Survey Descriptio	n							1
Project Name:	e: Waterbody I					/aterbody ID:		Date:
Southeast Reliabilit	У	Unnamed Ir	ibutary to Tanner Fork			HAA001		6/10/2014
State:	County/Parish:		Company: Cre			Member Initials:	Photos:	
West Virginia	Harrison		Natural Re	esource Group	GB, S	SK, LE, TP	3	
Tract Number(s):	1		Nearest Mile	epost:	1	Associated Wet	land ID(s):	
01-006			0.0 – 0.1			WHAB001		
Survey Type: (check one)	⊠Centerlin	e □Re-f	Route	□ Access Road		Other:		
Physical Attribute	S							
Stream Classification: (check one)	Ephemer	al 🗌 Inter	rmittent	⊠Perennial				
Waterbody Type: (check one)	∃River ⊠ St	ream 🗆 Dito	ch 🗆 Ca	anal 🗌 Other	:			
OHWM Width: <u>3.0</u> ft.	OHWM Indica (check all that app	ator: <sup>I</sup> y)	□ Clear lir on bank	ne ⊠Shelvin	g	⊠Wrested vegetation	□Scourin	g ⊟Water staining
<b>Height:</b> ft. N/A□	⊠Bent, vegetati	matted, or missin on	ng ⊡Wrack li	ne □Litter ar debris	nd	□Abrupt plant community char	⊡Soil o nge	haracteristic change
Width of Waterbody - 1 Bank to Top of Bank:	Fop of Width to Toe	of Waterbody - of Slope:	Toe of Slope	Width of Waterb Water Edge:	ody - W	Ater Edge to De (A)	epth of Wate	r:
<u>5.0</u> ft.		<u>2.5</u> ft.			<u>_2.5_</u> ft.	N/	'A□	<u>0.5</u> ft.
Sinuosity: (check one) □Straight	Water (Approx.	velocity: ) fps	3	Bank height Right: Left:	<u>3.5</u> ft.	Ba	ank slope Righ Lef	:: _ <u>45_</u> degrees t:
					<u>2.0_</u> π.			<u>_25</u> degrees
Water Appearance:	_							
(check one)	<sup>⊥</sup> No water ⊠	Clear DTurb	oid □Sh on	leen □Sul surface scu	rface um	□Algal □0 mats	Other:	
Substrate: [ (check all that apply) % of Substrate:	☐ Bedrock □ B	oulder □ Cobt %	ble ⊠ Grave _% <u>10_</u> 9	el ⊠ Sand I % _ <u>25_</u> %	⊠ Silt/ c _ <u>65_</u> 9	clay □ Organic %%	□ Other: %	
Width of Riparian Zone	e: Vegetativ	e Layers:	⊠ -	5		(0)		
<u>35_ft</u> ⊷ N/A□	(check all that Avg. DBH (approx.)	I of Dominants:	⊠ Trees <u>8.0</u> in.	-	⊠ Saplir _ <u>1.5_</u> in	ngs/Shrubs:	⊠ Herbs in.	
Dominant Bank Vegeta	ation (list):							
Black willow, jewelv	veed, joe pye	weed, soft rus	sh, sedge, c	cattail				
Aquatic Habitats (ex: so Overhanging veget	ubmerged or emerge ation	ed aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood, ri	ffles, deep poo	s):
Aquatic Organisms Of	served (list)							
none								
T&E Species Observed	d (list):							
none								
Disturbances (ex: livest	ock access, manure	in waterbody, waste	e discharge pipe	es):				
Fill along stream co	ourse associate	ed with existin	g pipeline f	acility				
Tributary is:								
(check one)	Natural	□ Ar	tificial, man-m	ade 🛛 🖾 Manip	ulated			
Stream Quality <sup>a</sup> : (check one)	□ High	M	oderate	□ Low				

Waterbody ID: SHAA001

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 SHAA002 is a tributary; both streams are associated with a saturated PEM/PSS complex-WHAB001

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





Waterbody SHAA001 facing north upstream



Waterbody SHAA001 facing south downstream



Waterbody SHAA001 facing north across

Survey Description	n									
Project Name:		Waterbody Name:				Water		erbody ID:		Date:
Southeast Reliabilit	ity Tanner Fork						SHAA002			/10/2014
State:	County/Parish:			Company: C			Member Initials	S:	Photos:	
West Virginia	Harrison			Natural Resource Group G			SK, LE, TP		3	
Tract Number(s):				Nearest Mile	epost:		Associated Wetland ID(s):			
01-005; 01-006	05; 01-006			0.0 – 0.1			WHAB001			
Survey Type: (check one)	⊠Center	ine	□Re-R	oute	□ Access Road		Other:			
Physical Attribute	S									
Stream Classification: (check one)	Ephem	eral		nittent	⊠Perennial					
Waterbody Type:	<b>_</b> p	0.0.								
(check one)	River	Stream	Ditcl	n 🗆 Ca	anal 🛛 🗆 Other	:				
онwм	OHWM Indi	cator:						5	<b>10</b> ·	
Width: <u>6.0</u> ft.	(Check all that a	ppiy)		on bank		g	vegetation	X	Scouring	staining
Height:	⊠Ben	t, matted, o	r missing	g	ne 🛛 Litter ar	nd	□Abrupt plar	nt	□Soil ch	aracteristic change
_ <u>1_</u> π. N/A□	vegeta	tion			debris		community cl	nange		
Width of Waterbody - T Bank to Top of Bank:	op of Widt	h of Water	body - T	oe of Slope	Width of Waterb	ody - V	Vater Edge to	Depth	of Water:	
Bank to Top of Bank.		be of Stope	•		Water Luge.			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, ,	4.0.4
<u>_9.0</u> ft.		<u>4.5</u> ft.			N/A 🗆 🗕	<u>5.5_</u> ft.		N/A□	-	<u>_1.0_</u> π.
Sinuosity:	Wat	er velocity:			Bank height			Bank s	slope	
(check one)	(Appr	ох.)			Right:				Right:	
			<u>1.0_</u> fps		Left:	<u>3.5_</u> ft	•		Left:	<u>60</u> degrees
Meanderin	ng N/AI				-	<u>5.0_</u> ft				50 degrees
Qualitative Attribu	tes									
Water Appearance: (check one)	No water	□Clear	⊠Turbi	d ⊡Sh on	leen ⊡Su surface sci	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock	Boulder	Cobbl	e 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organio		Other:	
(check all that apply) % of Substrate:	%	%	c	% <u>10</u> %	%	_65_	%	<u>%</u>	%	
Width of Riparian Zone	: Vegetat	ive Layers:								
35 ft.	(check all	that apply) RH of Domi	nante:	⊠ Trees	:	⊠ Sapli	ngs/Shrubs:	$\boxtimes$	Herbs	
<u>-55 n</u> . N/A□	(approx.)		namo.	<u>8.0</u> in.	-	<u>1.5</u> ir	1.	_	in.	
Dominant Bank Vegeta	tion (list):									
Black willow, jewelv	veed, joe pye	e weed, so	oft rusł	n, sedge, o	cattail					
Aquatic Habitats (ex: su	ubmerged or emer	ged aquatic v	egetation	, overhanging	banks/roots, leaf pac	ks, large	e submerged wood	d, riffles,	deep pools	):
Overhanging veget	ation; pools,	wrack pile	es							
Aquatic Organisms Ob	served (list):									
Fish										
T&E Species Observed	(list):									
none										
Disturbances (ex: livesto	ock access, manu	re in waterboo	dy, waste	discharge pipe	es):					
County Road 35 cro	osses stream	ı								
Tributary is: (check one)	<sup>⊠</sup> Natura	l	🗆 Arti	ficial, man-m	ade 🗆 Manip	ulated				
Stream Quality <sup>a</sup> :				doroto						

Waterbody ID: SHAA002

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 flows into SHAA001; both streams are forks of Tanner Fork; both streams are associated with a saturated PEM/PSS complex-WHAB001

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





Waterbody SHAA003 facing west upstream



Waterbody SHAA003 facing east downstream



Waterbody SHAA003 facing south across

<b>Survey Descriptio</b>	n								
Project Name: Wate		Waterbody Na	me:		v	aterbody ID:	Date:		
Southeast Reliabilit	у	Tanner Fork	r Fork			HAB101		8/4/2014	
State:	County:		Company: C			Member Initials:	Photos:		
West Virginia	Harrison		NRG T				01_03		
Tract Number(s):			Nearest Mile	epost:		Associated Wetland ID(s):			
01-009			0.5			none			
Survey Type: (check one)		e □Re-l	Route	□Access Road		□Other:			
Physical Attribute	S								
Stream Classification: (check one)	□ Ephemera	al 🗆 Inte	rmittent	⊠Perennial					
Waterbody Type:									
(check one)	River Str	eam 🗆 Dite	ch 🗆 C	anal 🗌 Other:	:				
OHWM Width:	OHWM Indicat (check all that apply	tor: //	⊠ Clear lir	ne ⊠Shelvin	g		□Scourin	g ⊟Water	
<u>4</u> IL.									
	□Bent, n vegetatio	natted, or missir n	ng ⊡Wrack li	ne Litter ar debris	nd	☐Abrupt plant community char	⊡Soil o ige	haracteristic change	
Width of Waterbody - 1	op of Width o	of Waterbody -	Toe of Slope	Width of Waterb	ody - W	ater Edge to De	epth of Wate	r:	
Bank to Top of Bank:	to Toe	of Slope:		Water Edge:		(Ap	prox.)		
<u>_6_</u> ft.	-	<u>3</u> _ft.			_4_ft.	N/		<u>0.5</u> ft.	
Sinuosity:	Water	velocity:		Bank height		Ba	ank slope		
(check one)	(Approx.)			Right:			Righ	t:	
		<u>_1.0</u> _fps	6	l eft:	<u>4_</u> ft.		l ef	<u>90</u> degrees	
⊠Meanderi	ng N/A□			Lon.	<u>4_</u> ft.		201	<u>90</u> degrees	
Qualitative Attribu	ites								
Water Appearance: (check one)	No water ⊠C	Clear 🗆 Turb	oid □Sł or	neen ⊡Sui n surface scu	rface um	□Algal □0 mats	Other:		
Substrate:	Bedrock 🗆 Bo	ulder 🗆 Cobl	ole 🛛 Grav	el 🛛 Sand 🛛	⊠ Silt/ o	clay 🗆 Organic	Other:		
(check all that apply) % of Substrate:	%	_%	_% <u>10 %</u>	45_%	<u>45_</u> %	%	%		
Width of Riparian Zone	e. Vegetative	avers:							
<u>0 ft</u> .	(check all that Avg. DBH	apply) of Dominants:		s: [	∃ Sapliı	ngs/Shrubs: in	⊠ Herbs		
N/AL	(approx.)								
Creek runs thru pas	sture- dominant	vegetation is	s red clove	r, joe pye weed	l, orch	ard grass and	black willo	w along bank	
Aquatic Habitats (ex: se	ubmerged or emerged	d aquatic vegetatio	on, overhanging	banks/roots, leaf pac	ks, large	e submerged wood, ri	ffles, deep poo	ls):	
There are a few roc	ot balls along ba	ank and debr	is piles						
Aquatic Organisms Ob	served (list):								
tish									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livest	ock access, manure i	n waterbody, wast	e discharge pip	es):					
Creek flows thru pa	sture, cattle ha	ve access ar	nd there is	a driveway cros	ssing o	over creek, not	ed bank fa	ilures	
Tributary is: (check one)	⊠ Natural	□ Ar	tificial, man-m	nade 🗌 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High		oderate	□ Low					

Waterbody ID: SHAB101

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

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

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

### Notes:

Stream is degraded due to cattle access, no riparian buffers present. Lots of sediment deposition, weak meanders, weak riffle pool sequence. Waterbody ID in Waterbody Sketch was updated to SHAB101 on 9/9/14 JM.

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





Waterbody SHAB101 facing north upstream



Waterbody SHAB101 facing south downstream



Waterbody SHAB101 facing west across

Survey Description	n	<b>F</b> =							
Project Name: Waterbody		Waterbody Na	Name: V			Naterbody ID:			Date:
Southeast Reliability	У	Unnamed Tr	ibutary to Tanner Fork			SHAA003			6/10/2014
State:	County/Parish:		Company Cre			ew Member Initials: Pho			
West Virginia	Harrison		Natural Resource Group GB			3, SK, LE, TP 3			
Tract Number(s):			Nearest Mile	epost:		Associated W	etland	ID(s):	
01-009			0.5			WHAB002			
Survey Type: (check one)	⊠Centerline	e □Re-F	Route	□Access Road		□Other:			
Physical Attributes	s								
Stream Classification:		al Mintor	mittant						
			mittent						
(check one)	River Str	eam 🗆 Dito	h 🗆 Ca	anal 🗌 Other	:				
онwм	OHWM Indica	tor:							
Width: ft.	(check all that appl	<i>Y)</i>	Clear lir on bank	ne ⊠Shelvin	g	⊠Wrested vegetation	$\boxtimes$	Scouring	□Water staining
Height:	⊠Bent, r	natted, or missin	g	ne 🗆 Litter ar	nd	□Abrupt plar	nt	□Soil ch	aracteristic change
<u>1.0_</u> π. N/A□	vegetatio	n		debris		community ch	nange		
Width of Waterbody - T Bank to Top of Bank	op of Width	of Waterbody -	Foe of Slope	Width of Waterb	ody - W	ater Edge to	Depth (Approx.)	of Water:	
	10 100			Trater Euge.					0.5. #
<u></u> π.	-	<u>_4.0_</u> ft.			<u>4.0_</u> ft.		N/A□		<u>_0.5</u> n.
Sinuosity:	Water	velocity:		Bank height			Bank s	lope	
(check one)	(Approx.)			Right:	40 4			Right:	00 desees
		<u>_1.25_</u> fp:	3	Left:	<u>4.0_</u> π.			Left:	<u>80</u> degrees
Meanderir	ng N/A□				<u>4.0_</u> ft.				60 degrees
Qualitative Attribu	ites								
Water Appearance: (check one)	No water ⊠0	Clear 🗆 Turb	id □Sh on	leen ⊡Su surface sci	rface um	□Algal mats	□Othe	r:	
Substrate:	Bedrock 🗆 Bo	oulder 🗆 Cobb	le 🛛 Grave	el 🛛 Sand 🛛	⊠ Silt/ c	lay 🗆 Organio	; □0	Other:	
(check all that apply) % of Substrate:	20 %	0/	% 15 %	25 %	40 %		%	%	
	<u> </u>		<u>_10</u> _/	<u></u> /0	_ <u>+0</u> _/	• _ <u></u>	_/0 _		
Width of Riparian Zone	check all that	e Layers: apply)	⊠ Trees:	:	⊠ Saplir	nas/Shrubs:	$\boxtimes$	Herbs	
<u>35 ft</u> -		of Dominants:	<u>14.0</u> ir	n	_ <u>0.50</u> _i	n.	_	in.	
N/AL	tion (list):								
Beech, sycamore, s	sugar maple, ye	ellow poplar, l	adyfern, je	welweed, Kent	ucky b	oluegrass, fo	x sedą	ge	
Aquatic Habitats (ex: su	ubmerged or emerged	d aquatic vegetatio	n, overhanging	banks/roots, leaf pac	ks, large	submerged wood	l, riffles,	deep pools	):
Step pools, overhar	nging banks								
Aquatic Organisms Ob	served (list):								
Frog									
T&E Species Observed	l (list):								
none									
Disturbances (ex: livesto	ock access, manure i	n waterbody, waste	discharge pipe	es):					
Livestock access									
Tributary is: (check one)	⊠ Natural	□ Art	ificial, man-m	ade 🗌 Manip	ulated				
Stream Quality <sup>a</sup> : (check one)	□ High	⊠ Mo	derate	□ Low					

Waterbody ID: SHAA003

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 flows into SHAA001 - Tanner Fork; saturated seep wetland WHAB002 adjacent to stream

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





Waterbody SHAA002 facing north upstream



Waterbody SHAA002 facing south downstream



Waterbody SHAA002 facing east across