian Zone	e: Vegetative	e Lavers:									
	(check all that	apply)	⊠ Trees	: [	□ Sapliı	ngs/Shrubs:	$\boxtimes$	Herbs			
<u>5 ft</u> ∙ N/A⊠	Avg. DBH (approx.)	of Dominants:	<u>_12_</u> in.	-	_	_in.					
Dominant Bank Vegeta	ation (list):										
Maple, nettle, hyaci	nth										
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	, riffles, c	deep pools	\$):		
none											
Aquatic Organisms Ob	oserved (list):										
salamander											
T&E Species Observed	d (list):										
none											
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pip	es):							
Crosses road											
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	iade 🛛 Manip	ulated						
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low							

Srae166

**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 SRAE166 facing northeast upstream



Waterbody SRAE166 facing southwest downstream



# Waterbody SRAE166 facing northwest across

Survey Descriptio	n	-							
Project Name:		Waterbody Na	me:		v	/aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to Mitch	nell Run		S	srae164		e	3/6/2016
State:	County:		Company:		Crew I	Member Initials	: 1	Photos:	
West Virginia	Randolph		NRG		CG, S	SA		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
unknown			NA			none			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road	l	□Other:			
Physical Attribute	S								
Stream Classification:									
(cneck one)		al 🛛 Inter	rmittent	Perennial					
Waterbody Type: (check one)	□River ⊠ Str	ream 🗆 Dito	ch 🗆 C	anal 🗌 Other	:				
ОНШМ	OHWM Indica	tor:						<u> </u>	
Width: _2_ft.	(check all that appl	y)	on bank	ne ⊡Shelvin	g	☐Wrested vegetation		Scouring	staining
Height:	⊠Bent, r	matted, or missin	ng ⊡Wrack li	ne 🗆 Litter ar	nd	⊠Abrupt plan	t	⊠Soil cł	aracteristic change
π. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - " Bank to Top of Bank:	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth (	of Water	:
Bank to Top of Bank.	10 100	of Slope.		Water Luge.			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0.4.4
<u>_5_</u> ft.	-	<u>2</u> ft.		N/A□	<u>2</u> ft.		N/A□	-	<u>_0.1_</u> π.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:	<b>∧</b> #			Right:	70 dograda
		<u>_0.2</u> _tps	6	Left:	<u>4</u> 1.			Left	<u>10</u> degrees
	ng N/A□				<u>    1_</u> ft.				<u>30</u> degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	<sup>□</sup> No water ⊠0	Clear DTurb	oid □Sh or	neen ⊡Su n surface sci	rface um	□Algal [ mats	□Other	:	
Substrate:	Bedrock Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	% 10 %	30 %	30 %	30 %	%		%	
Width of Discrice Zee	No mototi u								
width of Riparian Zon	check all that	e Layers: tapply)	⊠ Trees	:	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> .	Avg. DBH	of Dominants:	<u>6</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	ation (list):								
Violet, birch, rush, t	tuliptree								
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, o	deep pools	»):
none									
Aquatic Organisms Of	oserved (list):								
none									
T&E Species Observed	d (list):								
none									
Disturbances (ex: livest	ock access, manure i	in waterbody, waste	e discharge pip	es):					
Roadside ditch									
Tributary is: (check one)	□ Natural	⊠ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					

Srae164

**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 SRAE164 facing northeast upstream



Waterbody SRAE164 facing southwest downstream



# Watebody SRAE164 facing northwest across

Survey Description	on								
Project Name:		Waterbody N	lame:		w	aterbody ID:		C	Date:
Atlantic Coast Pipe	eline	UNT to Mit	chell Run		S	rae163		6	6/4/2016
State:	County:		Company:		Crew I	Member Initials	: Pł	notos:	
West Virginia	Randolph		NRG		CG, F	RP, KO	1	-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID	D(s):	
			NA			none			
Curvey Type: (check one)	⊠Centerlin	e ⊡Re	e-Route	⊠Access Road		□Other:			
Physical Attribute	es								
Stream Classification (check one)	: □Ephemei	ral ⊠Int	ermittent	Perennial					
Waterbody Type: (check one)	□River ⊠ St	ream 🗆 D	itch 🗆 Ca	anal 🗌 Other:					
OHWM Width:	OHWM Indica (check all that app	ator: /y)	🗆 Clear lin	e 🗆 Shelving	g	□Wrested	□S	couring	□Water
<u> </u>			on bank			vegetation			staining
Height: ft. N/A□	⊠Bent, vegetati	matted, or miss on	sing □Wrack lin	ne ⊠Litter ar debris	nd	□Abrupt plan community ch	t ⊑ ange	∃Soil ch	aracteristic change
Width of Waterbody -	Top of Width	of Waterbody	- Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth of	Water:	
Bank to Top of Bank:	to Toe	e of Slope:		Water Edge:			(Approx.)		
<u>_15_</u> ft.		<u>10_</u> ft.			<u>8_</u> ft.		N/A□	-	<u>_0.1</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank slo	ре	
(check one)	(Approx	)		Right:	~ "			Right:	
		0.02	fps	Left:	<u> </u>			Left:	<u>60</u> degrees
	ring N/A□				<u>3_</u> ft.				40 degrees
Qualitative Attrib	utes								
Water Appearance: (check one)	□No water 🛛 🖾	Clear □Tu	ırbid □Sh on	een ⊡Sur surface scu	rface um	□Algal [ mats	□Other:		
Substrate:	🗆 Bedrock 🛛 🛛 B	oulder 🛛 Co	bble 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	□ Otł	her:	
(check all that apply) % of Substrate:	<u>% 50</u>	% <u>20</u> %	% <u>15</u> %	<u> 5 </u> %	<u>10_</u> %	%		%	
Width of Riparian Zon	e: Vegetativ	e Lavers:							
	(check all the	at apply)	⊠ Trees:	E D	Saplir	ngs/Shrubs:	×F	Herbs	
<u>υπ</u> . N/A⊠	(approx.)	1 of Dominants	<u> </u>	-	_ <u>1_</u> in.				
Dominant Bank Veget Hyacinth ferns ma	ation (list):	h hazel ora	5565						
Aquatic Habitats (or: 4	submorand or omora			hanks/roots loof nos	ke largo	submorged wood	rifflog do		۸-
none	submerged of emerge	eu aqualle vegela	lion, overhanging	banks/100is, lear pac	ks, large	Submerged wood	, nines, de	ep pools	)-
Aquatic Organisms O	bserved (list): sala	amander							
T&E Species Observe	d (list):								
none	. ,								
Disturbances (ex: lives	tock access, manure	in waterbody, wa	ste discharge pipe	es):					
Roadside ditch, cro	osses over roa	b							
Tributary is: (check one)	⊠ Natural		Artificial, man-m	ade 🗌 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		Moderate	⊠ Low					

Srae163

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 SRAE163 facing northeast upstream



Waterbody SRAE163 facing southwest downstream



# Waterbody SRAE163 facing northwest across

Survey Description	n						<u> </u>					
Project Name:		Waterb	ody Nam	e:			w	aterbody ID:			Date:	
Atlantic Coast Pipe	line	UNT to	o Mitche	ell Run			S	rae169			6/6/2016	
State:	County:		C	company:			Crew M	Member Initials	:	Photos:		
West Virginia	Randolph	ו	Ν	IRG			CG, S	SA		1-3		
Tract Number(s):			N	learest Mile	epost:	oost: Associated W				/etland ID(s):		
unknown			٢	<b>IA</b>				none				
Survey Type: (check one)	□Cen	nterline	□Re-Ro	oute	⊠Ac	cess Road		Other:				
Physical Attribute												
Stream Classification:												
(check one)	⊠Eph	nemeral		ittent	□Pe	rennial						
Waterbody Type: (check one)	River	Stream	□ Ditch	□ Ca	anal	□ Other	-					
ОНШМ	OHWM I	Indicator:							_			
Width: _2_ft.	(check all t	hat apply)		Clear lir on bank	ie	Shelvin	g	☐Wrested vegetation		]Scouring	g ⊠Water staining	
Height:		Bent, matted, o	r missing	□Wrack li	ne	□Litter ar	nd	⊠Abrupt plan	t	⊠Soil cl	naracteristic change	
<u> </u>	veç	getation				debris		community ch	ange			
Width of Waterbody - " Bank to Top of Bank:	Top of W	Vidth of Water	body - To	pe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth (Approx	of Water	:	
Ballk to Top of Ballk.	Ľ	o Toe of Slope			valer	Euge.			(Approx.)	/	0.4 <i>(</i> )	
_ <u>4_ft.</u>		<u>_2_</u> ft.			N/A□	-	<u>2</u> ft.		N/A□	-	<u>_0.1_</u> ft.	
Sinuosity:	v	Vater velocity:			Bank h	eight			Bank s	slope		
(check one)	(A	Approx.)				Right:	1 4			Right	70 dograda	
			<u>0.2_</u> fps			Left:	<u>4</u> 11.			Left	<u>10</u> degrees	
	ing N	I/A□					<u>1_</u> ft.				<u>30</u> degrees	
Qualitative Attribu	utes											
Water Appearance: (check one)	□No water	⊠Clear	□Turbid	l ⊡Sh on	een surface	⊡Su scu	rface um	□Algal mats	□Othe	r:		
Substrate:	Bedrock	Boulder	Cobble	e 🛛 Grave	el 🛛	Sand [	□ Silt/ c	lay 🗆 Organic	: 🗆 (	Other:		
(check all that apply) % of Substrate:	%	%	<u>20_</u> %	<u>70</u> %	_1(	<u>)</u> %		_%%		_%		
Width of Riparian Zon	e: Vege	etative Layers:										
5 ft	(check	k all that apply)	nante	⊠ Trees:	:		⊠ Saplir	ngs/Shrubs:	$\boxtimes$	I Herbs		
<u> </u>	(appro	ox.)	nanto.	<u>   6   </u> In.		-	_ <u>1_</u> in.					
Dominant Bank Veget	ation (list):											
Birch, hyacinth, gol	denrod, se	edges, grass	ses									
Aquatic Habitats (ex: s	ubmerged or e	emerged aquatic v	egetation,	overhanging	banks/roo	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):	
none												
Aquatic Organisms Ol	bserved (list)	):										
Salamanders, cray	fish											
T&E Species Observe	d (list):											
none												
Disturbances (ex: livest	tock access, m	anure in waterbo	dy, waste o	lischarge pipe	es):							
Roadside ditch, cu	lverted ber	neath road										
Tributary is: (check one)	□ Nat	tural	□ Artifi	cial, man-m	ade	🛛 Manip	ulated					
Stream Quality <sup>a</sup> : (check one)	🗆 Hig	jh	□ Mod	erate		⊠ Low						

Srae169

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 SRAE169 facing southeast upstream



Waterbody SRAE169 facing northwest downstream



# Waterbody SRAE169 facing northeast across
Survey Description	n								
Project Name:		Waterbody	Name:		w	aterbody ID:		D	vate:
Atlantic Coast Pipe	line	UNT to Mit	tchell Run		S	rae162		6	/4/2016
State:	County:		Company:		Crew N	Member Initials	: PI	notos:	
West Virginia	Randolph		NRG		CG, F	RP, KO	1	-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland II	)(s):	
			NA			none			
Survey Type: (check one)		e □R	e-Route	⊠Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)	Epheme	ral ⊠In	termittent	Perennial					
Waterbody Type:	·								
(check one)	□River ⊠ St	tream 🗆 🗆	Ditch 🗆 C	anal 🛛 Other:					
OHWM	OHWM Indic	ator:							
Width: _2_ft.	(спеск ан тпат арр	<i>א</i> ין און און און און און און און און און או	☐ Clear lir on bank	ne ⊡Shelving	g	☐Wrested vegetation	⊔s	couring	⊔Water staining
Height:	⊠Bent,	matted, or mis	sing DWrack li	ne 🛛 Litter ar	nd	□Abrupt plan	t 🛛	⊠Soil ch	aracteristic change
ft. N/A□	vegetati	on		debris		community ch	ange		
Width of Waterbody -	Top of Width	of Waterbody	- Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth of	f Water:	
Bank to Top of Bank:	to Toe	e of Slope:		water Edge:			(Approx.)		
<u>_4_</u> ft.		<u>2</u> ft.			<u>1_</u> ft.			-	<u>_0.1</u> ft.
Sinuosity:	Water	velocity:		N/AL			Bank slo	ope	
(check one)	(Approx	.)		Right:				Right:	
Boliaight		_0.01	fps	Loft	<u>4_</u> ft.			Loft	80 degrees
□Meanderi	ing N/A□			Lon.	<u>1_</u> ft.			Lon.	<u>30</u> degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	□No water ⊠	Clear DT	urbid □Sh or	neen ⊡Sui nisurface scu	face Im	□Algal [ mats	□Other:		
Substrate:	Bedrock 🛛 B	oulder 🛛 Co	obble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	□ Ot	her:	
(check all that apply) % of Substrate:	%	% 10 9	% 20 %	20 %	50 %	%		%	
Width of Rinarian Zon	e: Vegetativ	e Lavers:							
Math of Riparian 201	(check all the	at apply)	⊠ Trees	: 🛛 🛛	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> . N/A⊠	Avg. DBH (approx.)	l of Dominant	<b>s:</b> <u>6</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Veget	ation (list):								
Hyacinth, rushes, n	nale, witch haz	el, grasses							
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic vegeta	ation, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, de	ep pools	):
none									
Aquatic Organisms Ol	oserved (list):								
none									
T&E Species Observe	d (list):								
none									
Disturbances (ex: livest	ock access, manure	in waterbody, wa	aste discharge pipe	es):					
Roadside ditch, cro	osses over roa	d							
Tributary is: (check one)	□ Natural	$\boxtimes$	Artificial, man-m	ade 🗆 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		Moderate	⊠ Low	_				

#### Srae162

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 SRAE162 facing northeast upstream



Waterbody SRAE162 facing southwest downstream



# Waterbody SRAE162 facing northwest across

Survey Descripti	on										
Project Name:		Waterb	ody Nam	ie:			W	aterbody ID:			Date:
Atlantic Coast Pip	eline	UNT t	o Mitche	ell Run			S	rae161			6/4/2016
State:	County:		C C C C C C C C C C C C C C C C C C C	Company:			Crew N	lember Initials	5:	Photos:	
West Virginia	Randolph		1	NRG			CG, F	RP, KO		1-3	
Tract Number(s):			1	Nearest Mile	epost:			Associated W	etland	ID(s):	
				NA				None			
Survey Type: (check one)	□Cent	terline	□Re-Re	oute	⊠Ac	cess Road		Other:			
Physical Attribut	es										
Stream Classification (check one)	n: □Ephe	emeral	⊠Intern	nittent	□Pe	rennial					
Waterbody Type:											
(check one)	River	Stream Stream	□ Ditch	n 🗆 Ca	anal	□ Other	:				
ОНШМ	OHWM II	ndicator:									
<b>Width:</b> ft.	(check all th	iat apply)		Clear lir on bank	ne	□Shelvin	g	☐Wrested vegetation	Σ	Scouring	g □Water staining
Height:	⊠B	Bent. matted. c	or missina	∣ ⊡Wrack li	ne	□Litter a	nd	□Abrupt plar	nt	⊠Soil c	haracteristic change
ft. N/A□	veg	jetation				debris		community ch	nange		
Width of Waterbody	· Top of W	idth of Water	rbody - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank	to	Toe of Slope	Ð:		Water	Edge:			(Approx.	)	
<u>_8_</u> ft.		<u>3_</u> ft.				-	<u>3_</u> ft.				<u>_0.1_</u> ft.
Sinussitur	14				N/A 🗆	aight			N/ALL Benk		
(check one)	(A	pprox.)	-		Бапк п	Right			Dank	Siope Right	
⊠Straight		_	0.75_ fps			Night.	<u>2_</u> ft.			Right	<u>60</u> degrees
□Meande	ering N	/A□				Left:	2_ ft.			Left	: 60 degrees
Qualitative Attrib	outes								I		-
Water Appearance:	<b>—</b>										
(check one)	<sup>⊔</sup> No water	⊠Clear	□Turbio	d ⊡Sh on	neen N surface	e sci	rface um	□Algal mats	□Othe	er:	
Substrate:	Bedrock	Boulder 🛛		e 🛛 Grav	el 🛛	Sand	□ Silt/ c	lay 🗆 Organio		Other:	
(check all that apply) % of Substrate:	%	<u>10 </u> %	<u>10_</u> %	<u>   70  </u> %	1(	<u>0 %</u>		_%%	,	%	
Width of Riparian Zo	ne: Vege	tative Layers	:								
	(check	all that apply)		☑ Trees	:	D	🛛 Saplir	ngs/Shrubs:	D	☑ Herbs	
<u> </u>	AVG. (appro.	X.)	inants:	<u>8</u> in.		-	<u>1</u> in.				
Dominant Bank Vege	tation (list):										
Hyacinth, maple, v	witch hazel,	jewelweed	, nettle								
Aquatic Habitats (ex:	submerged or er	merged aquatic	vegetation	, overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	s):
None											
Aquatic Organisms (	Observed (list):										
salamanders											
T&E Species Observ	ed (list):										
none											
Disturbances (ex: live	stock access, ma	anure in waterbo	ody, waste	discharge pipe	es):						
Roadside ditch											
Tributary is: (check one)	□ Nat	ural	🛛 Artif	ficial, man-m	ade	🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 Higl	h		derate		⊠ Low					

#### Srae161

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 SRAE161 facing northeast upstream



Waterbody SRAE161 facing southwest downstream



# Waterbody SRAE161 facing northwest across

Survey Description	on				<u> </u>				
Project Name:		Waterbody Na	me:		W	laterbody ID:			Date:
Atlantic Coast Pipe	eline	UNT to Mitc	hell Run		S	rae160		e	6/4/2016
State:	County:		Company:		Crew M	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, F	RP, KO		1-3	
Tract Number(s):			Nearest Mile	epost:	1	Associated W	etland	ID(s):	
unknown			NA			None			
Survey Type: (check one)		e □Re-	Route	⊠ Access Road		□Other:			
Physical Attribute	26								
Stream Classification	:								
(check one)	Ephemer	al ⊠Inte	rmittent	Perennial					
Waterbody Type: (check one)	□River ⊠ St	ream 🗆 Dit	ch 🗆 C	anal 🗌 Other	:				
OHWM	OHWM Indica	ator:			~			Socuring	
<u>_7_</u> ft.	(oncon an anat app	<i></i>	on bank		y	vegetation		Scouring	staining
Height:	⊠Bent,	matted, or missir	ng ⊡Wrack li	ne 🗆 Litter ar	nd	□Abrupt plan	t	⊠Soil cł	naracteristic change
<u>1</u> π. N/A□	vegetatio	n		debris		community ch	lange		
Width of Waterbody - Bank to Top of Bank:	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water	:
ванк то тор ог ванк.	to Toe	of Slope:		water Edge:			(Appiox.)		
<u>_14_</u> ft.	-	<u>5</u> ft.			<u>5</u> ft.		N/A□	-	<u>_0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one) Straight	(Approx.)	)		Right:				Right	
		<u>_0.75</u> fp	S	Left:	<u>2</u> ft.			Left	<u>60</u> degrees
□Meander	ring N/A□				<u>3_</u> ft.				60 degrees
Qualitative Attrib	utes								
Water Appearance:			aid Dek		rfaaa				
			or	i surface sci	um	mats		•	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobl	ble 🛛 Grav	el 🛛 Sand 🛛	□ Silt/ c	clay 🗆 Organic	: 🗆 C	Other:	
% of Substrate:	<u>% 10 </u>	% <u>10</u> %	<u>   60  </u> %	<u>20</u> %		_%%		%	
Width of Riparian Zon	e: Vegetativ	e Layers:							
	(check all tha	t apply)	☑ Trees	:	⊠ Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> ∙ N/A⊠	AV <b>g. DBH</b> (approx.)	of Dominants:	<u>8</u> in.	-	<u>1</u> in.				
Dominant Bank Veget	tation (list):								
Hyacinth, maple, w	vitch hazel, jewe	elweed, nettle	9						
Aquatic Habitats (ex: s	submerged or emerge	ed aquatic vegetation	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, (	deep pools	5):
Step pool									
Aquatic Organisms O	bserved (list):								
salamanders									
T&E Species Observe	ed (list):								
none									
Disturbances (ex: lives	tock access, manure	in waterbody, wast	e discharge pip	es):					
Culverted beneath	road								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	× M	oderate	□ Low					

Srae160

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:



![](_page_46_Picture_0.jpeg)

Waterbody SRAE160 facing northwest upstream

![](_page_46_Picture_2.jpeg)

Waterbody SRAE160 facing southeast downstream

![](_page_47_Picture_0.jpeg)

# Waterbody SRAE160 facing southwest across

Survey Description	n								
Project Name:		Waterbody Na	me:		w	aterbody ID:		C	Date:
Atlantic Coast Pipeli	ne	UNT to Mitch	nell Run		S	rae155		5	5/31/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, F	RP		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
unkñown			NA			Wrae232			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road		□Other:			
Physical Attributes	<b>i</b>								
Stream Classification: (check one)	<sup>⊠</sup> Ephemera	al 🗌 Inter	mittent	□Perennial					
Waterbody Type:									
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 Ca	anal 🛛 Other:					
онwм	OHWM Indicat	tor:							
Width: _2_ft.	(check all that apply	/)	Clear lir on bank	ne ⊡Shelving	g	☐Wrested vegetation	$\boxtimes$	Scouring	□Water staining
Height:	⊠Bent, n	natted, or missin	ig	ne 🗆 Litter ar	nd	□Abrupt plan	t	□Soil ch	aracteristic change
<u>0.5</u> ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - To Bank to Top of Bank	op of Width of to Toe	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth (Approx.)	of Water:	
	10 100	or slope.		Water Luge.			(*********		<del>f</del> t
<u>_4</u> π.		<u>1_</u> ft.		N/A⊠	t	t.	N/A⊠	_	n.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	,		Right:	1 #			Right:	30 dogroop
		tr	ps	Left:	<u> </u>			Left:	<u> </u>
	9 N/A⊠				<u>5_</u> ft.				80_degrees
Qualitative Attribut	es								
Water Appearance: (check one)	No water □C	Clear □Turb	oid □Sh on	neen ⊡Sur nisurface scu	face Im	□Algal   mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grave	el 🛛 Sand 🛛	□ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 40</u> %	<u>   50  </u> %	<u>   10  </u> %		_%%		%	
Width of Riparian Zone	Vegetative	e Layers:							
ft.	(check all that	apply)	⊠ Trees	: 🛛 🛛	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)	or Dominants.	<u>8</u> in.	-	_ <u>1_</u> ın.				
Dominant Bank Vegetat	t <b>ion</b> (list):								
Oak, grasses, black	berry, sedges								
Aquatic Habitats (ex: su	bmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pacl	ks, large	submerged wood	, riffles, o	deep pools	):
none									
Aquatic Organisms Obs	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):					
Roadside ditch									
Tributary is: (check one)	□ Natural	⊠ Ari	tificial, man-m	ade 🗌 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					

Srae155

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:

![](_page_49_Figure_7.jpeg)

![](_page_50_Picture_0.jpeg)

Waterbody srae155 facing southwest upstream

![](_page_50_Picture_2.jpeg)

Waterbody srae155 facing north downstream

![](_page_51_Picture_0.jpeg)

Waterbody srae155 facing west across

Survey Descriptio	n								
Project Name:		Waterbody Na	me:		w	aterbody ID:		D	ate:
Atlantic Coast Pipel	ine	UNT to Mitcl	hell Run		S	rae156		5	/31/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, F	RP		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
unknown			NA			Wrae233			
Survey Type: (check one)		e □Re-I	Route	⊠ Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)		al 🛛 🖾 Inte	rmittent	Perennial					
Waterbody Type:	-								
(check one)	River Str	ream 🗆 Dite	ch 🗆 Ca	anal 🗆 Other:	:				
онwм	OHWM Indica	tor:							
Width: _ <u>5_</u> ft.	(check all that appl	(Y)	Clear lir on bank	ne ⊡Shelvin	g	☐Wrested vegetation	X	Scouring	□Water staining
Height:	⊠Bent, r	matted, or missir	ng ⊡Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t	Soil ch	aracteristic change
_ <u>_1_</u> ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody - 1	op of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to	Depth	of Water:	
вапк то тор от вапк:	to Toe	of Slope:		water Edge:			(Approx.)		
<u>_10_</u> ft.	-	<u>5</u> ft.			<u>5</u> ft.		N/A 🗆	_	<u>0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	)		Right:				Right:	
		<u>0.75</u> fp	S	l eft:	<u>3_</u> ft.			l eft	45 degrees
	ng N/A□			2011	<u>3_</u> ft.			Long	45 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>]</sup> No water ⊠0	Clear □Turb	oid □Sh on	neen ⊡Sui n surface scu	rface um	□Algal [ mats	□Othe	<u>.</u>	
Substrate:	Bedrock 🛛 🖾 Bo	oulder 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	<u>% 20 </u> %	% <u>20</u> %	<u>   30  </u> %	<u>15</u> %	<u>15_</u> %	%		%	
Width of Riparian Zone	e: Vegetative	e Layers:							
<i>f</i> +	(check all that	t apply)	⊠ Trees	:	⊠ Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u></u> . N/A⊠	(approx.)	or Dominants.	<u>_12_</u> in.	-	<u>1</u> in.				
Dominant Bank Vegeta	tion (list):								
Tuliptree, maple, ar	rowwood, sedo	ges							
Aquatic Habitats (ex: su	ubmerged or emerge	d aquatic vegetatic	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools)	
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: liveste	ock access, manure i	in waterbody, wast	e discharge pipe	es):					
Culverted beneath	road								
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low					

#### Srae156

**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:

![](_page_53_Figure_7.jpeg)

![](_page_54_Picture_0.jpeg)

Waterbody srae156 facing north upstream

![](_page_54_Picture_2.jpeg)

Waterbody srae156 facing south downstream

![](_page_55_Picture_0.jpeg)

Waterbody srae156 facing east across

Survey Description	1								
Project Name:		Waterbody Na	me:		w	aterbody ID:		D	ate:
Atlantic Coast Pipeli	ne	UNT to Mitch	nell Run		S	rae154		5	/31/2016
State:	County:		Company:		Crew I	Member Initials	: 1	Photos:	
West Virginia	Randolph		NRG		CG, F	RP		1-3	
Tract Number(s):			Nearest Mile	epost:	•	Associated W	etland	ID(s):	
unknown			NA			none			
Survey Type: (check one)		e □Re-F	Route	⊠Access Road		□Other:			
Physical Attributes	5								
Stream Classification: (check one)	⊠Ephemera	al 🗆 Inter	rmittent	Perennial					
Waterbody Type	•								
(check one)	River 🛛 Str	eam 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:					
онwм	OHWM Indicat	tor:							
Width: _2_ft.	(check all that apply	/)	Clear lir on bank	ne ⊡Shelvin	g	☐Wrested vegetation	$\boxtimes$	Scouring	⊠Water staining
Height:	⊠Bent, n	natted, or missin	ng ⊡Wrack li	ne 🗆 Litter ar	nd	□Abrupt plan	t	Soil ch	aracteristic change
<u>0.25</u> ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - To	op of Width o	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	
валк то тор ог валк:	to loe	of Slope:		water Edge:			(Approx.)		
<u>_4_</u> ft.	-	<u>1</u> ft.		N/A 🗆 –	<u>1</u> ft.		N/A□		<u>0.1_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:				Right:	
Ŭ		<u>_0.1_</u> fps	6	Left:	<u>5</u> ft.			Left:	80 degrees
	g N/A□			-	<u>0.5_</u> ft.				10 degrees
Qualitative Attribut	es								
Water Appearance: (check one)	No water ⊠C	Clear 🗆 Turb	oid □Sh on	neen ⊡Sui n surface scu	rface um	□Algal [ mats	□Other	:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	%	<u>% 40</u> %	<u>   30  </u> %	<u>30_</u> %	%		%	
Width of Riparian Zone:	Vegetative	Eayers:							
ft.	(check all that	of Dominants	⊠ Trees	:	Saplir ا∑ من	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)	of Dominanto.	<u>_8_</u> in.	-	<u>1</u> .m.				
Dominant Bank Vegetat Nettle, maple, blueg	ion <i>(list)</i> : rass. rose								
Aquatic Habitats (ex: su	bmerged or emerged	aquatic vegetatio	n overhanging	banks/roots_leaf.pac	ks large	submerged wood	riffles (	deen nools)	•
none	sinerged of emerged				ks, large	Submerged wood,	, 111103, 1		•
Aquatic Organisms Obs	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ck access, manure i	n waterbody, waste	e discharge pipe	es):					
Roadside ditch									
Tributary is: (check one)	□ Natural	⊠ Ar	tificial, man-m	ade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		oderate	⊠ Low					

#### Srae154

**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:

![](_page_57_Picture_7.jpeg)

![](_page_58_Picture_0.jpeg)

Waterbody srae154 facing north upstream

![](_page_58_Picture_2.jpeg)

Waterbody srae154 facing south downstream

![](_page_59_Picture_0.jpeg)

Waterbody srae154 facing west across

Survey Description	on								
Project Name:		Waterbody	Name:		v	aterbody ID:		[	)ate:
Atlantic Coast Pipe	line	UNT to Mi	tchell Run		S	irae153		5	5/31/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, F	RP		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
unknown			NA			Wrae230			
Survey Type: (check one)		ne 🗆 R	e-Route	⊠Access Road		□Other:			
Physical Attribute	es								
Stream Classification:			t a maa itt a mt						
	□ Epneme	eral 🛛 In	termittent						
(check one)	□River ⊠ S	Stream 🗆 🛙	Ditch 🗆 C	anal 🛛 Other:					
онwм	OHWM Indic	ator:					<b>N</b> -1		
Width: <u>3</u> ft.	(Check an that ap	(עוע)	on bank		g	vegetation	X	Scouring	⊠ W ater staining
Height:	⊠Bent,	, matted, or mis	sing 🗆 Wrack li	ine 🗆 Litter ar	nd	□Abrupt plan	t	⊠Soil ch	aracteristic change
ft. N/A□	vegetat	ion		debris		community ch	ange		
Width of Waterbody -	Top of Width	n of Waterbody	- Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	
валк то тор от валк:	to Io	e of Slope:		water Edge:			(Approx.)		
<u>_6_</u> ft.		<u>2</u> ft.			<u>3_</u> ft.		N/A□	-	<u>0.2</u> ft.
Sinuosity:	Wate	r velocity:		Bank height			Banks	slope	
(check one) Straight	(Approx	x.)		Right:				Right:	
		0.5	fps	Left:	<u>5_</u> ft.			Left:	<u>90</u> degrees
□Meander	ing N/A□	]			<u>1_</u> ft.				<u>30</u> degrees
Qualitative Attribu	utes								
Water Appearance: (check one)	□No water 🛛 🗵	IClear □T	urbid □St or	neen ⊡Sui n surface scu	rface um	□Algal [ mats	Othe	r:	
Substrate:	Bedrock 🛛 🛛	Boulder 🛛 🗠 Co	bble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	: 🗆 (	Other:	
(check all that apply) % of Substrate:	<u>% 30</u>	<u>% 30 9</u>	% <u>20</u> %	<u> 10 </u> %	<u>10_</u> %	%		_%	
Width of Riparian Zon	e: Vegetati	ve Lavers:							
	(check all th	nat apply)	⊠ Trees	: D	🛛 Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> · N/A⊠	Avg. DB (approx.)	H of Dominant	<b>s:</b> <u>10</u> in.	-	_ <u>1_</u> in.				
Dominant Bank Veget	ation (list):								
Tuliptree, goldenro	d, beech, rue,	nettle							
Aquatic Habitats (ex: s	ubmerged or emerg	ed aquatic vegeta	ation, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	):
none									
Aquatic Organisms Ol	bserved (list):								
Frogs, insects									
T&E Species Observe	d (list):								
none									
Disturbances (ex: lives	tock access, manure	e in waterbody, wa	aste discharge pip	es):					
Roadside ditch, cro	osses over roa	ad							
Tributary is: (check one)	□ Natural	$\boxtimes$	Artificial, man-m	nade 🗌 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		Moderate	⊠ Low					

#### Srae153

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:

![](_page_61_Picture_7.jpeg)

![](_page_62_Picture_0.jpeg)

Waterbody srae153 facing north upstream

![](_page_62_Picture_2.jpeg)

Waterbody srae153 facing east downstream

![](_page_63_Picture_0.jpeg)

Waterbody srae153 facing northwest across

Survey Descriptio	n	-						
Project Name:		Waterbody Nai	ne:		W	/aterbody ID:		Date:
Atlantic Coast Pipe	line	Mitchell Run			S	rae148		5/27/2016
State:	County:		Company:		Crew I	Member Initials:	Photos:	
West Virginia	Randolph		NRG		CG, F	RP	1-3	
Tract Number(s):			Nearest Mile	epost:		Associated Wetland	d ID(s):	
unknown			NA			none		
Survey Type: (check one)		e □Re-F	Route	⊠Access Road	1	□Other:		
Physical Attribute	S							
Stream Classification:								
(check one)		al 🗌 Inter	mittent	Perennial				
Waterbody Type: (check one)	□River ⊠ Sti	ream 🗆 Dito	:h □ Ca	anal 🛛 Other	:			
OHWM Width:	OHWM Indica (check all that appl	tor:	🗆 Clear lir	ne ⊡Shelvin	a	Wrested	Scourin	g ∏Water
<u></u>			on bank		9	vegetation		staining
Height:	⊠Bent, r	matted, or missin	g	ne ⊠Litter ar	nd	⊠Abrupt plant	⊠Soil c	haracteristic change
_ <u>2</u> π. N/A□	vegetatio	on		debris		community change		
Width of Waterbody -	Top of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to Depth	of Wate	r:
валк то тор от валк:	to loe	of Slope:		water Edge:		(Approx	c.)	
<u>_30</u> ft.	-	<u>15</u> ft.			<u>15</u> ft.			<u>_1.5_</u> ft.
Sinuosity:	Water	velocity:		Bank height		Bank	slope	
(check one)	(Approx.)			Right:			Right	::
Bottaight		<u>_1.75_</u> fp	S	L oft	<u>5_</u> ft.		Lof	60 degrees
□Meanderi	ing N/A□			Lon	<u>4_</u> ft.		201	<u>70</u> degrees
Qualitative Attribu	ites							
Water Appearance:			:					
				surface sci	um	mats	er:	
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic 🛛	Other:	
% of Substrate:	<u>% 30 9</u>	% <u>30</u> %	<u>25</u> %	<u>   10  </u> %	<u>5</u> %	%	%	
Width of Riparian Zon	e: Vegetativ	e Layers:						
	(check all that	t apply)	⊠ Trees:	2	🛛 Saplir	ngs/Shrubs:	⊠ Herbs	
<u> </u>	AVG. DBH (approx.)	of Dominants:	<u>_12_</u> in.	-	_ <u>1_</u> in.			
Dominant Bank Vegeta	ation (list):							
Nettle, hemlock, ma	aple, birch, oak	, jewelweed						
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, riffles	, deep poo	ls):
Riffles, runs, step p	ools, overhang	jing banks, ov	verhanging	veg, large woo	ody de	bris, leaf packs		
Aquatic Organisms Of	oserved (list):							
Insects, crayfish, m	ore life likely p	resent						
T&E Species Observed	d (list):							
none								
Disturbances (ex: livest	ock access, manure	in waterbody, waste	e discharge pipe	es):				
Culverted, adjacen	t to road							
Tributary is: (check one)	□ Natural	□ Art	ificial, man-m	ade 🛛 Manip	ulated			
Stream Quality <sup>a</sup> : (check one)	⊠ High		oderate	□ Low				

#### Srae148

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 book, ary, and IDs of associated features)

# star ISI SIRely8 Glock Side 14 Norl Form Rev. 07/09/2014

![](_page_66_Picture_0.jpeg)

Waterbody srae148 facing north upstream

![](_page_66_Picture_2.jpeg)

Waterbody srae148 facing south downstream

![](_page_67_Picture_0.jpeg)

Waterbody srae148 facing east across

Survey Descriptio	n									
Project Name:		Waterbody	Name:			2	Vaterbody ID:			Date:
Atlantic Coast Pipe	line	Back Fork	Elk Riv	er		S	Srae196			6/25/2016
State:	County:		Comp	any:		Crew	Member Initials	:	Photos:	
West Virginia	Randolph		NRG			CG, S	SA		1-3	
Tract Number(s):			Neare	st Milepo	ost:		Associated W	etland	ID(s):	
Unknown			NA				Wrae265			
Survey Type: (check one)		e 🗆 F	Re-Route		⊠Access Ro	ad	□Other:			
Physical Attribute	S									
Stream Classification: (check one)	Ephemer	ral □Ir	ntermittent	:	⊠Perennial					
Waterbody Type:										
(check one)	In State	ream 🗌	Ditch	🗆 Cana	al 🗌 Oth	er:				
онwм	OHWM Indica	ator:		No on line				_	0	
<b>Width:</b> <u>40</u> ft.	(Check all that app	" <b>y</b> )	on b	bank		/ing			Scouring	staining
Height:	□Bent,	matted, or mis	sing 🗆 W	/rack line	Litter	and	□Abrupt plan	t	□Soil cl	naracteristic change
	vegetati	on	0		debris		community ch	ange		C C
Width of Waterbody -	Fop of Width	of Waterbody	y - Toe of	Slope W	idth of Wate	rbody - V	ater Edge to	Depth	of Water	:
валк то тор от валк:	to loe	e of Slope:		Ň	later Edge:			(Approx.)		
<u>_50</u> ft.		<u>35</u> ft.		N		<u>_40_</u> ft.		N/A□	-	<u>_1.5_</u> ft.
Sinuosity:	Water	velocity:		B	ank height			Bank s	lope	
(check one)	(Approx.	)			Right:				Right	:
		1.5_	_fps		Left:	<u>3_</u> ft.			Left	<u>45</u> degrees
	ng N/A□					<u>4_</u> ft.				50 degrees
Qualitative Attribu	ites									
Water Appearance: (check one)	<sup>□</sup> No water □	Clear ⊠T	urbid	□Shee on su	en ⊡s urface s	Surface scum	□Algal [ mats	□Othe	1	
Substrate:	Bedrock 🛛 B	oulder 🛛 🖾 C	obble 🗵	Gravel	⊠ Sand	□ Silt/ o	clay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	% 10	% 30	% 4	0 %	20 %		% %		%	
-			, <u>.</u>	<u> </u>	<u> </u>					
width of Riparian Zon	check all the	<b>re Layers:</b> at apply)		Trees:		🗵 Sapli	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>150 ft</u> ·		l of Dominant	ts: _	<u>12_</u> in.		_ <u>1_</u> in.	-			
Dominant Bank Vegeta	ation (list):									
Birch, maple, rue, f	erns, ground c	edar								
Aquatic Habitats (ex: s	ubmerged or emerge	ed aquatic veget	ation, overh	anging ba	nks/roots, leaf p	acks, large	e submerged wood	, riffles,	deep pool	s):
Riffles, runs, pools,	boulder, large	e woody del	oris, ove	rhangin	ng veg					
Aquatic Organisms Of	oserved (list):									
None, but likely pre	sent									
T&E Species Observed	d (list):									
none										
Disturbances (ex: livest	ock access, manure	in waterbody, w	aste discha	rge pipes)	:					
Road crossing										
Tributary is: (check one)	⊠ Natural		Artificial, r	man-mad	le 🗆 Mar	ipulated				
Stream Quality <sup>a</sup> : (check one)	⊠ High		Moderate	1	□ Low					

Srae196

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:

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with with	10 TIN
L Sur	
$nallength{$	
	AG
	S. C.

![](_page_70_Picture_0.jpeg)

Waterbody SRAE196 facing northeast upstream

![](_page_70_Picture_2.jpeg)

Waterbody SRAE196 facing southwest downstream

![](_page_71_Picture_0.jpeg)

Waterbody SRAE196 facing northwest across
Survey Descriptio	n							
Project Name:		Waterbody Na	me:		v	laterbody ID:		Date:
Atlantic Coast Pipel	line	UNT to Back	k Fork Elk F	River	S	rae195		6/25/2016
State:	County:		Company:		Crew I	Member Initials:	Photos:	
West Virginia	Randolph		NRG		CG, S	SA	1-3	
Tract Number(s):			Nearest Mile	epost:	1	Associated Wetlar	nd ID(s):	
Unknown			NA			Wrae235		
Survey Type: (check one)		e □Re-F	Route	⊠Access Road		□Other:		
Physical Attribute	S							
Stream Classification: (check one)		al 🛛 🖂 Inter	rmittent	Perennial				
Waterbody Type: (check one)	River ⊠ Str	eam 🗆 Dito	ch 🗆 Ca	anal 🛛 Other	:			
OHWM Width: 5 ft.	OHWM Indica (check all that apply	tor: /)	□ Clear lir on bank	ne 🗆 Shelvin	g	□Wrested vegetation	□Scourin	g ⊟Water staining
Height: ft.	□Bent, r vegetatio	natted, or missin n	ng ⊡Wrack li	ne □Litter ar debris	nd	□Abrupt plant community change	□Soil c	haracteristic change
Width of Waterbody - 1 Bank to Top of Bank:	op of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	Ater Edge to Dept	th of Wate	r:
<u>_10</u> ft.	-	<u>4</u> ft.		N/A□	<u>5</u> ft.	N/A		<u>0.2</u> ft.
Sinuosity: ( <sup>check one)</sup> ⊠Straight	Water (Approx.)	velocity: 1.5_fps	3	Bank height Right: Left:	<u>3</u> ft.	Bani	k slope Right Lef	:: _ <u>45_</u> degrees t:
Qualitative Attribu					<u> </u>			
Water Appearance:								
(check one)	No water ⊠0	Clear 🗆 Turb	oid □Sh on	leen ⊡Su i surface sci	rface um	□Algal □Otł mats	ner:	
Substrate: [ (check all that apply) % of Substrate:	Bedrock ⊠ Bo	oulder ⊠ Cobb % <u>20_</u> %	ble ⊠ Grave _40_%	el ⊠ Sand [ _ <u>30_</u> % _	□ Silt/ c	clay □ Organic □ _%%	Other:%	
Width of Riparian Zone <u>ft</u> . N/A⊠	e: Vegetative (check all that Avg. DBH (approx.)	e Layers: apply) of Dominants:	<sup>⊠</sup> Trees _ <u>10_</u> in.	: 0	⊠ Saplir _ <u>1_</u> in.	ngs/Shrubs:	⊠ Herbs	
Dominant Bank Vegeta Birch, jewelweed, n	ition (list): ettle, maple							
Aquatic Habitats (ex: si Boulders, step pool	ubmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, riffle	es, deep poo	s):
Aquatic Organisms Ob None, but likely pre	served (list): sent							
T&E Species Observed	l (list):							
none								
Disturbances (ex: livest	ock access, manure i	n waterbody, waste	e discharge pipe	es):				
Road crossing at he	eadwater							
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	oderate	□ Low				

### Srae195

**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:

Nacl

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

510e195



## Waterbody SRAE195 facing south upstream



Waterbody SRAE195 facing north downstream



Waterbody SRAE195 facing west across

Survey Description	n										
Project Name:		Waterbo	dy Name				w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Back F	ork Elk F	River		S	rae194			6/25/2016
State:	County:		C	ompany:			Crew I	Member Initials	5:	Photos:	
West Virginia	Randolph		Ν	RG			CG, S	SA		1-3	
Tract Number(s):			N	earest Mile	epost:			Associated W	etland	ID(s):	
Unknown			N	A				Wrae235			
Survey Type: (check one)	Center	ine	□Re-Rou	ute	⊠Ac	cess Road		□Other:			
Physical Attribute	s										
Stream Classification:											
(cneck one)	⊠Ephem	eral	Intermi	ttent	□Pe	erennial					
Waterbody Type: (check one)	□River	Stream	Ditch		anal	□ Other	:				
ОНШМ	OHWM Indi	cator:							_		
Width: _2_ft.	(check all that a	рріу)		Clear lir on bank	ne	□Shelvin	g	☐Wrested vegetation		Scouring	g □Water staining
Height:	⊠Ben	t, matted, or	missing	□Wrack li	ne	□Litter ar	nd	□Abrupt plan	nt	⊠Soil cł	naracteristic change
<u> </u>	vegeta	ation				debris		community ch	nange		
Width of Waterbody -	Top of Widt	h of Waterk	ody - To	e of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to Te	be of Slope:			Water	Edge:			(Approx.,	)	
<u>4</u> ft.		<u>2</u> ft.				-	<u>2</u> ft.			-	<u>0.25_</u> ft.
Sinuosity:	Wat	er velocity:			N/A⊡ Bank I	neiaht			Banks	slope	
(check one)	(Appr	ox.)			Danie	Right:			Danie	Right	
Buaight			<u>2_</u> fps			-	<u>2</u> ft.			Loft	60 degrees
□Meanderi	ing N/A					Leit.	<u>2_</u> ft.			Len	_ <u>60</u> degrees
Qualitative Attribu	utes										
Water Appearance:	No water	⊠Clear		□Sh	oon		rface		□Otho	r.	
(				on	surface	e sci	um	mats		1.	
Substrate:	Bedrock	Boulder D	Cobble	⊠ Grave	el 🛛	Sand	□ Silt/ c	clay 🗆 Organic		Other:	
% of Substrate:	% _20	)_%	<u>30_</u> %	<u>30</u> %	_2	<u>0 </u> %		_%%	, <u> </u>	%	
Width of Riparian Zon	e: Vegetat	ive Layers:									
4	(check all	that apply)	onto.	⊠ Trees	:		Saplir	ngs/Shrubs:	$\triangleright$	I Herbs	
<u> </u>	(approx.)		iants:	<u>6</u> in.		-	_ <u>1_</u> in.				
Dominant Bank Veget	ation (list):										
Birch, hemlock, ma	ple, aster										
Aquatic Habitats (ex: s	ubmerged or emer	ged aquatic ve	egetation, o	overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	l, riffles,	deep pools	5):
boulder											
Aquatic Organisms Ol	bserved (list):										
None, but likely pre	esent										
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, manu	re in waterbod	y, waste di	scharge pipe	es):						
Starts at road cut											
Tributary is: (check one)	□ Natura	l	□ Artific	cial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		□ Mode	erate		⊠ Low					

### Srae194

**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:

Slarl

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

Srae 192



Waterbody SRAE194 facing southwest upstream



Waterbody SRAE194 facing northeast downstream



## Waterbody SRAE194 facing southeast across

Survey Description	n										
Project Name:		Waterbo	dy Nam	ie:			W	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Back	Fork Elk F	River		s	rae193			6/25/2016
State:	County:		C	Company:			Crew I	Member Initials	5:	Photos:	
West Virginia	Randolph		1	NRG			CG, S	SA		1-3	
Tract Number(s):			1	Nearest Mile	epost:			Associated W	etland	ID(s):	
Unknown			1	NA				Wrae235			
Survey Type:		no		outo		coss Pood					
				Jule							
Stream Classification:	!\$										
(check one)	Epheme	eral	⊠ Interm	nittent	□Pe	erennial					
Waterbody Type:											
(check one)	□River ⊠ S	Stream	□ Ditch	n 🗆 Ca	anal	□ Other:					
ОНШМ	OHWM Indi	cator:							5	30 ·	
Width: _2_ft.	(Check all that ap	(עוקנ		on bank	ne	Sheivin	g	Wrested vegetation	×	Scouring	g ⊔water staining
Height:	⊠Bent	matted or	missina	⊡Wrack li	ne	□I itter ar	nd	□Abrupt plan	nt	⊠Soil cl	naracteristic change
<u>0.25</u> ft.	vegeta	tion	meenig			debris		community ch	nange		
Width of Waterbody -	Top of Widt	h of Waterk	ody - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to To	e of Slope:		•	Water	Edge:		C C	(Approx.)	)	
<u>4</u> ft.		<u>2</u> ft.				_	<u>2</u> ft.			_	<u>0.25</u> ft.
Cinuccitur	10/				N/A□	h a l aib t			N/A∐ Domlar		
(check one)	(Appro	er velocity:			вапк	Right			Bank s	siope Right	
⊠Straight			<u>2_</u> fps				<u>2_</u> ft.				60 degrees
□Meanderi	ing N/A					Left:	2_ ft.			Left	: 60 degrees
Qualitativo Attribu	itos										
Water Appearance:	1163										
(check one)	□No water D	⊠Clear	□Turbio	d ⊡Sh on	ieen i surface	⊟Sui e scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder D	Cobble	e 🛛 Grave	el 🛛	Sand [	□ Silt/ c	ay 🗆 Organic	; □(	Other:	
% of Substrate:	<u>% 20</u>	%	<u>30_</u> %	<u>    30   </u> %	2	<u>.0 </u> %		_%%		%	
Width of Riparian Zon	e Vegetat	ive Lavers:									
	(check all t	hat apply)		⊠ Trees	:	$\square$	⊠ Saplir	ngs/Shrubs:	$\triangleright$	I Herbs	
<u>ft</u> ·	Avg. DB (approx.)	H of Domir	nants:	<u>6</u> in.		-	<u>1</u> in.				
Dominant Bank Veget	ation (list):										
Birch, hemlock, ma	ple, aster										
Aquatic Habitats (ex: s	ubmerged or emerged	ged aquatic v	egetation,	, overhanging	banks/rc	oots, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	5):
boulder											
Aquatic Organisms Ol	bserved (list):										
None, but likely pre	esent										
T&E Species Observe	d (list):										
none											
Disturbances (ex: livest	tock access, manur	e in waterbod	y, waste	discharge pipe	es):						
Roadside ditch, cro	osses over roa	ad									
Tributary is: (check one)	□ Natura		□ Artif	icial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High			lerate		⊠ Low					

Srae193

**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:

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	Form Rev. 07/09/201

Survey Description	n										
Project Name:		Waterbo	dy Nam	ie:			W	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Back	Fork Elk F	River		s	rae193			6/25/2016
State:	County:		C	Company:			Crew I	Member Initials	5:	Photos:	
West Virginia	Randolph		1	NRG			CG, S	SA		1-3	
Tract Number(s):			1	Nearest Mile	epost:			Associated W	etland	ID(s):	
Unknown			1	NA				Wrae235			
Survey Type:		no		outo		coss Pood					
				Jule							
Stream Classification:	!\$										
(check one)	Epheme	eral	⊠ Interm	nittent	□Pe	erennial					
Waterbody Type:											
(check one)	□River ⊠ S	Stream	□ Ditch	n 🗆 Ca	anal	□ Other:					
ОНШМ	OHWM Indi	cator:							5	30 ·	
Width: _2_ft.	(Check all that ap	(עוקנ		on bank	ne	Sheivin	g	Wrested vegetation	×	Scouring	g ⊔water staining
Height:	⊠Bent	matted or	missina	⊡Wrack li	ne	□I itter ar	nd	□Abrupt plan	nt	⊠Soil cl	naracteristic change
<u>0.25</u> ft.	vegeta	tion	meenig			debris		community ch	nange		
Width of Waterbody -	Top of Widt	h of Waterk	ody - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to To	e of Slope:		•	Water	Edge:		C C	(Approx.)	)	
<u>4</u> ft.		<u>2</u> ft.				_	<u>2</u> ft.			_	<u>0.25</u> ft.
Cinuccitur	10/ - 1 -				N/A□	h a l aib t			N/A∐ Domlar		
(check one)	(Appro	er velocity:			вапк	Right			Bank s	siope Right	
⊠Straight			<u>2_</u> fps				<u>2_</u> ft.				60 degrees
□Meanderi	ing N/A					Left:	2_ ft.			Left	: 60 degrees
Qualitativo Attribu	itos										
Water Appearance:	1163										
(check one)	□No water D	⊠Clear	□Turbio	d ⊡Sh on	ieen i surface	⊟Sui e scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder D	Cobble	e 🛛 Grave	el 🛛	Sand [	□ Silt/ c	ay 🗆 Organic	; □(	Other:	
% of Substrate:	<u>% 20</u>	%	<u>30_</u> %	<u>    30   </u> %	2	<u>.0 </u> %		_%%		%	
Width of Riparian Zon	e Vegetat	ive Lavers:									
	(check all t	hat apply)		⊠ Trees	:	$\square$	⊠ Saplir	ngs/Shrubs:	$\triangleright$	I Herbs	
<u>ft</u> ·	Avg. DB (approx.)	H of Domir	nants:	<u>6</u> in.		-	<u>1</u> in.				
Dominant Bank Veget	ation (list):										
Birch, hemlock, ma	ple, aster										
Aquatic Habitats (ex: s	ubmerged or emerged	ged aquatic v	egetation,	, overhanging	banks/rc	oots, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	5):
boulder											
Aquatic Organisms Ol	bserved (list):										
None, but likely pre	esent										
T&E Species Observe	d (list):										
none											
Disturbances (ex: livest	tock access, manur	e in waterbod	y, waste	discharge pipe	es):						
Roadside ditch, cro	osses over roa	ad									
Tributary is: (check one)	□ Natura		□ Artif	icial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High			lerate		⊠ Low					

Srae193

**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:

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	Form Rev. 07/09/2014



Waterbody SRAE193 facing southwest upstream



Waterbody SRAE193 facing northeast downstream



## Waterbody SRAE193 facing southeast across

Survey Description	on										
Project Name:		Waterbo	dy Nam	e:			w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Back I	Fork Elk F	River		Sı	rae158			6/2/2016
State:	County:	ł	C	Company:			Crew N	lember Initials	5:	Photos:	
West Virginia	Randolph			IRG			CG, R	RP		1-3	
Tract Number(s):			N	learest Mile	epost:			Associated W	/etland	ID(s):	
04-002-B011			5	58.2				Wrae238			
Survey Type:	Centerli	ine		NITO		e Road		□ Other:			
						S INDAU					
Stream Classification											
(check one)	Epheme	eral	⊠Interm	ittent	Peren	nial					
Waterbody Type:											
(cneck one)		Stream			anal L	Other:					
OHWM Width	OHWM Indie	cator:				Sholvin	~	□\//reated		Requiring	n ⊡W(otor
<u>5</u> ft.	(oncont an unat ap	<i>(</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		on bank		Sheiving	y	vegetation		Jaconini	staining
Height:	⊠Bent	t, matted, or	missing	□Wrack li	ne 🗆	Litter ar	nd	□Abrupt plar	nt	⊠Soil cl	naracteristic change
_ <u>1_</u> ft. N/A□	vegeta	tion			de	bris		community ch	nange		-
Width of Waterbody -	Top of Widt	h of Waterb	ody - To	pe of Slope	Width of V	Naterbo	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to To	e of Slope:			Water Ed	ge:			(Approx.	)	
<u>_10_</u> ft.		<u>4_</u> ft.				_	<u>4</u> ft.			-	<u>_0.1_</u> ft.
Sinuosity:	Wate	er velocity:			Bank heid	iht			Bank	slope	
(check one)	(Appro	эх.)			R	ight:				Right	:
		0	<u>.1_</u> fps			Left:	<u>2</u> ft.			Left	<u>30</u> degrees
⊠Meander	ing N/A						<u>3_</u> ft.				70 degrees
Qualitative Attrib	utes										
Water Appearance:	No watar	Clear	Turbid		000		fooo			r.	
				on	surface	SCL	im	mats		1.	
Substrate:	Bedrock	Boulder 🛛 🛛		e 🛛 Grave	el 🛛 Sa	nd 🛛	⊠ Silt/ c	lay 🗆 Organio		Other:	
(check all that apply) % of Substrate:	%15	<u>%</u>	<u>50_</u> %	<u> 15 </u> %	<u>   10   </u> 9	6	<u>10_</u> %	%		%	
Width of Piparian Zon	o: Vogotat										
width of Riparian 201	(check all t	hat apply)		⊠ Trees	:	$\triangleright$	Saplin	gs/Shrubs:	$\triangleright$	I Herbs	
<u>ft</u> .	Avg. DB (approx.)	BH of Domin	ants:	<u>12</u> in.		-	<u>1</u> in.				
Dominant Bank Veget	ation (list):										
Hemlock, maple, b	irch, fern										
Aquatic Habitats (ex: s	submerged or emerged	ged aquatic ve	egetation,	overhanging	banks/roots,	leaf pacl	ks, large	submerged wood	l, riffles,	deep pool	5):
riffles											
Aquatic Organisms O	bserved (list):										
none											
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, manur	e in waterbod	y, waste c	discharge pipe	es):						
none											
Tributary is:											
(check one)	⊠ Natura	l	🗆 Artifi	icial, man-m	ade 🗌	Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High		⊠ Mod	erate		Low					

Srae158

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:

backwater





## Waterbody srae158 facing northeast upstream



Waterbody srae158 facing northwest downstream



Waterbody srae158 facing north across

Survey Description	on							
Project Name:		Waterbody N	ame:		w	aterbody ID:		Date:
Atlantic Coast Pipe	line	Back Fork E	Elk River		Si	rae159		6/2/2016
State:	County:	·	Company:		Crew N	lember Initials:	: Pho	otos:
West Virginia	Randolph		NRG		CG, F	RP	1-:	3
Tract Number(s):			Nearest Mile	epost:		Associated W	etland ID(	s):
04-002-B011			58.2			Wrae238		
Survey Type: (check one)	⊠Centerline	e ⊡Re	Route	□ Access Road	I	□Other:		
Physical Attribute	s							
Stream Classification: (check one)	Ephemer	al 🛛 Inte	ermittent	⊠Perennial				
Waterbody Type:								
(check one)	□River ⊠ Sti	ream 🗆 Di	tch 🗆 C	anal 🗌 Other	:			
OHWM Width: <u>30</u> ft.	OHWM Indica (check all that appl	tor: y)	□ Clear lir on bank	ne ⊠Shelvin	g	□Wrested vegetation	⊠Sc	ouring ⊟Water staining
Height:	⊠Bent, r	matted, or missi	ng	ne ⊠Litter ai	nd	Abrupt plant	t 🛛 S	Soil characteristic change
<u></u> n. N/A□	vegetatio	זו		debris		community ch	ange	
Width of Waterbody - ` Bank to Top of Bank:	Top of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth of V (Approx.)	Nater:
		20 #			05 4			2 ft
<u></u> n.	-	<u>_20_</u> II.		N/A□	<u>_20_</u> 11.	1	N/A□	
Sinuosity:	Water	velocity:		Bank height		I	Bank slop	0e
Straight	(Approx.)	15 fr		Right:	2 ft.		F	Right: 20 degrees
Moondori		<u>_1.5_</u> i	15	Left:				Left:
					<u>3</u> tt.			<u>_70</u> degrees
Qualitative Attribu	utes							
(check one)	□No water ⊠0	Clear 🗆 Tu	bid □Sh or	neen □Su n surface sci	rface um	□Algal [ mats	]Other:	
Substrate:	Bedrock 🛛 🖾 Bo	oulder 🛛 Cot	ble 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic	□ Othe	er:
(check all that apply) % of Substrate:	<u>     %    10  </u> %	% <u>30</u> %	<u>   30  </u> %	<u>20</u> %	<u>10_</u> %	%		_%
Width of Riparian Zon	e: Vegetativ	e Layers:						
	(check all that	t apply)	⊠ Trees	: 0	⊠ Saplin	ngs/Shrubs:	🛛 He	erbs
<u>100 ft</u> - N/A□	AVG. DBH (approx.)	of Dominants	<u>_10_</u> in.		<u>1</u> in.			
Dominant Bank Veget	ation (list):							
Birch, hemlock, gol	denrod, maple	, spiraea						
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetat	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood,	riffles, dee	p pools):
Riffles, run, pools,	overhanging ve	eg, large woo	ody debris					
Aquatic Organisms Ol	bserved (list):							
None, but certainly	present							
T&E Species Observe	d (list):							
none								
Disturbances (ex: livest	tock access, manure	in waterbody, was	te discharge pip	es):				
none								
Tributary is: (check one)	⊠ Natural		rtificial, man-m	ade 🗆 Manip	ulated			
Stream Quality <sup>a</sup> : (check one)	⊠ High		loderate	□ Low				

### Srae159

**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 srae159 facing northeast upstream



Waterbody srae159 facing southwest downstream



Waterbody srae159 facing east across

Survey Description	n										
Project Name:		Waterbod	y Name:				w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to E	Back Fo	ork Elk F	River		S	rae192			6/25/2016
State:	County:		Co	mpany:			Crew I	Member Initials	::	Photos:	
West Virginia	Randolph		NF	RG			CG, S	SA		1-3	
Tract Number(s):			Ne	arest Mile	epost:		I	Associated W	etland	ID(s):	
Unknown			NA	A				Wrae235			
Survey Type: (check one)		ne 🗆	Re-Rout	e	⊠Ac	cess Road		□Other:			
Physical Attribute											
Stream Classification:	5										
(check one)	⊠Epheme	eral 🗆	Intermitt	ent	□Pe	rennial					
Waterbody Type: (check one)	⊐River ⊠ S	Stream 🗌	Ditch	□ Ca	anal	□ Other	:				
онwм	OHWM India	ator:									
Width: _2_ft.	(check all that ap	(עוסי	C	Clear lir on bank	ne	□Shelvin	g	☐Wrested vegetation		Scouring	g ⊟Water staining
Height:	⊠Bent	, matted, or m	nissing [	□Wrack li	ne	□Litter ar	nd	□Abrupt plan	nt	⊠Soil cł	naracteristic change
ft. N/A□	vegetat	ion				debris		community ch	nange		
Width of Waterbody -	Top of Width	n of Waterbo	dy - Toe	of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to To	e of Slope:			Water	Edge:			(Approx.,	)	
<u>_4_</u> ft.		<u>_2_</u> ft.				-	<u>2</u> ft.			_	<u>0.25</u> ft.
Sinuosity:	Wate	r velocity			N/A⊡ Bank ł	eight			Bank	slone	
(check one)	(Appro:	x.)			Duniti	Right:			Danie	Right	:
Straight		_2	_fps			-	<u>2</u> ft.			Loft	60 degrees
	ing N/A□	]				Leit.	<u>2_</u> ft.			Len	<u>60</u> degrees
Qualitative Attribu	utes										
Water Appearance:			Turbid		000		rfaaa			r.	
			Turbia	on	surface	e sci	um	mats		1.	
Substrate:	Bedrock 🛛 🖾	Boulder 🛛	Cobble	⊠ Grave	el 🛛	Sand [	□ Silt/ c	ay 🗆 Organic	; □(	Other:	
% of Substrate:	%20	<u>%</u> <u>30</u>	<u>)</u> %	<u>30</u> %	_2	0_%		_%%	·	%	
Width of Riparian Zon	e: Vegetati	ve Layers:									
	(check all th	nat apply)		☑ Trees	:		⊠ Saplir	ngs/Shrubs:	$\triangleright$	I Herbs	
<u>π</u> · N/A⊠	AVG. DB (approx.)	H of Domina	ints:	<u>6</u> in.		-	_ <u>1_</u> in.				
Dominant Bank Veget	ation (list):										
Birch, hemlock, ma	ple, aster										
Aquatic Habitats (ex: s	ubmerged or emerg	ed aquatic veg	etation, ov	verhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	, riffles,	deep pools	s):
boulder											
Aquatic Organisms O	bserved (list):										
None, but likely pre	esent										
T&E Species Observe	d (list):										
none											
Disturbances (ex: lives	tock access, manure	e in waterbody,	waste dis	charge pipe	es):						
Starts at road cut											
Tributary is: (check one)	Natural	[	Artificia	al, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	🗆 High	[	□ Moder	ate		⊠ Low					

Srae192

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:

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wiai735 - 50/C		
	warth for	



Waterbody SRAE192 facing west upstream



Waterbody SRAE192 facing east downstream



# Waterbody SRAE192 facing south across

Survey Description	n							
Project Name:		Waterbody N	ame:		W	laterbody ID:		Date:
Atlantic Coast Pipe	line	Hewitt Fork			S	brae157		6/2/2016
State:	County:		Company:		Crew	Member Initials:	Photos:	
West Virginia	Randolph		NRG		CG, I	RP	1-3	
Tract Number(s):			Nearest Mile	epost:		Associated Wetl	and ID(s):	
04-002-B011			58.2			none		
Survey Type: (check one)	⊠Centerline	e □Re	-Route	□Access Road	t	□Other:		
Physical Attribute	S							
Stream Classification: (check one)	Ephemera	al ⊡Int	ermittent	⊠Perennial				
Waterbody Type:								
(check one)	□River ⊠ Str	ream 🗆 Di	itch 🗆 C	anal 🗌 Other	r:			
OHWM Width:	OHWM Indica (check all that appl	itor: y)	□ Clear li	ne ⊠Shelvir	ng	□Wrested	⊠Scourin	g ⊡Water
<u>_20_</u> ft.			on bank			vegetation		staining
Height: _ <u>2_f</u> t.	⊠Bent, r vegetatio	matted, or miss on	ing □Wrack I	ine ⊠Litter a debris	nd	⊠Abrupt plant community chan	⊠ Soil c ge	haracteristic change
Width of Waterbody -	Top of Width	of Waterbody	- Toe of Slope	Width of Waterb	ody - W	ater Edge to De	pth of Wate	r:
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(Ap	prox.)	
<u>_30</u> ft.	_	<u>15</u> ft.		_	<u>20</u> ft.		. —	<u>_0.5_</u> ft.
Cinuccitur	Wotor.	volocity		N/A		N/A Bo		
(check one)	(Approx.)			Bank neight Right		Ба	nk siope Right	
⊠Straight		<u>_1.5_</u> fp	os	i i i i i i i i i i i i i i i i i i i	<u>3_</u> ft.			80 degrees
□Meanderi	ng N/A 🗆			Left:	<u>2_</u> ft.		Lef	t: <u>60</u> degrees
Qualitative Attribu	ites							
Water Appearance: (check one)	No water 🛛	Clear □Tu	rbid □St		urface		)ther:	
			or	surface sc	um	mats		
Substrate:	Bedrock 🛛 Bo	oulder 🛛 Col	oble 🛛 🖾 Grav	el 🛛 Sand	⊠ Silt/ o	clay 🗆 Organic	□ Other:	
% of Substrate:	<u>% 30 </u>	% <u>30</u> %	<u>25_</u> %	<u> 10 </u> %	<u>5</u> %	%	%	
Width of Riparian Zon	e: Vegetativ	e Lavers:						
	(check all that	t apply)	☑ Trees	:: (	🛛 Sapli	ngs/Shrubs:	⊠ Herbs	
<u>40 π</u> . N/A□	AVG. DBH (approx.)	of Dominants	<u>12</u> in.		<u>1</u> in.			
Dominant Bank Veget	ation (list):							
Hemlock, maple, fe	ern, birch							
Aquatic Habitats (ex: s	ubmerged or emerge	d aquatic vegetat	ion, overhanging	banks/roots, leaf pag	cks, large	submerged wood, rif	fles, deep poo	ls):
Riffles, runs, pools	, large woody d	lebris						
Aquatic Organisms Ol	oserved (list):							
None but likely pres	sent							
T&E Species Observe	d (list):							
none								
Disturbances (ex: livest	ock access, manure	in waterbody, was	ste discharge pip	es):				
Old road crossing								
Tributary is: (check one)	⊠ Natural		Artificial, man-m	nade 🗆 Manip	oulated			
Stream Quality <sup>a</sup> : (check one)	⊠ High		Noderate	□ Low				

### Srae157

**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 srae157 facing east upstream



Waterbody srae157 facing west downstream



Waterbody srae157 facing northeast across

Survey Description	n										
Project Name:		Waterbo	ody Nam	ie:			W	/aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Back	Fork Elk F	River		s	rae191			6/25/2016
State:	County:	1	(	Company:			Crew I	Member Initials	5:	Photos:	
West Virginia	Randolph		r	NRG			CG, S	SA		1-3	
Tract Number(s):			r	Nearest Mile	epost:			Associated W	etland	ID(s):	
Unknown			1	NA				Wrae235			
Survey Type:		ino		outo		coss Pood					
				Jule							
Stream Classification:	!5										
(check one)	□Ephem	eral	⊠Interm	nittent	□Pe	erennial					
Waterbody Type:											
(check one)	□River ⊠ \$	Stream	□ Ditch	n 🗆 Ca	anal	□ Other:					
ОНШМ	OHWM Indi	cator:							5	30 ·	
Width: _2_ft.	(Check all that a	ρριγ)		on bank	ne	Sheivin	g	Wrested vegetation	Z	Scouring	g ∐Water staining
Height:	⊠Ben	t matted or	missina	. ⊡Wrack li	ne	□I itter ar	nd	□ Abrupt plan	nt	⊠Soil cl	haracteristic change
<u>0.25</u> ft.	vegeta	tion	meenig			debris		community ch	nange		
Width of Waterbody -	Top of Widt	h of Waterl	body - Te	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to To	be of Slope	:	•	Water	Edge:	•	C C	(Approx.	)	
<u>4</u> ft.		<u>2</u> ft.				_	<u>2</u> ft.			_	<u>_0.25_</u> ft.
Cinuccitur	10/				N/A□				N/A∐ Domlo		
(check one)	(Appro	ox.)			вапк	Right			Banks	siope Right	
⊠Straight			<u>2_</u> fps				<u>2</u> ft.				<u>60</u> degrees
□Meanderi	ing N/A[					Left:	2_ ft.			Left	: 60 degrees
Qualitativo Attribu	itos				<u> </u>						
Water Appearance:	1163										
(check one)	□No water	⊠Clear	□Turbio	d ⊡Sh on	een surface	⊟Sui e scu	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder D	Cobble	e 🛛 Grave	el 🛛	Sand [	□ Silt/ c	clay 🗆 Organio		Other:	
% of Substrate:	<u>% 20</u>	<u>)</u> %	<u>30_</u> %	<u>    30   </u> %	_2	<u>0 </u> %		_%%		%	
Width of Riparian Zon	e Vegetat	ive Lavers:									
	(check all i	that apply)		⊠ Trees	:	$\square$	⊠ Saplir	ngs/Shrubs:	$\triangleright$	I Herbs	
<u>ft</u> ·	Avg. DE (approx.)	BH of Domin	nants:	<u>6</u> in.		-	<u>1</u> in.				
Dominant Bank Veget	ation (list):										
Birch, hemlock, ma	ple, aster										
Aquatic Habitats (ex: s	ubmerged or emer	ged aquatic v	egetation,	, overhanging	banks/ro	ots, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	s):
boulder											
Aquatic Organisms Ol	bserved (list):										
None, but likely pre	esent										
T&E Species Observe	d (list):										
none											
Disturbances (ex: livest	tock access, manu	re in waterboo	dy, waste	discharge pipe	es):						
Roadside ditch, cro	osses over ro	ad									
Tributary is: (check one)	□ Natura	I	□ Artif	ficial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High			derate		⊠ Low					

Srae191

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:

7 5102/9	3 TN S1ac/92 TN
	Zstacl91
Wath	K-E



Waterbody SRAE191 facing east upstream



Waterbody SRAE191 facing west downstream



# Waterbody SRAE191 facing south across

Survey Description	n								
Project Name:		Waterbody Na	ne: W			aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to Hew	ett Fork	tt Fork S					6/24/2016
State:	County:	inty: Company:			Crew I	rew Member Initials:			
West Virginia	Randolph		NRG		CG, S	SA		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B011			NA			Wrae235			
Survey Type: (check one)		e □Re-f	Route	⊠Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)	⊠Ephemera	al 🗌 Inter	rmittent	Perennial					
Waterbody Type:	-								
(check one)	River Str	ream 🗆 Dito	ch 🗆 Ca	anal 🗌 Other:	:				
онwм	OHWM Indica	tor:							
Width: _2_ft.	(check all that apply	<i>y)</i>	Clear lir on bank	ne ⊡Shelving	g	☐Wrested vegetation	X	Scouring	g □Water staining
Height:	⊠Bent, r	natted, or missin	ng ⊡Wrack li	ne 🛛 Litter ar	nd	□Abrupt plan	t	⊠Soil cl	naracteristic change
ft. N/A□	vegetatio	n		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water	:
вапк то тор от вапк:	to loe	of Slope:		water Edge:			(Approx.)		
<u>_4_</u> ft.	-	<u>1</u> ft.			<u>2</u> ft.		N/A□	-	<u>0.25</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	slope	
(check one) Straight	(Approx.)			Right:				Right	:
		<u>_1.5_</u> fps	3	Left:	<u>2</u> ft.			Left	<u>45</u> degrees
	ng N/A□				<u>2</u> ft.				45 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>]</sup> No water ⊠0	Clear 🗆 Turk	oid □Sh on	leen ⊡Sur surface scu	rface um	□Algal [ mats	□Othe	r:	
Substrate:	Bedrock 🗆 Bo	oulder 🛛 Cobb	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	%	<u>% 20</u> %	<u>   50  </u> %	<u>   20  </u> %	<u>10 </u> %	%		_%	
Width of Riparian Zone	e: Vegetative	e Layers:							
ft.	(check all that	apply)	⊠ Trees	: 2	Saplir	ngs/Shrubs:	$\boxtimes$	Herbs	
N/A⊠	(approx.)	or Dominants.	<u>4_</u> IN.	-	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):								
Birch, goldenrod, ne	ettle								
Aquatic Habitats (ex: su	ubmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	5):
none									
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	e discharge pipe	es):					
Road is headwater									
Tributary is: (check one)	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	⊠ Low					

Srae189

**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 SRAE189 facing southwest upstream



Waterbody SRAE189 facing northeast downstream



# Waterbody SRAE189 facing southeast across

Survey Descriptio	n										
Project Name:		Waterbo	ody Nam	ie:			W	laterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Back	Fork Elk F	River		S	srae190			6/25/2016
State:	County:		(	Company:			Crew I	Member Initials	5:	Photos:	
West Virginia	Randolph		1	NRG			CG, S	SA		1-3	
Tract Number(s):			1	Nearest Mile	epost:		1	Associated W	etland	ID(s):	
04-002-B011			1	NA				Wrae235			
Survey Type:	Conterli			oute		ccess Road					
				Jule							
Stream Classification:	5										
(check one)	Epheme	ral	⊠Interm	nittent	□Pe	erennial					
Waterbody Type:											
(check one)	∃River ⊠ S	tream	□ Ditch	n 🗆 Ca	anal	□ Other					
онwм	OHWM India	ator:							5	70	
<b>Width:</b> ft.	(cneck an that ap	Uly)		on bank	ne	Sneivin	g	vegetation	Z	Scouring	staining
Height:	⊠Bent	matted. or	missina	⊡Wrack li	ne	□Litter ar	nd	□Abrupt plar	nt	⊠Soil cl	haracteristic change
<u> </u>	vegetat	ion				debris		community ch	nange		
Width of Waterbody -	Top of Width	of Waterk	ody - T	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	1:
Bank to Top of Bank:	to To	e of Slope:			Water	Edge:			(Approx.	)	
<u>_10_</u> ft.		<u>6</u> ft.				-	<u>7_</u> ft.			-	<u>0.25</u> ft.
Sinuosity:	Wate	r velocity:			N/A∟ Bank	height			N/A⊡ Bank •	slone	
(check one)	(Approx	<i>.)</i>			Built	Right:			Dunix	Right	:
		_	<u>2_</u> fps			l oft	<u>3_</u> ft.			l off	<u>80</u> degrees
□Meanderi	ng N/A	I				Len.	<u>3_</u> ft.			Len	
Qualitative Attribu	ites				1				1		
Water Appearance:											
	No water ≥	Clear		d ⊔Sh on	ieen i surfac	e scu	rface um	⊔Algal mats		r:	
Substrate:	Bedrock 🗆 E	Boulder D		e 🛛 Grav	el 🛛	Sand	□ Silt/ o	clay 🗆 Organio		Other:	
% of Substrate:	%	%	<u>20_</u> %	<u>    50   </u> %	_3	<u>30 </u> %		_%%	,	%	
Width of Riparian Zone	e: Vegetati	ve Lavers:									
	(check all th	at apply)		⊠ Trees	:		🛛 Saplii	ngs/Shrubs:	$\triangleright$	Herbs	
<u>п</u> . N/A⊠	avg. DB (approx.)	H OF DOMI	nants:	<u>   5  </u> in.		-	_ <u>1_</u> in.				
Dominant Bank Vegeta	ation (list):										
Goldenrod, violet, r	naple, birch										
Aquatic Habitats (ex: s	ubmerged or emerg	ed aquatic v	egetation,	, overhanging	banks/re	oots, leaf pac	ks, large	submerged wood	l, riffles,	deep pool	s):
boulders											
Aquatic Organisms Ob	served (list):										
None, but likely pre	sent										
T&E Species Observed	d (list):										
none											
Disturbances (ex: livest	ock access, manure	in waterboo	ly, waste	discharge pipe	es):						
Road crossing											
Tributary is: (check one)	Natural		□ Artif	icial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		⊠ Moc	lerate		□ Low					

## Srae190

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:

1100

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

Stack



Waterbody SRAE190 facing south upstream



Waterbody SRAE190 facing north downstream



Waterbody SRAE190 facing west across

Survey Description	on										
Project Name:		Waterb	ody Nam	e:			w	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	o Hewet	t Fork			S	rae186		-	6/17/2016
State:	County:		C	company:			Crew N	Member Initials	8:	Photos:	
West Virginia	Randolph		٢	IRG			CG, S	SA		1-3	
Tract Number(s):			N	learest Mile	epost:			Associated W	etland	I ID(s):	
04-002-B011			١	A				Wrae257			
Survey Type: (check one)	□Cente	rline	□Re-Ro	oute	⊠Ac	cess Road		□Other:			
Physical Attribute	s										
Stream Classification: (check one)	Epher	neral	⊠Interm	ittent	□P€	erennial					
Waterbody Type:											
(check one)	□River ⊠	Stream	Ditch	□ Ca	anal	□ Other	:				
ОНШМ	OHWM Inc	dicator:									
Width: <u>5</u> ft.	(Check all that	арріу)		on bank	ie	Shelvin	g	vegetation	Þ	Scouring	staining
Height:	⊠Be	nt, matted, o	r missing	□Wrack li	ne	□Litter ar	nd	□Abrupt plar	nt	⊠Soil cl	naracteristic change
ft. N/A□	vege	tation				debris		community ch	nange		
Width of Waterbody -	Top of Wig	th of Water	body - To	oe of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
валк то тор ог валк:	tO	loe of Slope	:		water	Eage:			(Approx.	)	<i>(</i>
<u>8</u> ft.		<u>5</u> ft.				-	<u>5</u> ft.		N/A□	-	<u>_0.25_</u> ft.
Sinuosity:	Wa	ter velocity:			Bank	height			Bank	slope	
(check one)	(App	prox.)				Right:				Right	:
		-	<u>1_</u> fps			Left:	<u>1_</u> ft.			Left	<u>20</u> degrees
	ing N/A						<u>3_</u> ft.				<u>45</u> degrees
Qualitative Attribu	utes										
Water Appearance: (check one)	☐No water	⊠Clear	□Turbic	I □Sh on	een surface	⊡Su e scu	rface um	□Algal mats	□Othe	er:	
Substrate:	Bedrock	Boulder	Cobble	e 🛛 Grave	el 🛛	Sand [	□ Silt/ c	lay 🗆 Organic		Other:	
(check all that apply) % of Substrate:	% _5	5_%	<u>25_</u> %	<u>45</u> %	_2	<u>.5 </u> %		_%%		%	
Width of Riparian Zon	e: Vegeta	ative Layers	:								
ft	(check al	ll that apply)	nante	⊠ Trees	:		Saplir	ngs/Shrubs:	Σ	∃ Herbs	
N/A⊠	(approx.)		nants.	<u>4</u> in.		-	_ <u>1_</u> ın.				
Dominant Bank Vegeta Hyacinth, birch, ma	ation <i>(list)</i> : aple, false ne	ettle									
Aquatic Habitats (ex: s	ubmerged or eme	erged aquatics	venetation	overbanging	hanks/ro	ots leaf nac	ks large	submerged wood	riffles	deen nool	<i>e)</i> .
cobble		Sigou aquallo	ogotation,	ovonianging	bankore	, ioui puo	no, largo		, 111100,		<i></i>
Aquatic Organisms Ol	bserved (list):										
Salamanders, inve	rtebrates										
T&E Species Observe	d (list):										
none											
Disturbances (ex: livest	tock access, man	ure in waterbo	dy, waste o	lischarge pipe	es):						
Ban revetment, cul	verted bene	ath road									
Tributary is: (check one)	□ Natur	al	□ Artif	cial, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		⊠ Mod	erate		□ Low					

## Srae186

**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 SRAE186 facing southeast upstream



Waterbody SRAE186 facing northwest downstream



# Waterbody SRAE186 facing southwest across

Survey Descriptio	n										
Project Name:		Waterb	ody Name	:			N	aterbody ID:			Date:
Atlantic Coast Pipe	line	UNT to	Hickory	lick Run			S	RAC106			4/18/2016
State:	County:		Co	ompany:			Crew I	Member Initials	5:	Photos:	
West Virginia	Randolph		Ν	RG			CR, A	AS		3	
Tract Number(s):			Ne	earest Mile	epost:			Associated W	etland	ID(s):	
04-002-B001-AR1			60	0				None			
Survey Type: (check one)	□Cent	erline	□Re-Rou	ute	⊠Ac	cess Road	d	□Other:			
Physical Attribute	S										
Stream Classification: (check one)	Ephe	emeral	⊠Intermi	ttent	□Pe	rennial					
Waterbody Type	•										
(check one)	River	Stream	□ Ditch	□ Ca	anal	□ Other	r:				
онwм	OHWM In	dicator:							_		
Width: _ <u>5_</u> ft.	(check all the	at apply)		☑ Clear lir on bank	ne	□Shelvir	ng	☐Wrested vegetation		∃Scourino	g □Water staining
Height:	□B	ent, matted, o	r missing	□Wrack li	ne	⊠Litter a	nd	□Abrupt plan	ıt	□Soil cl	haracteristic change
ft. N/A□	vege	etation				debris		community ch	nange		
Width of Waterbody -	Fop of W	idth of Water	body - To	e of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	1:
Bank to Top of Bank:	to	Toe of Slope	:		Water	Edge:			(Approx.	)	
<u>_10_</u> ft.		<u>1_</u> ft.					<u>4_</u> ft.				<u>_0.2_</u> ft.
Sinuosity:	w	ater velocity			N/A⊡ Bank ł	neight			Bank	slone	
(check one)	(Ap	oprox.)			Duniti	Right:			Danie	Right	:
		_	<u>1_</u> fps			L offi	<u>2</u> ft.			Loft	60 degrees
⊠Meanderi	ng N/	ΆΠ				Left:	<u>2</u> ft.			Len	<u>60</u> degrees
Qualitative Attribu	ites										
Water Appearance:	No water	⊠Cloar		□ Sh			urfaco		□ <b>O</b> tho	r-	
(	-NO Water			on	surface	e sc	um	mats		1.	
Substrate:	Bedrock	⊠ Boulder I	⊠ Cobble	⊠ Grave	el 🛛	Sand	□ Silt/ c	ay 🗆 Organic	; 🗆 (	Other:	
% of Substrate:	%	<u>15_</u> %	<u>25_</u> %	<u>   50  </u> %	1	<u>0 </u> %	%	%		%	
Width of Riparian Zone	e: Vege	tative Layers:									
"	(check	all that apply)	nonto.	⊠ Trees		[	🛛 Saplir	ngs/Shrubs:	$\triangleright$	I Herbs	
<u></u> N/A⊠	Avg. (approx		nams.	<u>8</u> in.			<u>2</u> in.				
Dominant Bank Vegeta	ation (list):										
Red clover, dandeli	on, cattail,	red maple,	yellow b	oirch, whi	te pine	e, cow p	arsnip,	blackberry			
Aquatic Habitats (ex: s	ubmerged or en	nerged aquatic v	regetation, c	overhanging	banks/ro	ots, leaf pao	cks, large	submerged wood	, riffles,	deep pool	s):
Rock piles											
Aquatic Organisms Ob	oserved (list):										
None											
T&E Species Observed	d (list):										
None											
Disturbances (ex: livest	ock access, ma	nure in waterbo	dy, waste di	scharge pipe	es):						
Flows next to acces	ss road										
Tributary is: (check one)	□ Natu	ural	□ Artific	ial, man-m	ade	🛛 Manip	oulated				
Stream Quality <sup>a</sup> : (check one)	□ High	1	⊠ Mode	erate		□ Low					

Waterbody ID: SRAC106

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 SRAC106 facing north upstream



Waterbody SRAC106 facing south downstream



# Waterbody SRAC106 facing west across

Survey Description	n										
Project Name:		Waterbody	Name:				N	aterbody ID:			Date:
Atlantic Coast Pipel	ine	UNT to He	ewett F	Fork			S	irae185			6/15/2016
State:	County:		Cor	npany:			Crew I	Member Initials	::	Photos:	
West Virginia	Randolph		NR	G			CG, S	SA, KO		1,2,3	
Tract Number(s):			Nea	arest Mile	epost:			Associated W	etland	ID(s):	
04-002-B011			Aco	cess Ro	bad			Wrae254			
Survey Type: (check one)		e □R	e-Route	e	⊠Ao	ccess Road		□Other:			
Physical Attribute	S										
Stream Classification: (check one)	Ephemer	al ⊠Ir	itermitte	ent	□Pe	erennial					
Waterbody Type:											
(check one)	River St	ream 🗆 [	Ditch	□ Ca	anal	□ Other	:				
OHWM Width:	OHWM Indica (check all that app	ator: ly)		Clear lir	ne	□Shelvin	g	□Wrested	$\boxtimes$	Scouring	g 🗆 Water
<u>2</u> ft.			0	n bank				vegetation			staining
Height:ft.	⊠Bent, vegetatio	matted, or mis on	sing 🗆	∃Wrack li	ne	□Litter ar debris	nd	□Abrupt plar community ch	it nange	⊠Soil c	haracteristic change
Width of Waterbody - T	op of Width	of Waterbody	/ - Toe	of Slope	Width	of Waterb	ody - W	ater Edge to	Depth	of Water	:
Bank to Top of Bank:	to Toe	of Slope:			Water	Edge:		0	(Approx.)	)	
<u>8</u> ft.	-	<u>3</u> ft.				-	<u>2</u> ft.				<u>1_</u> ft.
Sinuosity:	Water	velocity			N/A⊡ Bank	height			N/A∐ Bank s	slone	
(check one)	(Approx.)	)			Built	Right:			Bank	Right	:
		<u>3_</u> f	ps			l eft	<u>6_</u> ft.			l eff	<u>45</u> degrees
	ng N/A□					Lon	<u>3_</u> ft.			Len	<u>30</u> degrees
Qualitative Attribu	tes										
Water Appearance: (check one)	No water	Clear □T	urbid	⊡Sh on	ieen i surfac	⊡Su e sci	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock 🗆 Bo	oulder 🖂 Co	obble	⊠ Grave	el 🛛	Sand	⊠ Silt/ o	clay 🗆 Organio	: □ (	Other:	
(check all that apply) % of Substrate:	% %	۶ 40 <sup>د</sup>	%	30 %	1	15 %	15 %	%	1	%	
Width of Riparian Zone	. Vegetativ	o Lavors:									
	(check all tha	t apply)		□ Trees	:	D	🛛 Saplii	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>ft</u> · N/A⊠	Avg. DBH (approx.)	l of Dominant	S:	in.		-	_ <u>1_</u> in.				
Dominant Bank Vegeta	tion (list):										
Hyacinth, Common	Bonset, Care>	k lurida, Equ	uisetu	m arver	nse, J	uncus eff	usus,	Wild Strawb	erry, F	Red Ma	ple, Goldenrod
Aquatic Habitats (ex: su	bmerged or emerge	ed aquatic vegeta	ation, ov	erhanging	banks/ro	oots, leaf pac	ks, large	submerged wood	, riffles,	deep pool	s):
Aquatic Organisms Ob	served (list):										
Cadisfly larvae, Mayflies	s, Stone fly, North	iern two line s	alamar	nder							
T&E Species Observed	l (list):										
Disturbances (ex: livesto	ock access, manure	in waterbody, w	aste disc	harge pipe	es):						
Culvert, and roadsid	de ditch	•									
Tributary is: (check one)	□ Natural		Artificia	al, man-m	ade	🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	$\boxtimes$	Modera	ate		□ Low					

## Srae185

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 SRAE185 facing south upstream



Waterbody SRAE185 facing north downstream



Waterbody SRAE185 facing east across

Survey Descriptio	n							
Project Name:		Waterbody Na	me:		v	/aterbody ID:		Date:
Atlantic Coast Pipe	line	UNT to Hew	ett Fork		s	irae184		6/15/2016
State:	County:		Company:		Crew I	Member Initials:	Photos	
West Virginia	Randolph		NRG		CG, S	SA,KO	1,2,3	
Tract Number(s):			Nearest Mile	epost:		Associated Wet	land ID(s):	
04-002-B011			Access Ro	bad		Wrae254		
Survey Type: (check one)		e □Re-I	Route	⊠Access Road	ł	□Other:		
Physical Attribute	S							
Stream Classification: (check one)		al 🛛 Inte	rmittent	Perennial				
Waterbody Type:	·							
(check one)	□River ⊠ Str	eam 🗆 Dite	ch 🗆 Ca	anal 🛛 🗆 Other	:			
онум	OHWM Indica	tor:						
<b>width:</b> <u>4</u> ft.	(chock all that appl)	*)	on bank		ig			staining
Height:	⊠Bent, r	natted, or missir	ng ⊡Wrack li	ne 🛛 Litter a	nd	□Abrupt plant	⊠Soil d	characteristic change
<u>.3</u> π. N/A□	vegetatic	n		debris		community char	nge	
Width of Waterbody - 1 Bank to Top of Bank:	Fop of Width	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	later Edge to De	epth of Wate	er:
Dank to Top of Dank.	10 100	or slope.		water Luge.		(7.9	5,00,0	0.4
<u>12 ft.</u>	-	<u>_6_</u> ft.		N/A□	<u>4_</u> ft.	N/	∕A□	<u>2_</u> ft.
Sinuosity:	Water	velocity:		Bank height		Ba	ank slope	
(check one)	(Approx.)			Right:	7 4		Righ	t:
		<u>5_</u> fps		Left:	<u>_7_</u> n.		Let	<u>45</u> degrees
	ng N/A□				<u>2</u> ft.			<u>25</u> degrees
Qualitative Attribu	ites							
(check one)	<sup>□</sup> No water ⊠0	Clear □Turb	oid ⊡Sh on	neen ⊡Su n surface sci	rface um	□Algal □ mats	Other:	
Substrate:	Bedrock 🛛 🖾 Bo	oulder 🛛 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	□ Other:	
(check all that apply) % of Substrate:	<u>% 5</u> %	<u>   50  </u> %	<u>   25  </u> %	<u>15_</u> %	<u>15_</u> %	%	%	
Width of Riparian Zone	e: Vegetative	e Layers:						
	(check all that	apply)	☑ Trees	: 0	⊠ Saplir	ngs/Shrubs:	⊠ Herbs	
<u> </u>	аvg. DBП (approx.)	or Dominants:	<u>6</u> in.	-	_ <u>1_</u> in.			
Dominant Bank Vegeta	ation (list): r Maple Green	Ash Asters	Red Maple	Colts Foot	Poison	lvv Dutchmar	's Pine F	nuisetum arvense
Tulip Popular		d aquatic vegetatic		hanks/roots leaf nac	sks large	submerged wood ri	ffles deep poo	
· · · · · · · · · · · · · · · · · · ·	gg-	1 3	,	, p		, ··		
Aquatic Organisms Ob	oserved (list):							
Cadisfly larvae, Mayflie	s, Stone fly, Salam	anders						
T&E Species Observed	d (list):							
Disturbances (ex: livest	ock access, manure i	n waterbody, wast	e discharge pipe	es):				
Stream is culverted	l							
Tributary is:								
Stream Quality <sup>a</sup> ·	□ Natural	□ Ar	tificial, man-m	ade 🛛 Manip	ulated			
(check one)	□ High		oderate	□ Low				

#### Srae184

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 SRAE184 facing south upstream



Waterbody SRAE184 facing north downstream



# Waterbody SRAE184 facing east across

Survey Description	n								
Project Name:		Waterbody Na	me:		v	laterbody ID:		D	ate:
Atlantic Coast Pipe	line	UNT to Fork	Hewett		S	irae183		6	(15/2016
State:	County:		Company:		Crew I	Member Initials	: P	hotos:	
West Virginia	Randolph		NRG		CG, S	SA, KO		1,2,3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland I	D(s):	
04-002-B011			Access Ro	oad		Wrae254			
Survey Type: (check one)		e □Re-	Route	⊠Access Road	1	□Other:			
Physical Attribute	s								
Stream Classification: (check one)	Ephemera	al 🛛 Inte	rmittent	Perennial					
Waterbody Type: (check one)	□River ⊠ Str	eam 🗆 Dit	ch 🗆 C	anal 🗌 Other	:				
OHWM Width: <u>3</u> ft.	OHWM Indica (check all that apply	<b>tor:</b> /)	□ Clear lin on bank	ne 🗆 Shelvin	g	□Wrested vegetation		Scouring	□Water staining
<b>Height:</b> ft. N/A□	⊠Bent, r vegetatio	natted, or missir n	ng	ine ⊠Litter a debris	nd	□Abrupt plan community ch	t ange	⊠Soil cha	aracteristic change
Width of Waterbody - ` Bank to Top of Bank:	Top of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	ater Edge to	Depth c (Approx.)	of Water:	
_ <u>_12_f</u> t.	-	<u>6</u> ft.		N/A□	<u>2</u> ft.		N/A□	_	<u>.02</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank sl	ope	
Straight	(Αρριοχ.)	0 fra		Right:	3 ft			Right:	20 degrees
Moondor		<u>2_</u> ips	i	Left:	<u> </u>			Left:	<u>20</u> degrees
	N/A∟				<u>_2_</u> ft.			•	<u>10</u> degrees
Qualitative Attribu	utes								
(check one)	$\Box$ No water $\boxtimes$	Clear □Turl	oid □Sł or	neen ⊡Su n surface sc	rface um	□Algal [ mats	□Other:		
Substrate:	Bedrock 🛛 🖾 Bo	oulder 🛛 Cobl	ble 🛛 🖾 Grav	el 🛛 Sand 🛛	⊠ Silt/ c	clay 🗆 Organic	□ O	ther:	
(check all that apply) % of Substrate:	<u>% 15 %</u>	% <u>40</u> %	<u>25</u> %	<u> 10 </u> %	<u>20_</u> %	%		%	
Width of Riparian Zon	e: Vegetative	e Layers:							
<u>N/A</u> ft·	(check all that <b>Avg. DBH</b> (approx.)	apply) of Dominants:	⊠ Trees _ <u>6_</u> in.	: [	⊠ Saplir _ <u>1_</u> in.	ngs/Shrubs:	$\boxtimes$	Herbs	
Dominant Bank Veget	ation (list):								
	Yellow	Birch, Sugar	Maple, Gr	een Ash, Aster	s, Red	Maple, Colts	s Foot,	, Poison	lvy
Aquatic Habitats (ex: s	ubmerged or emerged	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	submerged wood	, riffles, d	leep pools)	:
Aquatic Organisms Ol	oserved (list):								
Cadisfly larvae, Mayflie	s, Stone fly								
T&E Species Observed	d (list):								
Culvert and road									
Tributary is: (check one)	□ Natural		tificial, man-m	nade 🛛 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	M	oderate						

## Srae183

**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)

# GRA J'RAE18? INTERMEDENT TELAN Vrae 254 Рем Form Rev. 07/09/2014



# Waterbody SRAE183 facing south upstream



Waterbody SRAE183 facing north downstream



Waterbody SRAE183 facing east across

Survey Description	n								
Project Name:		Waterbody Na	me:		w	aterbody ID:		Ľ	Date:
Atlantic Coast Pipel	ine	UNT to Hick	orylick Run		S	RAC105		4	1/18/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CR, A	AS		3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B001-AR1			60			None			
Survey Type: (check one)		e □Re-	Route	□Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)	⊠Ephemer	ral ⊡Inte	rmittent	□Perennial					
Waterbody Type:	_p								
(check one)	River St	ream 🗆 Dit	ch 🗆 C	anal 🛛 🗆 Other:					
онwм	OHWM Indica	ator:							
Width: _2_ft.	(check all that app	<i>NY)</i>	☑ Clear lir on bank	ne ⊡Shelving	g	☐Wrested vegetation		Scouring	□Water staining
Height:	□Bent,	matted, or missir	ng ⊡Wrack li	ne ⊠Litter ar	nd	□Abrupt plan	t	□Soil ch	aracteristic change
ft. N/A□	vegetati	on		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	:
Bank to Top of Bank:	to Toe	e of Slope:		Water Edge:			(Approx.)		
<u>8</u> ft.		<u>1_</u> ft.			<u>2</u> ft.			-	<u>0.2</u> ft.
Sinuosity:	Water	velocity:		N/AL			Bank s	lone	
(check one)	(Approx.	) )		Right:				Right:	
		<u>_1_</u> fps		L off:	<u>2_</u> ft.			Loft	60 degrees
⊠Meanderin	ng N/A□			Lon.	<u>2_</u> ft.			Lon	60 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>]</sup> No water ⊠	Clear DTur	oid ⊡Sh	ieen 🗆 Sur	face	□Algal	□Othe	r:	
			or	surface scu		mats		24	
Substrate: (check all that apply)	Bedrock B	oulder 🗆 Cob	ole 🛛 Grav	el 🖂 Sand 🛛	⊴ Silt/ c	ay 🗆 Organic		Other:	
% of Substrate:	%	%	_% <u>50 %</u>	<u>40</u> %	<u>10_</u> %	%		%	
Width of Riparian Zone	e: Vegetativ	ve Layers:				( <b>0</b> )	_		
ft.	Avg. DBH	at apply)	⊠ Irees ∘ in	: 2	Saplır	ngs/Shrubs:	×	Herbs	
N/A 🛛	(approx.)		<u>_o</u>	-	<u></u>				
Red clover, dandeli	ntion (list): on, cattail,								
Aquatic Habitats (ex: su	ubmerged or emerge	ed aquatic vegetation	on. overhanging	banks/roots. leaf pac	ks. large	submerged wood	. riffles.	deep pools	):
None	gg-		,		,	g	,,		/-
Aquatic Organisms Ob	served (list):								
None									
T&E Species Observed	(list):								
None									
Disturbances (ex: livesto	ock access, manure	in waterbody, wast	e discharge pip	es):					
Flows next to and u	inder access r	oad through a	a culvert						
Tributary is: (check one)	□ Natural		tificial, man-m	ade 🛛 Manipu	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	□ M	oderate	⊠ Low					

Waterbody ID: SRAC105

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 bed is primarily composed of fill off of the road

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

Alless Road

Concel

SRACOS



Waterbody SRAC105 facing east upstream



Waterbody SRAC105 facing west downstream



# Waterbody SRAC105 facing south across

Survey Description	n								
Project Name:		Waterbody Na	me:		v	laterbody ID:		C	vate:
Atlantic Coast Pipel	ine	UNT to Valle	y Fork		S	rae110		5	/2/2016
State:	County:		Company:		Crew I	Member Initials	:	Photos:	
West Virginia	Randolph		NRG		CG, ł	<0		1-3	
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B018			60.6			none			
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□Access Road		□Other:			
Physical Attributes	S								
Stream Classification: (check one)		al 🛛 Inter	mittent	Perennial					
Waterbody Type:									
(check one)	River 🛛 Sti	ream 🗌 Dito	ch □Ca	anal 🗌 Other:	:				
онwм	OHWM Indica	itor:							
Width: _ <u>6_</u> ft.	(check all that appl	<i>y)</i>	Clear lir on bank	ne Shelving	g	☐Wrested vegetation	X	Scouring	□Water staining
Height:	⊠Bent, r	matted, or missin	g ⊠Wrack li	ne 🛛 Litter ar	nd	□Abrupt plan	t	⊠Soil ch	aracteristic change
ft. N/A□	vegetatio	on		debris		community ch	ange		
Width of Waterbody - T	op of Width	of Waterbody -	Toe of Slope	Width of Waterbo	ody - W	ater Edge to	Depth	of Water:	
Bank to Top of Bank:	to Toe	of Slope:		water Edge:			(Approx.)		
<u>_12_</u> ft.	-	<u>5</u> ft.			<u>6</u> ft.		N/A 🗆		<u>0.25_</u> ft.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)	)		Right:				Right:	
		<u>3</u> fps		l eft <sup>.</sup>	<u>1_</u> ft.			l eft <sup>.</sup>	<u>30</u> degrees
	ng N/A□			2011	<u>2</u> ft.			2011	60 degrees
Qualitative Attribu	tes								
Water Appearance: (check one)	<sup>]</sup> No water ⊠0	Clear 🗆 Turb	id □Sh	ieen ⊡Sui	rface		□Other	r:	
Substrate	Dodrook M Pr			i surrace scu				)thor:	
(check all that apply)						lay 🗆 Organic		Julei.	
% of Substrate:	<u>% 5</u> %	<u>35</u> %	<u>30</u> %	<u>20</u> %	<u>10_</u> %	%		%	
Width of Riparian Zone	e: Vegetative	e Layers:	⊠ <b>т</b>		<b>7</b> 0 l'a			7. I. I. a. uk. a.	
<u>25 ft</u> ·	Avg. DBH	of Dominants:	⊢ I rees 8 in	: 2	⊴ Sapili 1 in	ngs/Snrubs:	X	Herbs	
N/A 🗆	(approx.)		<u>_0_</u>	-	<u>_</u>				
Sedges, birch, map	ition (list): le								
Aquatic Habitats (ex. su	ubmerged or emerge	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks. large	submerged wood	riffles.	deep pools	):
riffles	gg-		.,		,g.		,,		-
Aquatic Organisms Ob	served (list):								
none									
T&E Species Observed	(list):								
none									
Disturbances (ex: livesto	ock access, manure	in waterbody, waste	e discharge pipe	es):					
none									
Tributary is: (check one)	⊠ Natural	□ Art	tificial, man-m	ade 🗌 Manipi	ulated				
Stream Quality <sup>a</sup> : (check one)	⊠ High		oderate	□ Low	_		_		

## Srae110

**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 srae110 facing northwest upstream



Waterbody srae110 facing southeast downstream



Waterbody srae110 facing northeast across

Survey Descriptio	n									
Project Name:		Waterb	ody Nam	ie:		v	Vaterbody ID:			Date:
Atlantic Coast Pipe	line	Valley	Fork			S	Srae111			5/2/2016
State:	County:		C C C C C C C C C C C C C C C C C C C	Company:		Crew	Member Initials	:	Photos:	
West Virginia	Randolph	ו	1	NRG		CG, I	KO		1-3	
Tract Number(s):			1	Nearest Mile	epost:		Associated W	etland	ID(s):	
04-002-B018; 04-002	-B019		6	60.6			none			
Survey Type: (check one)	⊠Cer	nterline	□Re-Re	oute	□Access Ro	ad	□Other:			
Physical Attribute	S									
Stream Classification: (check one)	□Eph	nemeral	□Intern	nittent	⊠Perennial					
Waterbody Type:										
(check one)	∃River	Stream Stream	□ Ditch	n 🗆 Ca	anal 🗆 Oth	ner:				
OHWM Width: <u>50</u> ft.	OHWM I (check all ti	Indicator: hat apply)		□ Clear lir on bank	ne ⊠Shel	ving	□Wrested vegetation	×	Scouring	g ⊟Water staining
Height:4_ft.	⊠E veç	Bent, matted, c getation	or missing	⊡Wrack li	ne ⊠Litte debris	and	□Abrupt plan community ch	t lange	⊠Soil cl	naracteristic change
N/AL	Fop of M	Vidth of Water	body - T	oe of Slone	Width of Wate	rbody - V	Vater Edge to	Denth	of Water	·
Bank to Top of Bank:	to	o Toe of Slope	e:		Water Edge:	incuj i	rator Lago to	(Approx.)	)	
<u>_60</u> ft.		<u>_25_</u> ft.				<u>40</u> ft.				<u>3_</u> ft.
Sinuosity:	v	Nater velocity	•		N/A∐ Bank beight			N/AL	slone	
(check one)	(*	Approx.)	-		Right			Dalik	Riaht	
⊠Straight		_	<u>3.5_</u> fps			<u>10_</u> ft.				<u>75</u> degrees
□Meanderi	ng N	J/A□			Lett	_ <u>4_</u> ft.			Lett	: <u>25</u> degrees
Qualitative Attribu	Ites				•					
Water Appearance: (check one)	<sup>□</sup> No water	⊠Clear	□Turbio	d ⊡Sh on	een 🗆	Surface scum	□Algal [ mats	Othe	r:	
Substrate:	Bedrock	⊠ Boulder		e 🛛 Grave	el 🛛 Sand	Silt/	clay 🗆 Organic	: □ C	Other:	
(check all that apply) % of Substrate:	%	<u>25</u> %	<u>30 </u> %	<u>25</u> %	<u> 15 </u> %	<u> 10 </u> %	%		%	
Width of Riparian Zone	e: Vege	etative Layers	:							
200 ft.	(check	k all that apply)	inante:	⊠ Trees	:	🛛 Sapli	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>200 n</u> . N/A□	(appro	ох.)	mants.	<u>_12_</u> ın.		<u>1</u> in.				
Dominant Bank Vegeta	ation (list):									
Beech, oak, birch, r	may apple	, fern								
Aquatic Habitats (ex: s	ubmerged or e	emerged aquatic	vegetation	, overhanging	banks/roots, leaf	oacks, large	e submerged wood	, riffles,	deep pool	s):
Runs, pools, bould	ers									
Aquatic Organisms Ob	oserved (list)	):								
insects										
T&E Species Observed	d (list):									
none										
Disturbances (ex: livest	ock access, m	anure in waterbo	ody, waste	discharge pipe	es):					
none										
Tributary is: (check one)	⊠ Na	tural	□ Artif	ficial, man-m	ade 🗆 Mai	nipulated				
Stream Quality <sup>a</sup> : (check one)	⊠ Hig	jh		derate	□ Low					

## Srae111

**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 srae111 facing east upstream



Waterbody srae111 facing west downstream



Waterbody srae111 facing north across