Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Southeast Reliability	Unnamed Tributary to Tanner Fork	SHAA001	6/10/2014

State:	County/Parish:	Company:	Crew Member Initials:	Photos:
West Virginia	Harrison	Natural Resource Group	GB, SK, LE, TP	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
01-006	0.0 – 0.1	WHAB001

Survey Type: *(check one)* ☒Centerline ☐Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 3.0 ft.

Height: 0.75 ft. N/A☐

OHWM Indicator: *(check all that apply)* ☐ Clear line on bank ☒Shelving ☒Wrested vegetation ☐Scouring ☐Water staining ☒Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
5.0 ft.	2.5 ft.	2.5 ft. N/A☐	0.5 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1.0 fps N/A☐	Right: 3.5 ft. Left: 2.0 ft.	Right: 45 degrees Left: 25 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☐ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	____%	____%	____%	10 %	25 %	65 %	____%	____%

Width of Riparian Zone: 35 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 8.0 in. 1.5 in. ____in.

Dominant Bank Vegetation *(list)*:

Black willow, jewelweed, joe pye weed, soft rush, sedge, cattail

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Overhanging vegetation

Aquatic Organisms Observed *(list)*:

none

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Fill along stream course associated with existing pipeline facility

Tributary is: *(check one)* ☐ Natural ☐ Artificial, man-made ☒ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SHAA001

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

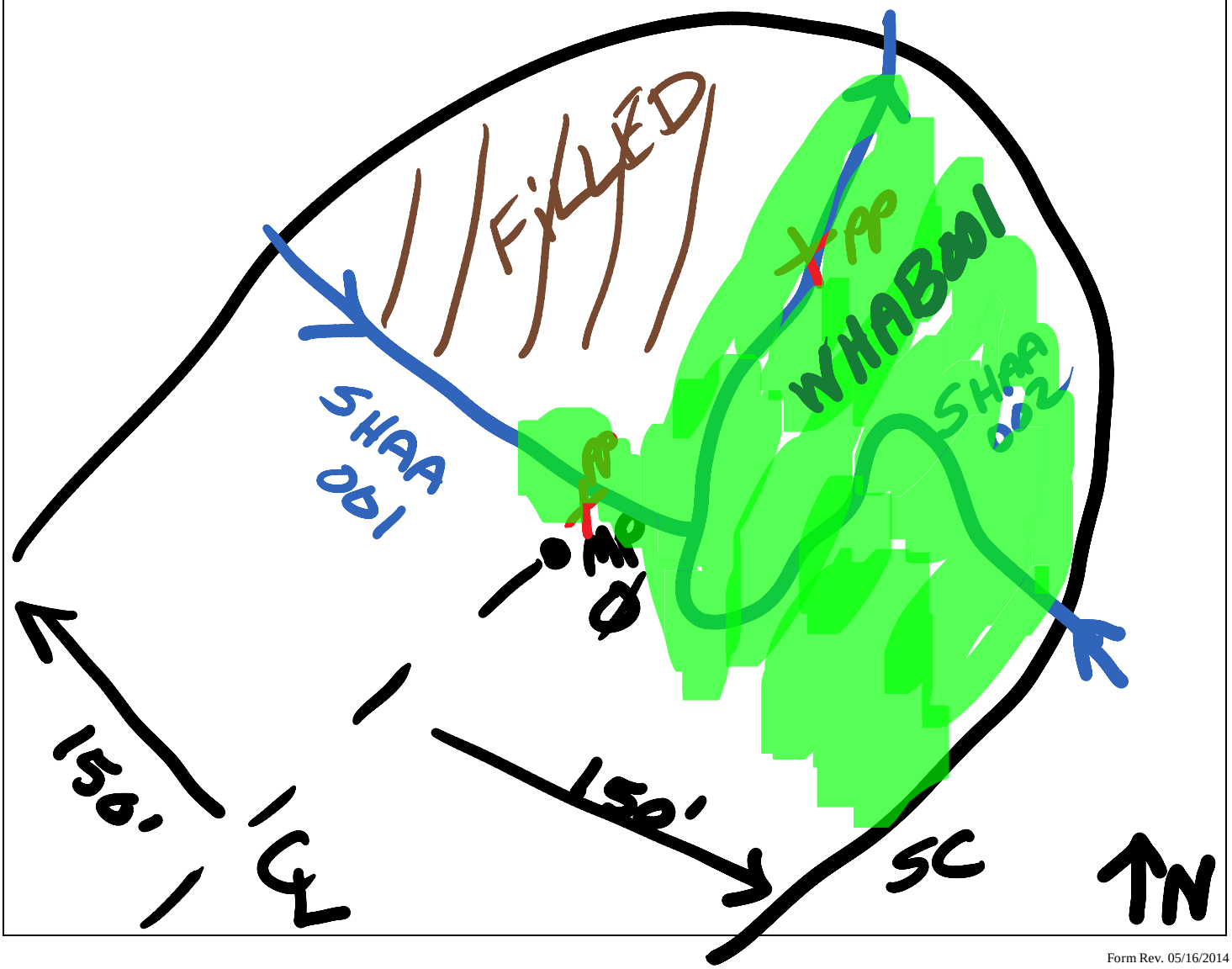
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

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

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Southeast Reliability	Tanner Fork	SHAA002	6/10/2014

State:	County/Parish:	Company:	Crew Member Initials:	Photos:
West Virginia	Harrison	Natural Resource Group	GB, SK, LE, TP	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
01-005; 01-006	0.0 – 0.1	WHAB001

Survey Type: *(check one)* ☒Centerline ☐Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 6.0 ft.

Height: 1 ft. N/A☐

OHWM Indicator: *(check all that apply)*
☐ Clear line on bank ☒Shelving ☒Wrested vegetation ☒Scouring ☐Water staining
☒Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
9.0 ft.	4.5 ft.	5.5 ft. N/A☐	1.0 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1.0 fps N/A☐	Right: 3.5 ft. Left: 5.0 ft.	Right: 60 degrees Left: 50 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☐Clear ☒Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☐ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	____%	____%	____%	10 %	25 %	65 %	____%	____%

Width of Riparian Zone: 35 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 8.0 in. 1.5 in. ____in.

Dominant Bank Vegetation *(list)*:
Black willow, jewelweed, joe pye weed, soft rush, sedge, cattail

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):
Overhanging vegetation; pools, wrack piles

Aquatic Organisms Observed *(list)*:
Fish

T&E Species Observed *(list)*:
none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):
County Road 35 crosses stream

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SHAA002

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

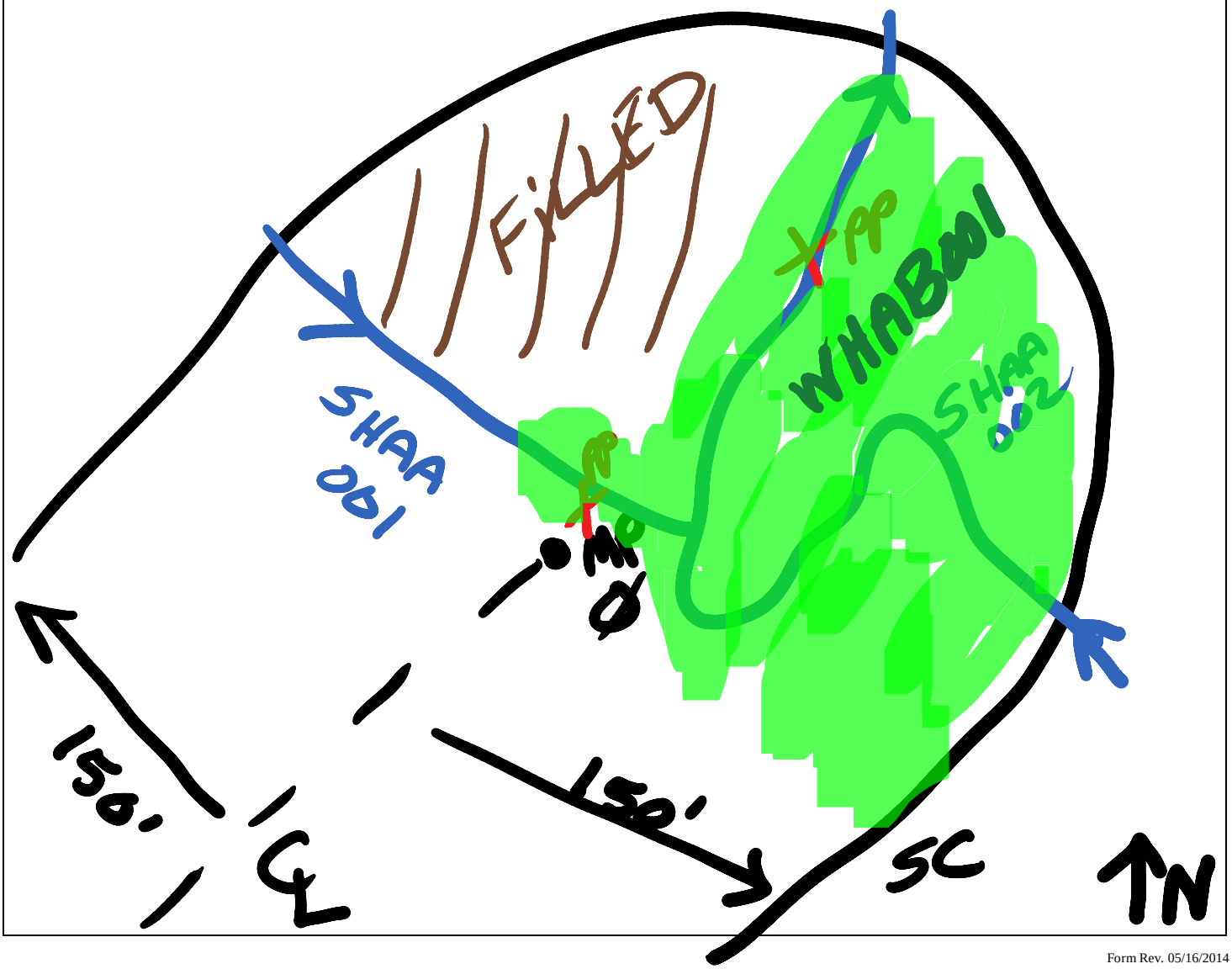
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

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

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Southeast Reliability	Tanner Fork	SHAB101	8/4/2014

State:	County:	Company:	Crew Member Initials:	Photos:
West Virginia	Harrison	NRG	TP,	01_03

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
01-009	0.5	none

Survey Type: *(check one)* ☐Centerline ☐Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☐Intermittent ☒Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 4 ft.

Height: 0.5 ft. N/A☐

OHWM Indicator: *(check all that apply)* ☒ Clear line on bank ☒Shelving ☐Wrested vegetation ☐Scouring ☐Water staining ☐Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
6 ft.	3 ft.	4 ft. N/A☐	0.5 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1.0 fps N/A☐	Right: 4 ft. Left: 4 ft.	Right: 90 degrees Left: 90 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)*	☐ Bedrock	☐ Boulder	☐ Cobble	☒ Gravel	☒ Sand	☒ Silt/ clay	☐ Organic	☐ Other:
% of Substrate:	%	%	%	10 %	45 %	45 %	%	%

Width of Riparian Zone: 0 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☐ Trees: ☐ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* in. in.

Dominant Bank Vegetation *(list)*:

Creek runs thru pasture- dominant vegetation is red clover, joe pye weed, orchard grass and black willow along bank

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

There are a few root balls along bank and debris piles

Aquatic Organisms Observed *(list)*:

fish

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Creek flows thru pasture, cattle have access and there is a driveway crossing over creek, noted bank failures

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]: *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SHAB101

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

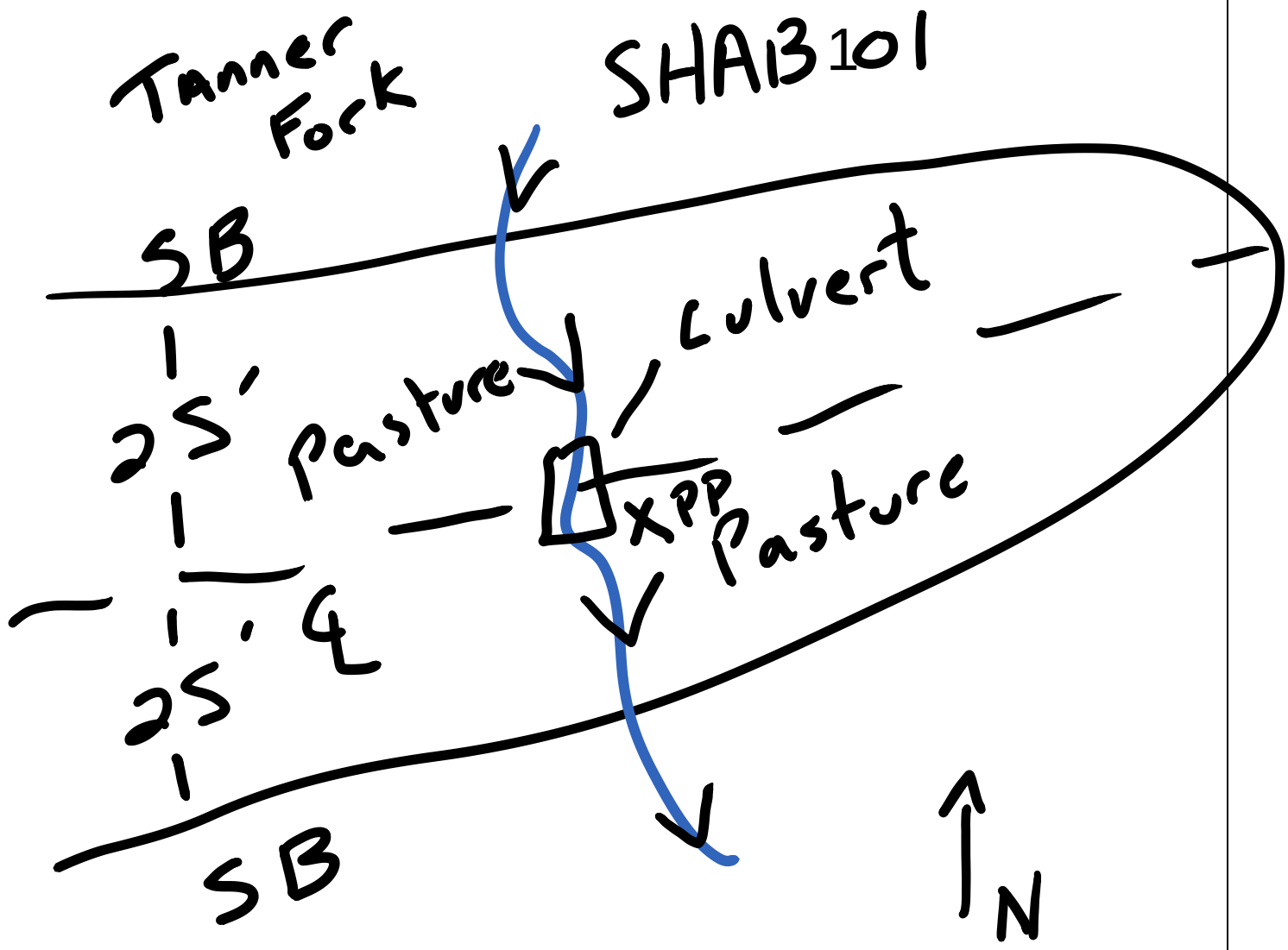
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

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

Linear Waterbody Data Sheet

Survey Description

Project Name:	Waterbody Name:	Waterbody ID:	Date:
Southeast Reliability	Unnamed Tributary to Tanner Fork	SHAA003	6/10/2014

State:	County/Parish:	Company	Crew Member Initials:	Photos:
West Virginia	Harrison	Natural Resource Group	GB, SK, LE, TP	3

Tract Number(s):	Nearest Milepost:	Associated Wetland ID(s):
01-009	0.5	WHAB002

Survey Type: *(check one)* ☒Centerline ☐Re-Route ☐Access Road ☐Other:

Physical Attributes

Stream Classification: *(check one)* ☐Ephemeral ☒Intermittent ☐Perennial

Waterbody Type: *(check one)* ☐River ☒ Stream ☐ Ditch ☐ Canal ☐ Other:

OHWM Width: 4.5 ft.

Height: 1.0 ft.

N/A☐

OHWM Indicator: *(check all that apply)*

☐ Clear line on bank ☒Shelving ☒Wrested vegetation ☒Scouring ☐Water staining

☒Bent, matted, or missing vegetation ☐Wrack line ☐Litter and debris ☐Abrupt plant community change ☐Soil characteristic change

Width of Waterbody - Top of Bank to Top of Bank:	Width of Waterbody - Toe of Slope to Toe of Slope:	Width of Waterbody - Water Edge to Water Edge:	Depth of Water: *(Approx.)*
9.0 ft.	4.0 ft.	4.0 ft. N/A☐	0.5 ft. N/A☐

Sinuosity: *(check one)*	Water velocity: *(Approx.)*	Bank height	Bank slope
☐Straight ☒Meandering	1.25 fps N/A☐	Right: 4.0 ft. Left: 4.0 ft.	Right: 80 degrees Left: 60 degrees

Qualitative Attributes

Water Appearance: *(check one)* ☐No water ☒Clear ☐Turbid ☐Sheen on surface ☐Surface scum ☐Algal mats ☐Other:

Substrate: *(check all that apply)* ☒ Bedrock ☐ Boulder ☐ Cobble ☒ Gravel ☒ Sand ☒ Silt/ clay ☐ Organic ☐ Other:

% of Substrate: 20 % _____ % _____ % 15 % 25 % 40 % _____ % _____ %

Width of Riparian Zone: 35 ft. N/A☐

Vegetative Layers: *(check all that apply)* ☒ Trees: ☒ Saplings/Shrubs: ☒ Herbs

Avg. DBH of Dominants: *(approx.)* 14.0 in. 0.50 in. _____ in.

Dominant Bank Vegetation *(list)*:

Beech, sycamore, sugar maple, yellow poplar, ladyfern, jewelweed, Kentucky bluegrass, fox sedge

Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools):

Step pools, overhanging banks

Aquatic Organisms Observed *(list)*:

Frog

T&E Species Observed *(list)*:

none

Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes):

Livestock access

Tributary is: *(check one)* ☒ Natural ☐ Artificial, man-made ☐ Manipulated

Stream Quality [a]**:** *(check one)* ☐ High ☒ Moderate ☐ Low

Waterbody ID:
SHAA003

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

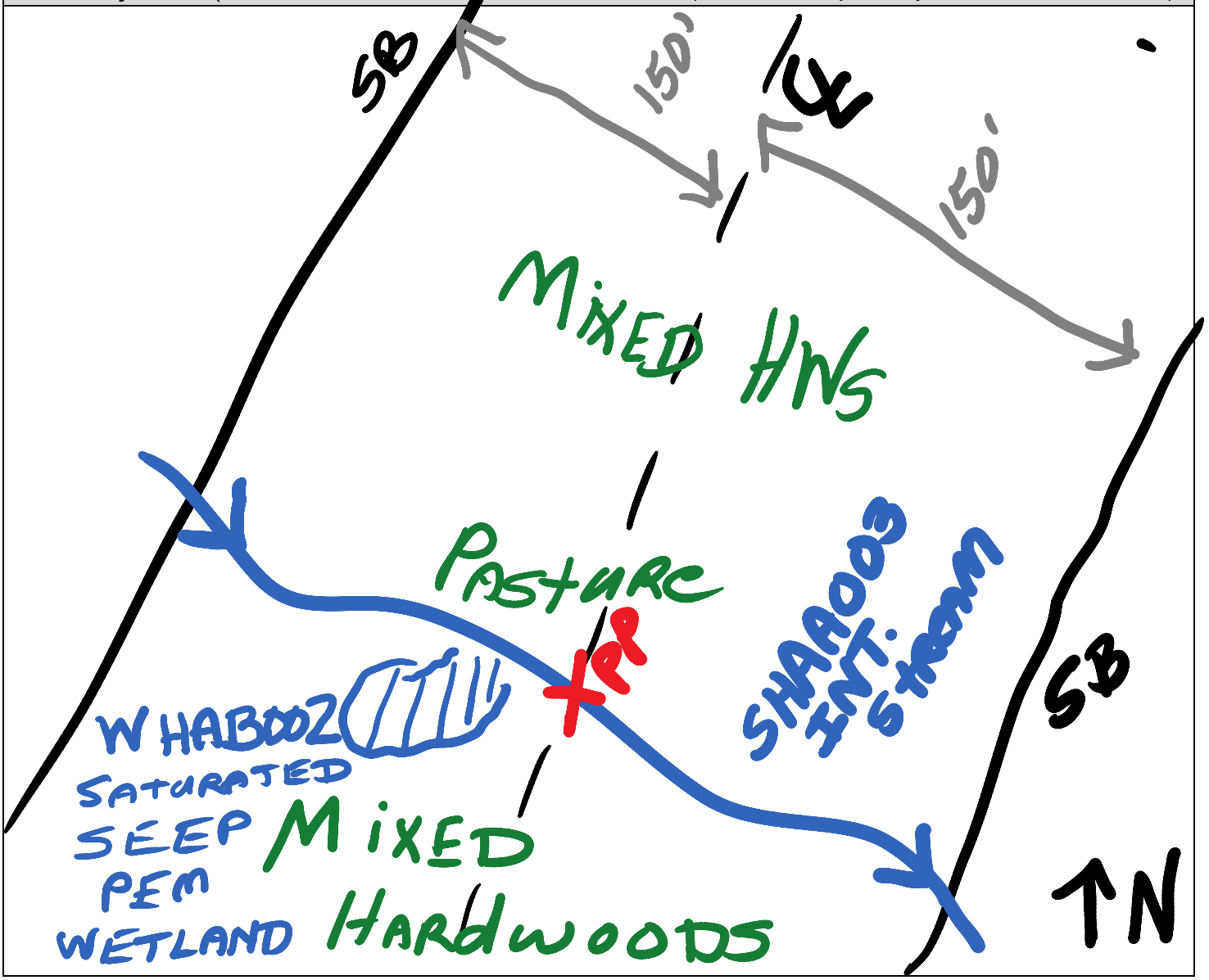
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

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

Waterbody Sketch (*Include north arrow, centerline, distance 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