



Waterbody point snok026b facing West and across



Waterbody point snok026b old dam facing Northwest

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|---|---|--|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO LITTLE WEST CREEK | |
| Waterbody ID: SNOK027 | | Date: 8/23/2014 | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: JS, BG |
| Photos: 106-5049 to 5051 U D X | | | |
| Tract Number(s): 12-027 | | Nearest Milepost: 229 | Associated Wetland ID(s): WNOK019 |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>7</u> ft. Height: <u>1</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>12</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>8</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>3</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.5</u> ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.2</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>2</u> ft. Left: <u>4</u> ft. | Bank slope Right: <u>40</u> degrees Left: <u>60</u> degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>20</u> % <u>60</u> % <u>10</u> % <u>10</u> % <u>NA</u> % | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>10</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs | |
| Dominant Bank Vegetation <i>(list)</i> : ASH,MAPLE, PAWPAW, SPICEBUSH,IRONWOOD,JEWELWEED,ROSE | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): RIFFLE/POOL COMPLEX, SOFT SANDY SEDIMENT,CWD | | | |
| Aquatic Organisms Observed <i>(list)</i> : FISH,WATER STRIDERS | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): AGRICULTURE, PLANTATION IN RIPARIAN ZONE | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:

SNOK027

^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.

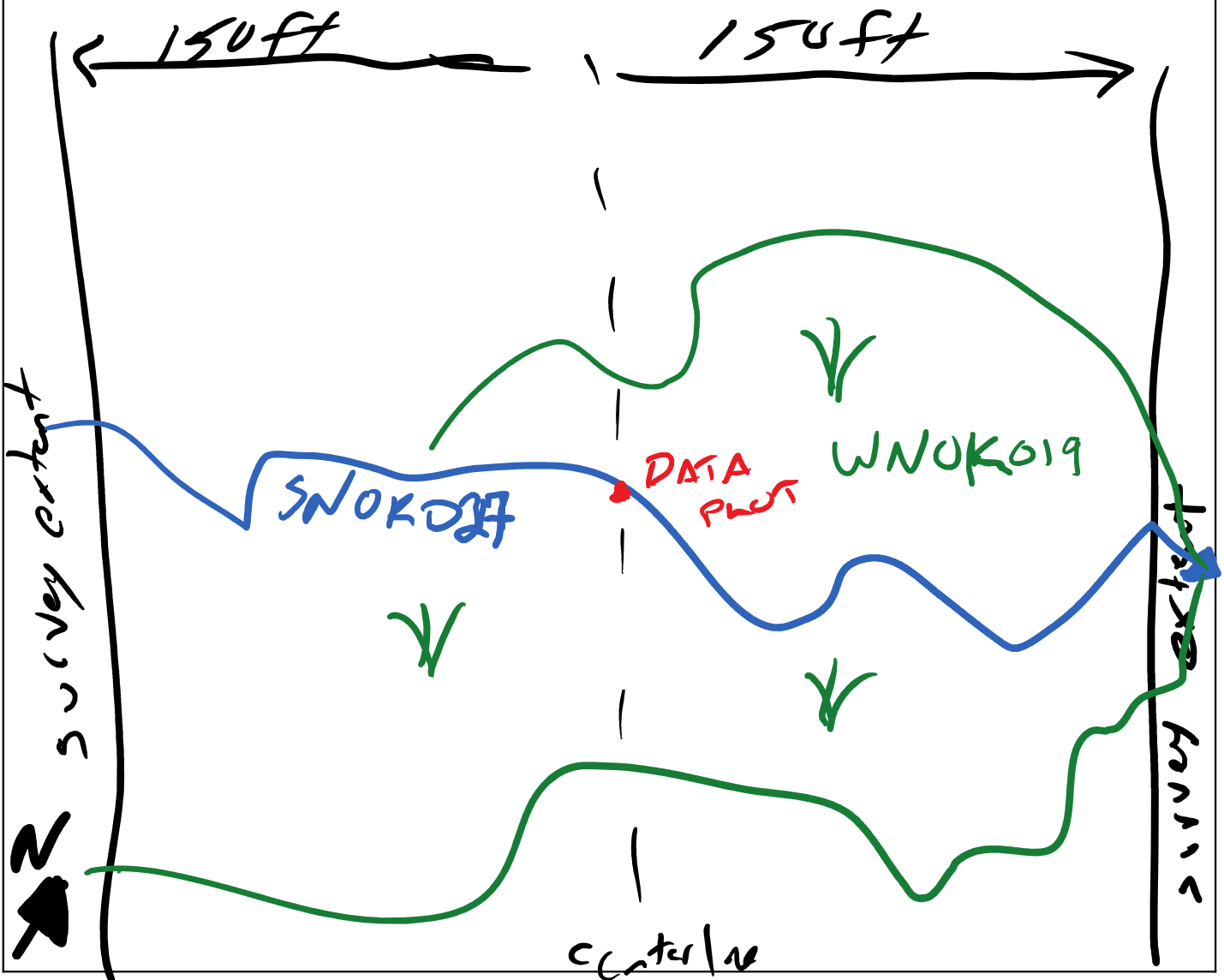
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

SMALL PERENNIAL STREAM, SOME BANK EROSION AND SEDIMENTATION, TYPICAL PIEDMONT SMALL STREAM FOREST COMMUNITY. ASSOCIATED WITH FLOODPLAIN WETLAND WNOK019.

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





Waterbody point snok027 facing Southwest and upstream



Waterbody point snok027 facing Northeast and downstream



Waterbody point snok027 facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|---|--|--|--|-----------------------------------|
| Project Name: Southeast Reliability | | Waterbody Name: LITTLE WEST CREEK | | Waterbody ID: SNOK028 |
| Date: 8/23/2014 | | | | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: JS, BG | Photos: 106-5049 to 5051 U D X |
| Tract Number(s): 12-029 and 12-030 | | Nearest Milepost: 230 | Associated Wetland ID(s): NA | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>15</u> ft. Height: <u>3</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>20</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>10</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>10</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>1</u> ft. | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>2</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>5</u> ft. Left: <u>6</u> ft. | Bank slope Right: <u>70</u> degrees Left: <u>60</u> degrees | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: <u>40</u> % <u>20</u> % <u>10</u> % <u>10</u> % <u>20</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>12</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs | | | |
| Dominant Bank Vegetation <i>(list)</i> : IRON WOOD, Highbush Blueberry, Moss, False Nettle | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Riffle/Pool Complex, Soft Sandy Sediment, CWD, Overhanging Roots, Undercut Banks, Leaf Pack | | | | |
| Aquatic Organisms Observed <i>(list)</i> : FISH, Water Striders, Mayfly, Frogs | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Rock Dam, ATV, Logging | | | | |
| Tributary is: <i>(check one)</i> <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

SNOK028

^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.

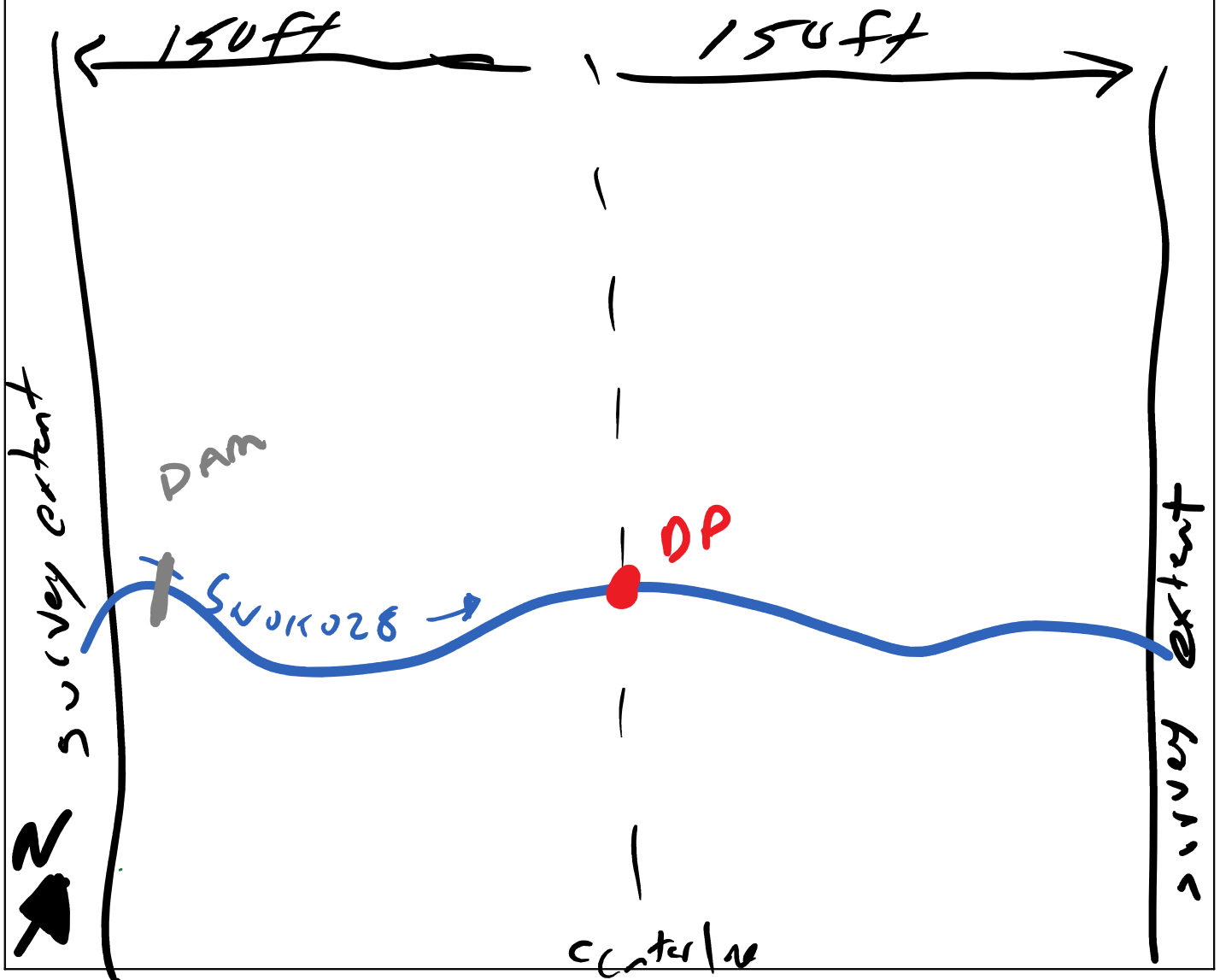
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

SMALL PERENNIAL STREAM WITH HIGH FLOW AND MODERATE VOLUME. WOULD BE HIGH QUALITY STREAM IF NOT FOR DAM AND OTHER IMPACTS. HIGHER GRADIENT THAN MOST PERENNIAL STREAMS IN AREA.

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





Waterbody point snok028 facing Southwest and upstream



Waterbody point snok028 facing Northeast and downstream



Waterbody point snok028 facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | | | |
|---|---------------------|---|---------------------------------|---|--------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO LITTLE WEST CREEK | | Waterbody ID: SNOK029a | Date: 8/23/2014 |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: JS, BG | Photos: 106-5094 to 5096 U D X | |
| Tract Number(s): 12-032 | | Nearest Milepost: 230 | | Associated Wetland ID(s): NA | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | | |
| Physical Attributes | | | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | | |
| OHWM Width: <u> 3 </u> ft. Height: <u> 1 </u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u> 6 </u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u> 4 </u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> <u> </u> ft. | |
| Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u> </u> ft. | | Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> <u> </u> fps N/A <input checked="" type="checkbox"/> | |
| Bank height Right: <u> 2 </u> ft. Left: <u> 2 </u> ft. | | Bank slope Right: <u> 70 </u> degrees Left: <u> 60 </u> degrees | | | |
| Qualitative Attributes | | | | | |
| Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | | |
| Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: <u> NA </u> % <u> NA </u> % <u> NA </u> % <u> NA </u> % <u> 80 </u> % <u> NA </u> % <u> 20 </u> % <u> NA </u> % | | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u> >100 </u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> <u> 12 </u> in. <u> 2 </u> in. | | | |
| Dominant Bank Vegetation <i>(list)</i> : SWEETGUM, HICKORY, MICROSTEGIUM | | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA | | | | | |
| Aquatic Organisms Observed <i>(list)</i> : NA | | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): CLEARCUT NEARBY, ATV TRAIL | | | | | |
| Tributary is: <i>(check one)</i> <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated | | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | | | |

Waterbody ID:

SNOK029a

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

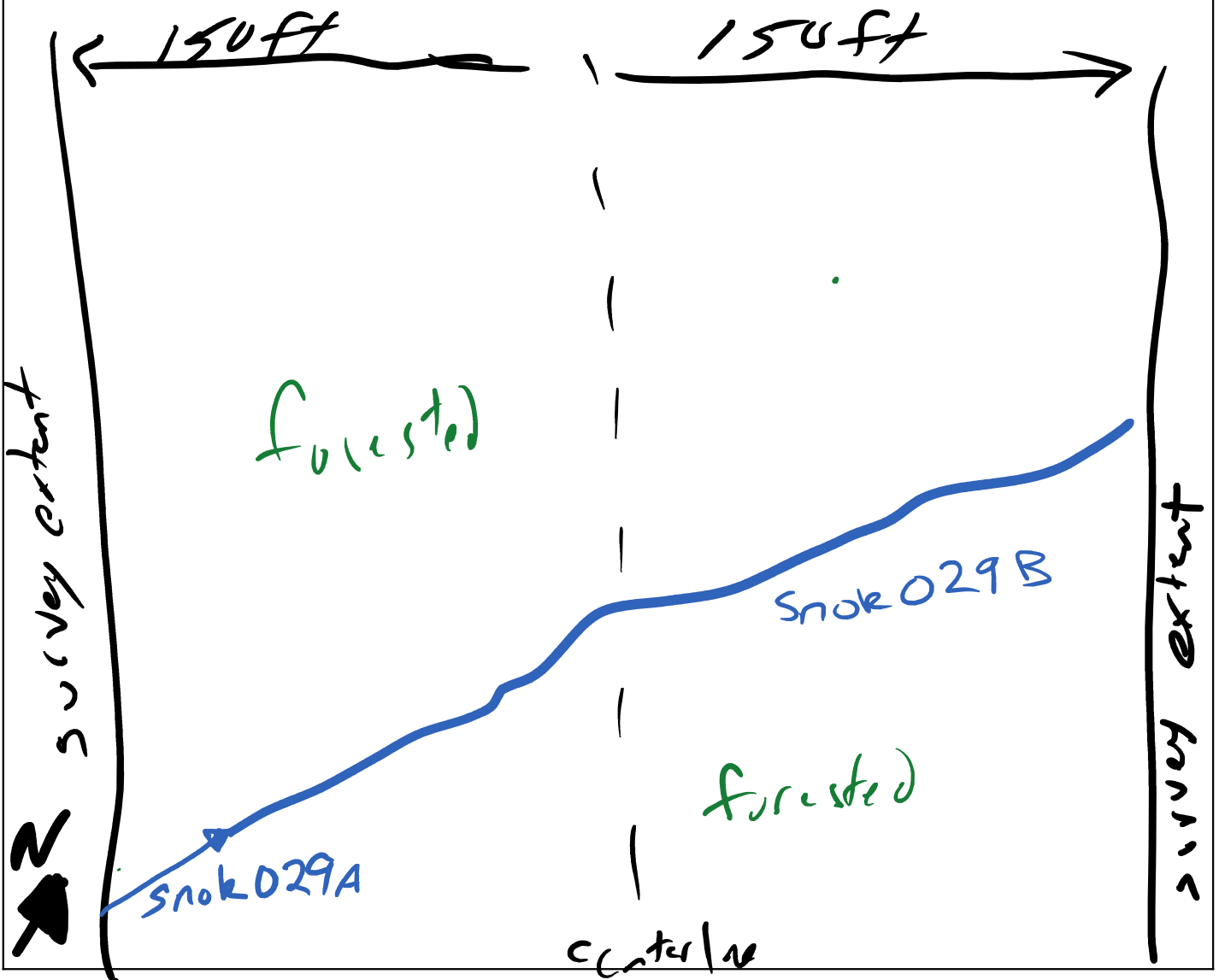
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

EPHEMERAL STREAM PORTION. ATV TRAIL CROSSES STREAM. LOW QUALITY DUE TO LACK OF WATER

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





Waterbody point snok029a facing South and upstream



Waterbody point snok029a facing North and downstream



Waterbody point snok029a facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|---|---|--|--|-----------------------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO LITTLE WEST CREEK | | Waterbody ID: SNOK029b |
| Date: 8/23/2014 | | | | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: JS, BG | Photos: 106-5091 to 5093 U D X |
| Tract Number(s): 12-030, 12-031, 12-032 | | Nearest Milepost: 230 | | Associated Wetland ID(s): NA |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>5</u> ft. Height: <u>2</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>10</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>5</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> <u> </u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u> </u> ft. | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u> </u> fps N/A <input checked="" type="checkbox"/> | Bank height Right: <u>8</u> ft. Left: <u>8</u> ft. | Bank slope Right: <u>80</u> degrees Left: <u>110</u> degrees | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: <u>70</u> % <u>10</u> % <u>5</u> % <u>5</u> % <u>10</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> Avg. DBH of Dominants: <u>12</u> in. <u>2</u> in. <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs | | | |
| Dominant Bank Vegetation <i>(list)</i> : SWEETGUM, HICKORY, BEECH, PAWPAW, CHRISTMAS FERN, MICROSTEGIUM | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): POOLS | | | | |
| Aquatic Organisms Observed <i>(list)</i> : WATER BEETLES, SALAMANDERS, CRAYFISH | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): CLEARCUT NEARBY, ATV | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

SNOK029b

^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.

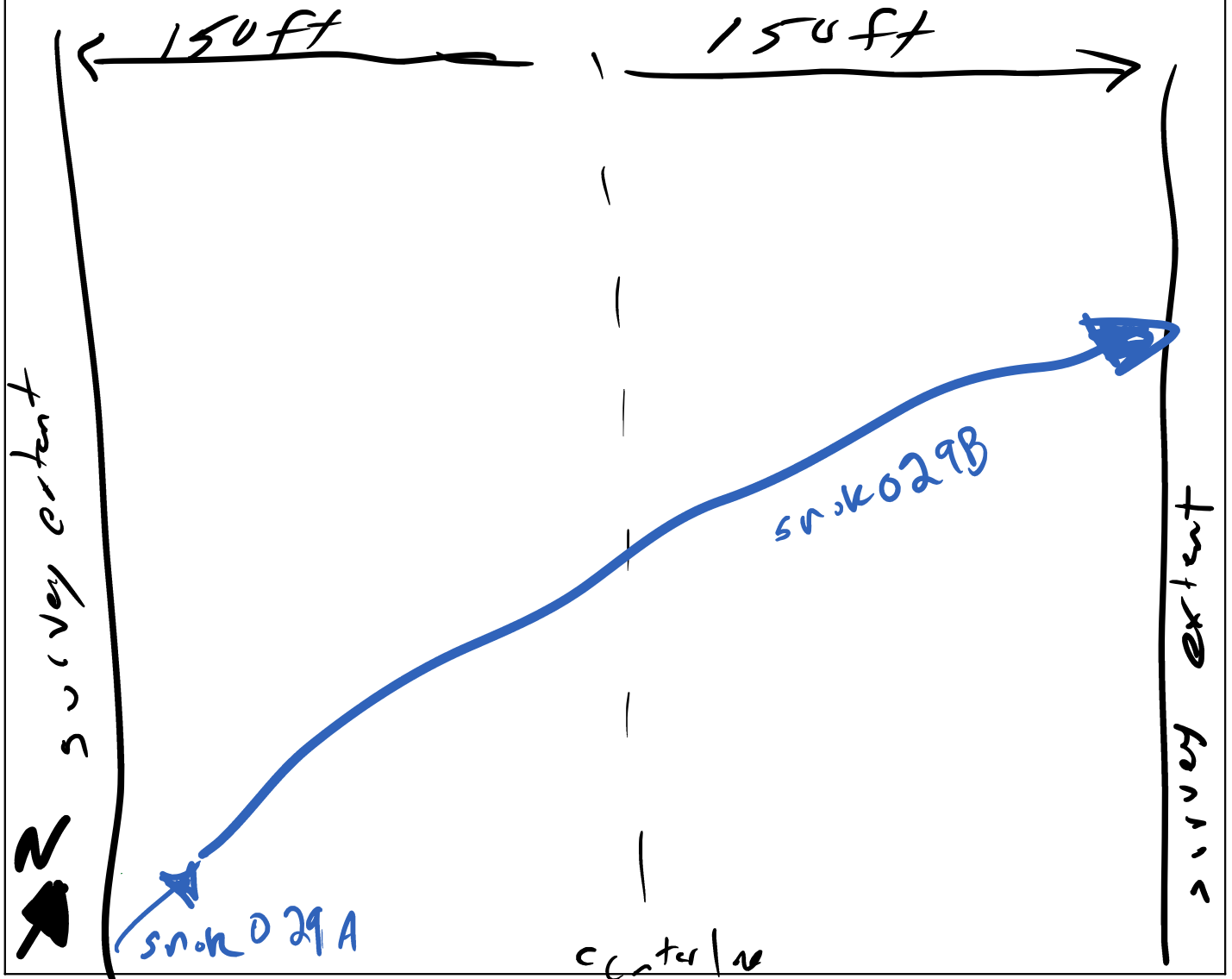
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

INTERMITTENT STREAM PORTION. SOME POOLS PRESENT BUT NO FLOW. ATV TRAIL NEARBY AND CLEARCUTTING WITHIN RIPARIAN ZONE.

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





Waterbody point snok029b facing South and upstream



Waterbody point snok029b facing North and downstream



Waterbody point snok029b facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | | | |
|---|---------------------|---|---------------------------------|---|--------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO LITTLE WEST CREEK | | Waterbody ID: SNOK029a | Date: 8/23/2014 |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: JS, BG | Photos: 106-5094 to 5096 U D X | |
| Tract Number(s): 12-032 | | Nearest Milepost: 230 | | Associated Wetland ID(s): NA | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | | |
| Physical Attributes | | | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | | |
| OHWM Width: <u>3</u> ft. Height: <u>1</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>6</u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u>4</u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> <u> </u> ft. | |
| Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u> </u> ft. | | Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> <u> </u> fps N/A <input checked="" type="checkbox"/> | |
| Bank height Right: <u>2</u> ft. Left: <u>2</u> ft. | | Bank slope Right: <u>70</u> degrees Left: <u>60</u> degrees | | | |
| Qualitative Attributes | | | | | |
| Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>80</u> % <u>NA</u> % <u>20</u> % <u>NA</u> % | | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>12</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs | | | |
| Dominant Bank Vegetation <i>(list)</i> : SWEETGUM, HICKORY, MICROSTEGIUM | | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA | | | | | |
| Aquatic Organisms Observed <i>(list)</i> : NA | | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): CLEARCUT NEARBY, ATV TRAIL | | | | | |
| Tributary is: <i>(check one)</i> <input type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input checked="" type="checkbox"/> Manipulated | | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | | | |

Waterbody ID:

SNOK029a

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

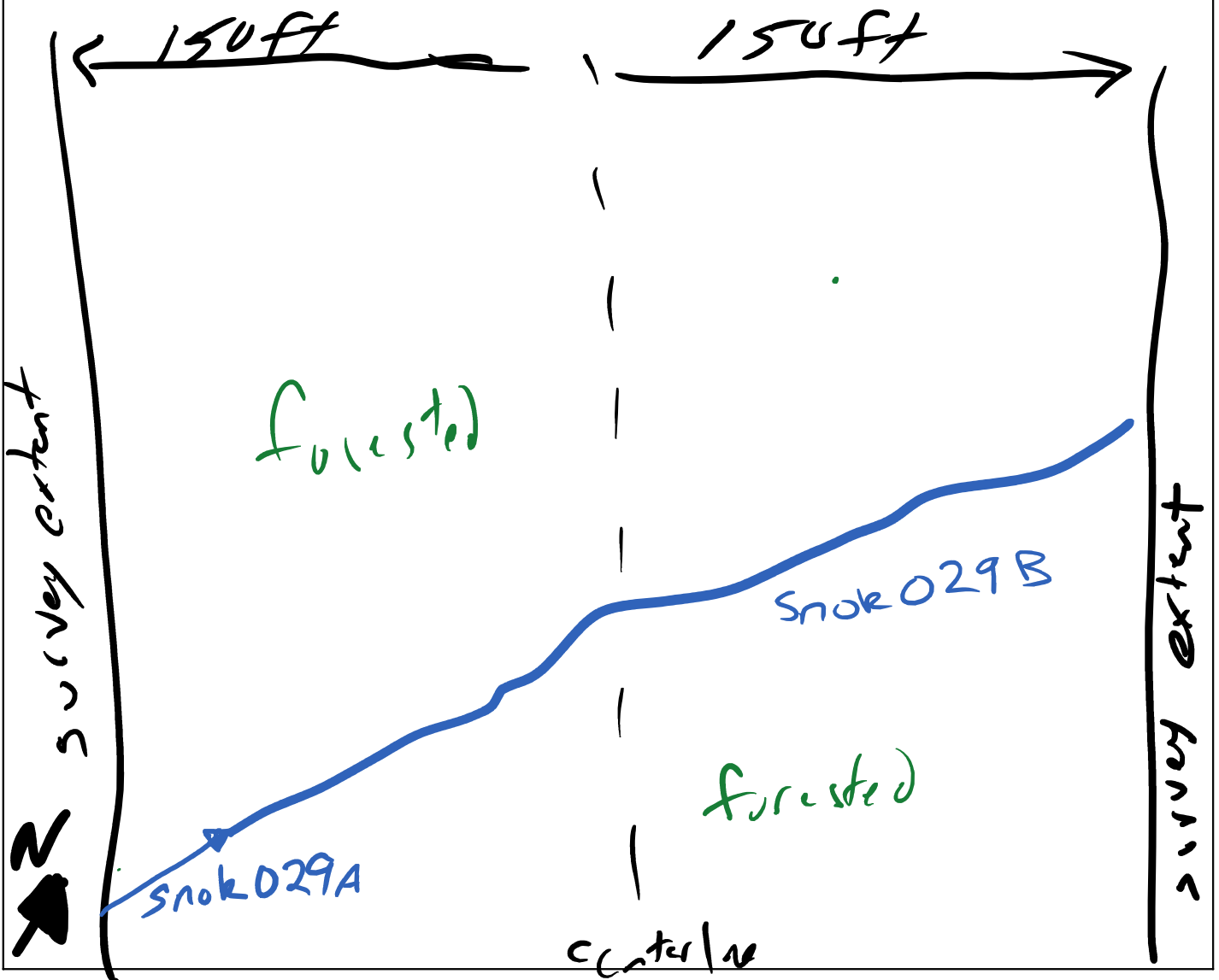
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

EPHEMERAL STREAM PORTION. ATV TRAIL CROSSES STREAM. LOW QUALITY DUE TO LACK OF WATER

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





Waterbody point snok029a facing South and upstream



Waterbody point snok029a facing North and downstream



Waterbody point snok029a facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|---|---|--|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO LITTLE WEST CREEK | |
| Waterbody ID: SNOK029b | | Date: 8/23/2014 | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: JS, BG |
| Photos: 106-5091 to 5093 U D X | | | |
| Tract Number(s): 12-030, 12-031, 12-032 | | Nearest Milepost: 230 | Associated Wetland ID(s): NA |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>5</u> ft. Height: <u>2</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>10</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>5</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> <u> </u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u> </u> ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u> </u> fps N/A <input checked="" type="checkbox"/> | Bank height Right: <u>8</u> ft. Left: <u>8</u> ft. | Bank slope Right: <u>80</u> degrees Left: <u>110</u> degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Bedrock <input checked="" type="checkbox"/> Boulder <input checked="" type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: | | | |
| % of Substrate: <u>70</u> % <u>10</u> % <u>5</u> % <u>5</u> % <u>10</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in. | |
| Dominant Bank Vegetation <i>(list)</i> : SWEETGUM, HICKORY, BEECH, PAWPAW, CHRISTMAS FERN, MICROSTEGIUM | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): POOLS | | | |
| Aquatic Organisms Observed <i>(list)</i> : WATER BEETLES, SALAMANDERS, CRAYFISH | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): CLEARCUT NEARBY, ATV | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:

SNOK029b

^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.

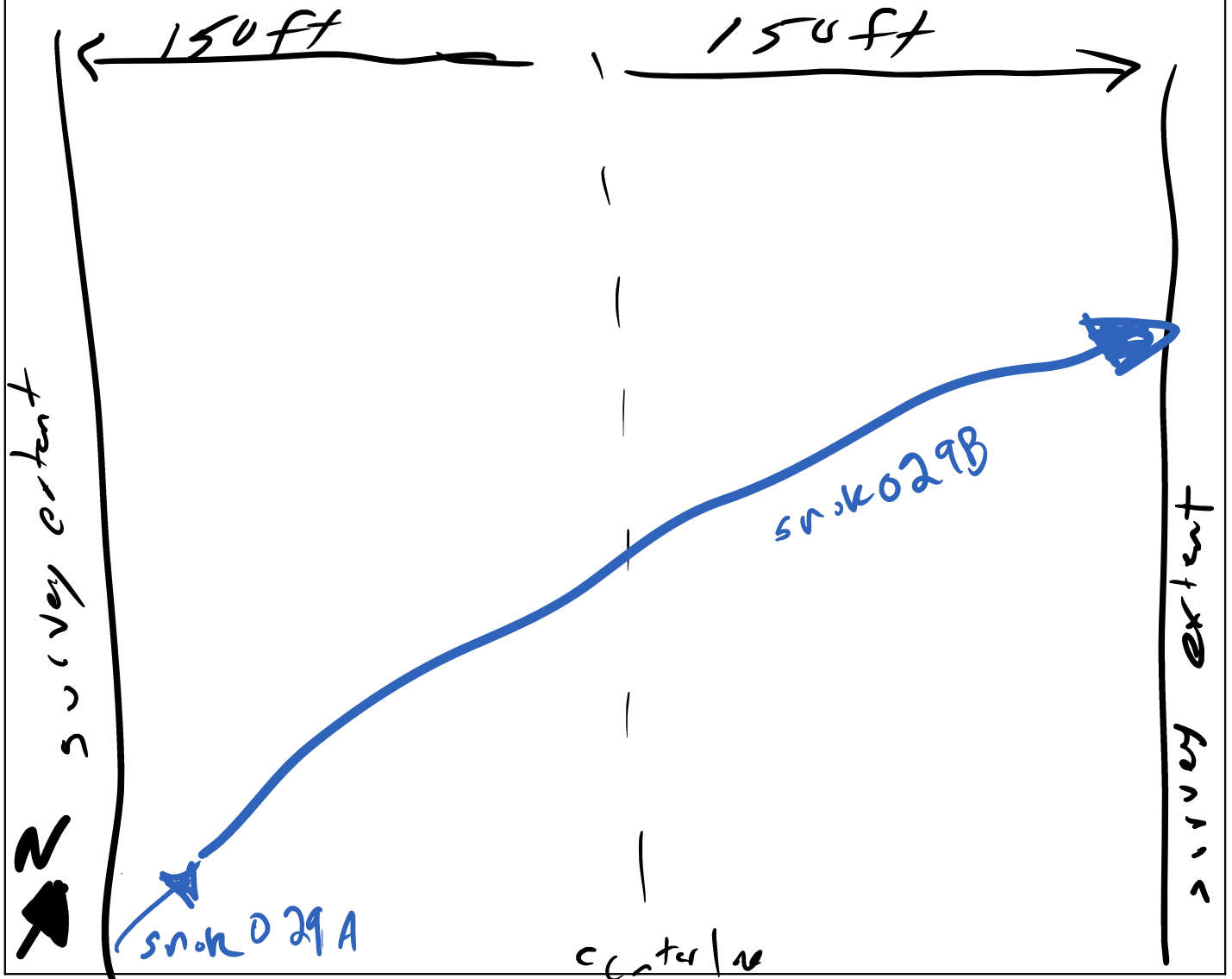
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

INTERMITTENT STREAM PORTION. SOME POOLS PRESENT BUT NO FLOW. ATV TRAIL NEARBY AND CLEARCUTTING WITHIN RIPARIAN ZONE.

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





Waterbody point snok029b facing South and upstream



Waterbody point snok029b facing North and downstream



Waterbody point snok029b facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | |
|--|--|---|---|
| Project Name: Atlantic Coast Pipeline | | Waterbody Name: UNT to Deep Creek | |
| Waterbody ID: SNOM008 | | Date: 9/12/2014 | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: SG, EB |
| Photos: 3233-3235, X U D | | | |
| Tract Number(s): 12-038 | | Nearest Milepost: 230.91 | Associated Wetland ID(s): NA |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>2</u> ft. | | OHWM Indicator: <i>(check all that apply)</i> <input type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining | |
| OHWM Height: <u>0.3</u> ft. | | <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| N/A <input type="checkbox"/> | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>10</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>2</u> ft. | Width of Waterbody - Water Edge to Water Edge: <u>1.0</u> ft. | Depth of Water: <i>(Approx.)</i> <u>0.1</u> ft. |
| N/A <input type="checkbox"/> | | | |
| Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps | Bank height Right: <u>2.5</u> ft. Left: <u>2.0</u> ft. | Bank slope Right: <u>60</u> degrees Left: <u>45</u> degrees |
| N/A <input type="checkbox"/> | | | |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other: | | | |
| % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>15</u> % <u>45</u> % <u>30</u> % <u>10</u> % <u>NA</u> % | | | |
| Width of Riparian Zone: <u>>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs | |
| N/A <input type="checkbox"/> | | Avg. DBH of Dominants: <i>(approx.)</i> <u>10</u> in. <u>1</u> in. | |
| Dominant Bank Vegetation <i>(list)</i> : RED MAPLE , WHITE OAK, RED OAK, TULIP TREE , MOCKERNUT HICKORY, IRONWOOD, BLUEBERRY | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA | | | |
| Aquatic Organisms Observed <i>(list)</i> : CRAYFISH, FISH | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | |

^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.

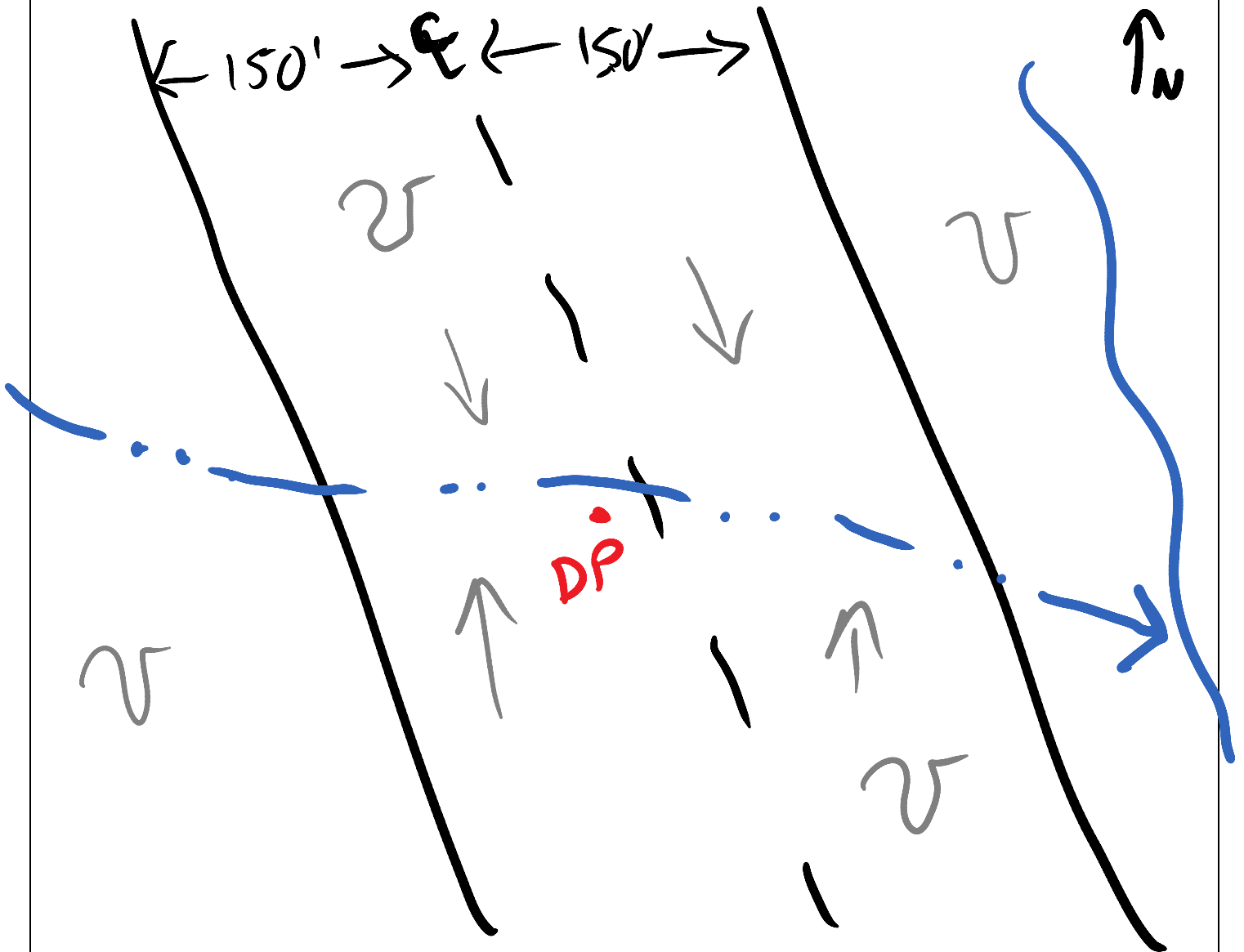
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

FLOW IS TO THE SOUTHEAST, TIES INTO USGS MAPPED INTERMITTENT STREAM TO EAST AND OFF ROW. HIGHLY VARIABLE, BRAIDED FLOW AND LOW 15 FT WIDE BANKS IN SOME AREAS, OTHER AREAS NARROW/STEEPER. STREAM HAS STRETCHES (20FT +) OF SUB-SURFACE FLOW. VEGETATED SAND BARS BETWEEN BANKS NEAR CENTERLINE. BANKS AT CENTERLINE NEARLY A CONTINUED GRADIENT UP ADJACENT HILL SLOPES.

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





Waterbody point snom008 facing West and upstream



Waterbody point snom008 facing East and downstream



Waterbody point snom008 facing North and across

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|--|---|---|
| Project Name: Atlantic Coast Pipeline | | Waterbody Name: UNT to Deep Creek | |
| Waterbody ID: SNOM009 | | Date: 9/12/2014 | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: SG, EB |
| Photos: 3237-3239, X U D | | | |
| Tract Number(s): 12-038 | | Nearest Milepost: 230.91 | Associated Wetland ID(s): WNOM005e |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>2</u> ft. | | OHWM Indicator: <i>(check all that apply)</i> | |
| Height: <u>0.3</u> ft. | | <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining | |
| N/A <input type="checkbox"/> | | <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>7</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>2</u> ft. | Width of Waterbody - Water Edge to Water Edge: <u>1</u> ft. | Depth of Water: <i>(Approx.)</i> <u>0.1</u> ft. |
| Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps | Bank slope Right: <u>45</u> degrees Left: <u>50</u> degrees |
| N/A <input type="checkbox"/> | | Bank height Right: <u>1</u> ft. Left: <u>1.5</u> ft. | |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> | | | |
| <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other: | | | |
| % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>75</u> % <u>15</u> % <u>10</u> % <u>NA</u> % | | | |
| Width of Riparian Zone: <u>>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> | |
| N/A <input type="checkbox"/> | | <input checked="" type="checkbox"/> Trees: <u>7</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>1</u> in. <input checked="" type="checkbox"/> Herbs | |
| Avg. DBH of Dominants: <i>(approx.)</i> | | | |
| Dominant Bank Vegetation <i>(list)</i> : RED MAPLE , WHITE OAK, RED OAK, TULIP TREE , SWEET GUM, HICKORY, CHRISTMAS FERN, SENSITIVE FERN, CINNAMON FERN, FLOWERING DOGWOOD, HONEYSUCKLE | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA | | | |
| Aquatic Organisms Observed <i>(list)</i> : CRAYFISH | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | |

Waterbody ID:
SNOM009

^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.

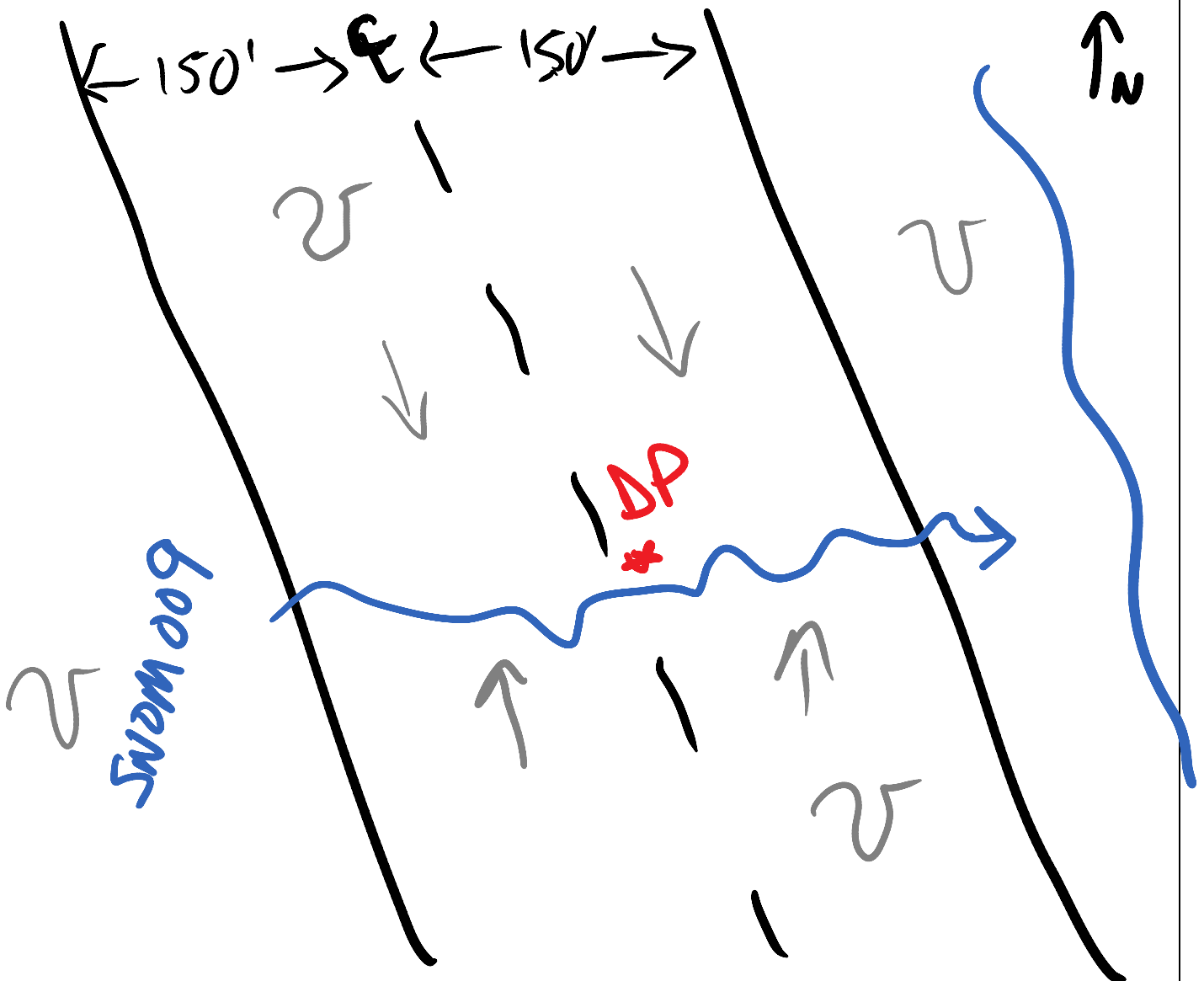
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

FLOW IS TO THE EAST, TIES INTO USGS MAPPED INTERMITTENT STREAM TO EAST AND OFF ROW. HIGHLY VARIABLE, LOW AND WIDE BANKS TOWARDS THE EAST ROW BOUNDARY. AREA NEAR NORTH EDGE OF ROW IS MORE NARROW/STEEPER WITH SOME COBBLES & BOULDERS. STREAM HAS STRETCHES (20FT +) OF SUB-SURFACE FLOW.

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





Waterbody point snom009 facing West and upstream



Waterbody point snom009 facing East and downstream



Waterbody point snom009 facing South and across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|--|---|---|--|---|
| Project Name: Atlantic Coast Pipeline | | Waterbody Name: UNT TO DEEP CREEK | | Waterbody ID: SNOM010 |
| Date: 9/12/2014 | | | | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: SG, EB | Photos: 3265-3267, X U D |
| Tract Number(s): 12-043 | | Nearest Milepost: 231.23 | | Associated Wetland ID(s): WNOM006f |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: 3 ft. | | OHWM Indicator: <i>(check all that apply)</i> | | |
| Height: 0.5 ft. | | <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining | | |
| N/A <input type="checkbox"/> | | <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: 4 ft. | Width of Waterbody - Toe of Slope to Toe of Slope: 3 ft. | Width of Waterbody - Water Edge to Water Edge: 2 ft. | Depth of Water: <i>(Approx.)</i> 0.1 ft. | |
| N/A <input type="checkbox"/> | | N/A <input type="checkbox"/> | | |
| Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> 0.2 fps | | Bank slope Right: 45 degrees Left: 50 degrees |
| N/A <input type="checkbox"/> | | N/A <input type="checkbox"/> | | Bank height Right: 1 ft. Left: 1 ft. |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: | | | | |
| % of Substrate: NA % NA % NA % NA % 95% 5 % NA % NA % | | | | |
| Width of Riparian Zone: >100 ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs | | |
| N/A <input type="checkbox"/> | | Avg. DBH of Dominants: <i>(approx.)</i> 10 in. 1 in. | | |
| Dominant Bank Vegetation <i>(list)</i> : RED MAPLE, WHITE OAK, TULIP TREE, SWEET GUM, HICKORY, BLACK WALNUT, PAW PAW, SYCAMORE, REDBUD TREE, CHRISTMAS FERN, SENSITIVE FERN, CINNAMON FERN, FLOWERING DOGWOOD. | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): UNDERCUT ROOTS, DEEPER POOLS OF ABOUT 1.5', SUBMERGED WOOD | | | | |
| Aquatic Organisms Observed <i>(list)</i> : CRAYFISH, FISH, FROGS | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ³ : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:
SNOM010

^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.

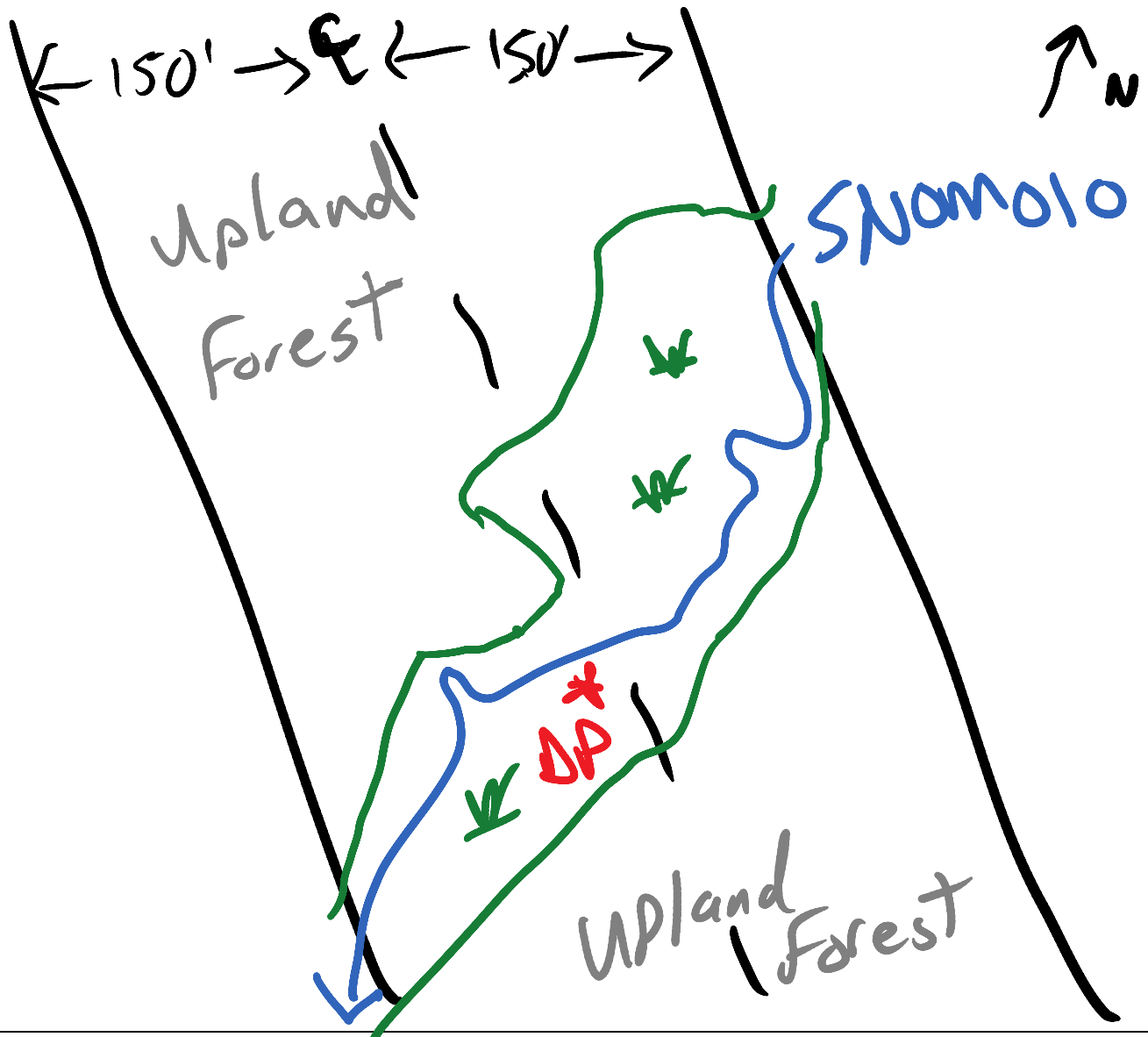
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

FLOW IS TO THE SOUTH. STREAM CHARACTERISTICS ARE VARIABLE. OHWM AND BANK WIDTH ARE WIDER AND WATER IS DEEPER WITH MORE DEEP POOLS UPSTREAM FROM CENTERLINE. SNOM010 IS IDENTIFIED AS AN INTERMITTENT STREAM ON THE USGS TOPO BUT IT APPEARED TO BE A PERENNIAL STREAM AT THE TIME OF THE SURVEY.

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





Waterbody point snom010 facing Northeast and upstream



Waterbody point snom010 facing Southwest and downstream



Waterbody point snom010 facing North and across

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|---|---|--|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO DEEP CREEK | |
| Waterbody ID: SNOK103 | | Date: 8/16/2014 | |
| State: Virginia | County: Nottaway | Company: WOODARD & CURRAN | Crew Member Initial: JD, SG |
| Photos: IMG 2403 to 2405 x,u,d | | | |
| Tract Number(s): 12-044 | | Nearest Milepost: 232 | Associated Wetland ID: NA |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attribute | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: _5_ ft. Height: _4_ ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: _16_ ft. | Width of Waterbody - Toe of Slope to Toe of Slope: _5_ ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> ___ ft. | Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> ___ ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> _0_ fps N/A <input checked="" type="checkbox"/> | Bank height Right: _6_ ft. Left: _6_ ft. | Bank slope Right: _110_ degrees Left: _110_ degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> NA % of Substrate: NA% NA% NA% 10% 40% 15% 45% NA% | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> 100 ft. | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> 14 in. 2 in. | | |
| Dominant Bank Vegetation <i>(list)</i> SYCAMORE, TULIP TREE, BLACK WALNUT, AMERICAN ELM, PRIVET, GRAPE, POKEWEEED | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): OVERHANGING BANKS, LEAF PACKS | | | |
| Aquatic Organisms Observed (list): NA | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): MAJOR CATTLE DISTURBANCE | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | |

Waterbody ID:

SNOK103

^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.

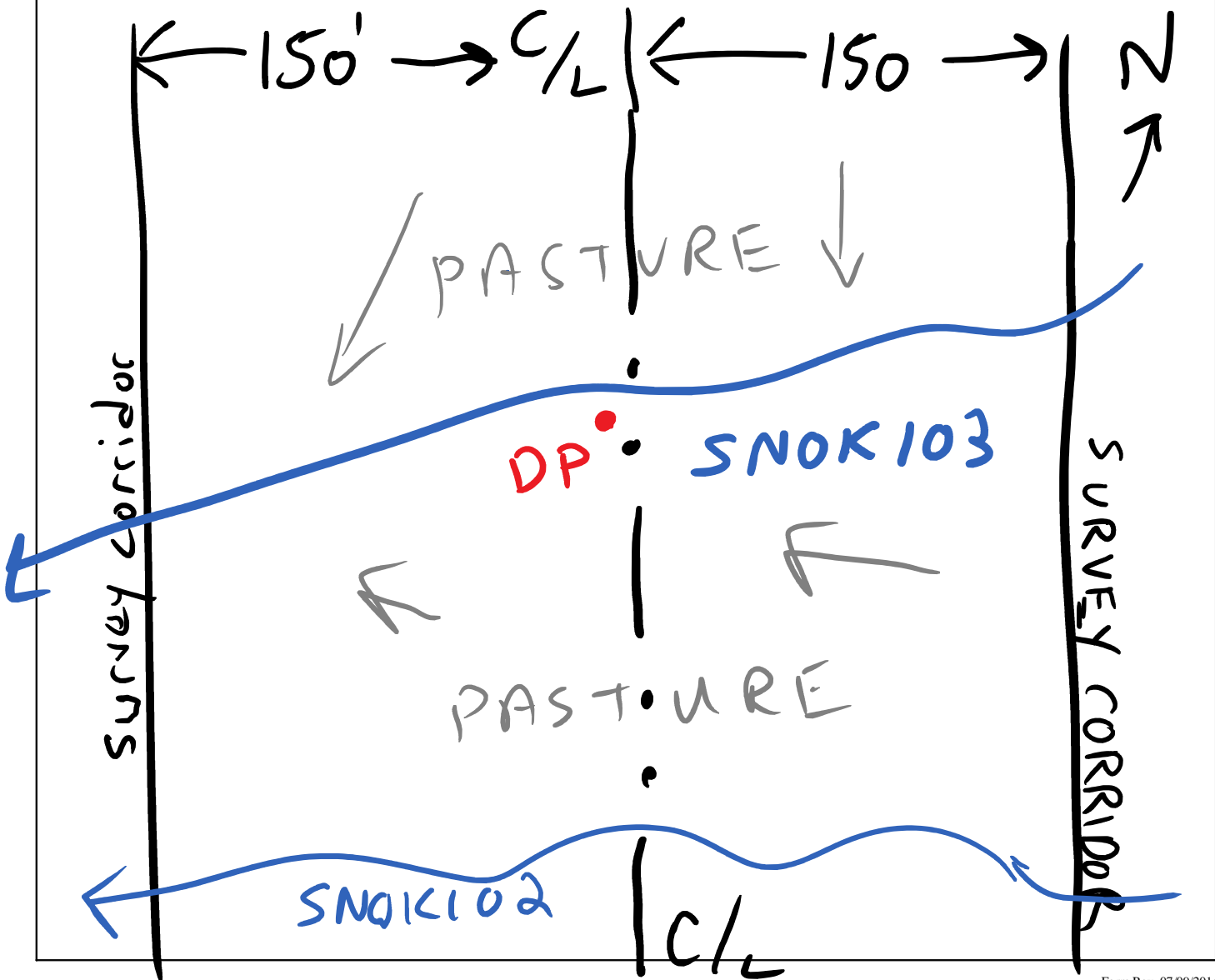
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

INTERMITTENT STREAM WITHIN ACTIVE CATTLE PASTURE. STREAM SNOK102 MAY TIE INTO THIS FEATURE WELL OFF ROW. RIPARIAN ZONE PRESENT, BUT 25 FT WIDE AND LITTLE UNDERSTORY/HERBS DUE TO CATTLE. BANKS AND CHANNEL DIRECTLY IMPACTED BY CATTLE.

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





Waterbody point snok103 facing North and across



Waterbody point snok103 facing West and upstream



Waterbody point snok103 facing East and
downstream

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|--|--|--|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO DEEP CREEK | |
| Waterbody ID: SNOK102 | | Date: 8/16/2014 | |
| State: Virginia | County: Nottaway | Company: WOODARD & CURRAN | Crew Member Initial JD, SG |
| Photos: IMG 2399 to 2401 x,u,d | | | |
| Tract Number(s): 12-044 | | Nearest Milepost: 232 | Associated Wetland ID NA |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attribute | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>6</u> ft. Height: <u>4</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>16</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>6</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>1</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.2</u> ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>6</u> ft. Left: <u>6</u> ft. | Bank slope Right: <u>110</u> degrees Left: <u>110</u> degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> NA % of Substrate: NA% NA% 5% 10% 65% 15% 5% NA% | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> Avg. DBH of Dominants: <i>(approx.)</i> <u>14</u> in. <u>2</u> in. | | |
| Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs: <input checked="" type="checkbox"/> | | | |
| Dominant Bank Vegetation <i>(list)</i> SYCAMORE, TULIP TREE, JUNIPERUS, HOLLY, PRIVET, GRAPE, POKEWEEED | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): OVERHANGING BANKS, LEAF PACKS | | | |
| Aquatic Organisms Observed <i>(list)</i> : NA | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): MAJOR CATTLE DISTURBANCE | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | |

Waterbody ID:

SNOK102

^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.

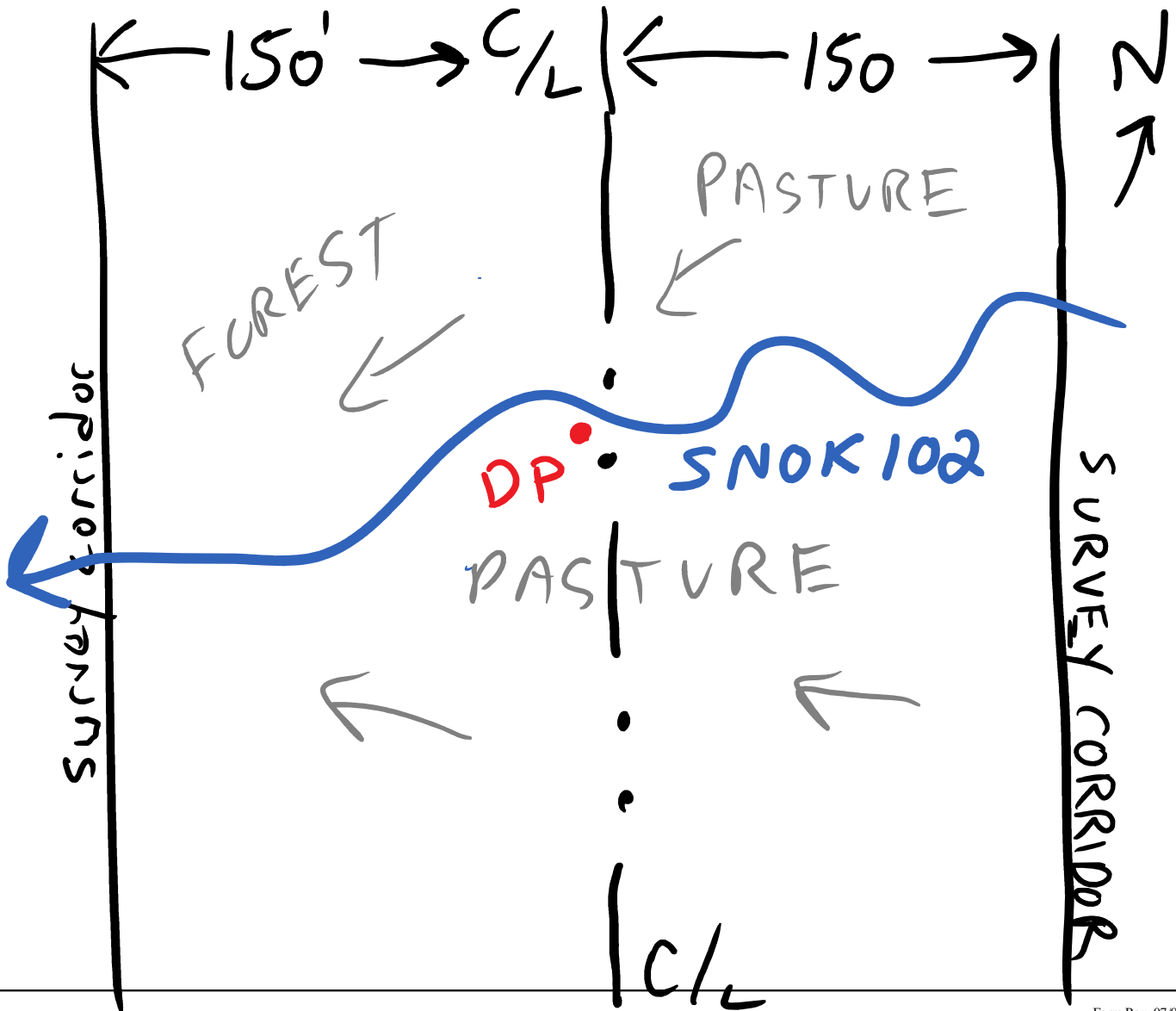
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

INTERMITTENT STREAM WITHIN ACTIVE CATTLE PASTURE. MAY TIE INTO SNOK103 WELL OFF ROW. RIPARIAN ZONE PRESENT, BUT 50 FT WIDE AND LITTLE UNDERSTORY/HERBS DUE TO CATTLE. BANKS AND CHANNEL DIRECTLY IMPACTED BY CATTLE.

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





Waterbody point snok102 facing North and
across



Waterbody point snok102 facing West and
upstream



Waterbody point snok102 facing East and downstream

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|--|---|--|
| Project Name: Southeast Reliability | | Waterbody Name: DEEP CREEK | |
| Waterbody ID: SNOK100 | | Date: 8/16/2014 | |
| State: Virginia | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial: JD, SG |
| Photos: IMG 2392 to 2394 x,u,d | | | |
| Tract Number(s): 12-044 | | Nearest Milepost: 232 | Associated Wetland ID wnok101f |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attribute | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: _35_ ft. | | OHWM Indicator: <i>(check all that apply)</i> | |
| Height: _4_ ft. | | <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining | |
| N/A <input type="checkbox"/> | | <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: _45_ ft. | Width of Waterbody - Toe of Slope to Toe of Slope: _35_ ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>10</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.3</u> ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> _0.1_ fps N/A <input type="checkbox"/> | Bank height Right: <u>7</u> ft. Left: <u>7</u> ft. | Bank slope Right: <u>135</u> degrees Left: <u>30</u> degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> N/A | | | |
| ****% of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>5</u> % <u>75</u> % <u>15</u> % <u>5</u> % <u>NA</u> % | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> | | |
| | Avg. DBH of Dominants: <i>(approx.)</i> <u>24</u> in. <u>2</u> in. | | |
| Dominant Bank Vegetation <i>(list)</i> RED MAPLE, TULIP TREE, SWEET GUM, PAW PAW, IRON WOOD, SPICE BUSH, CHRISTMAS FERN, POISON IVY | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): OVERHANGING BANKS, LEAF PACKS, SMALL SCOUR POOLS, DUNE CONTROLLED BANK BOTTOM WITH SOME ROOTS | | | |
| Aquatic Organisms Observed (list): FROG | | | |
| T&E Species Observed (list): <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:
SNOK100

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.

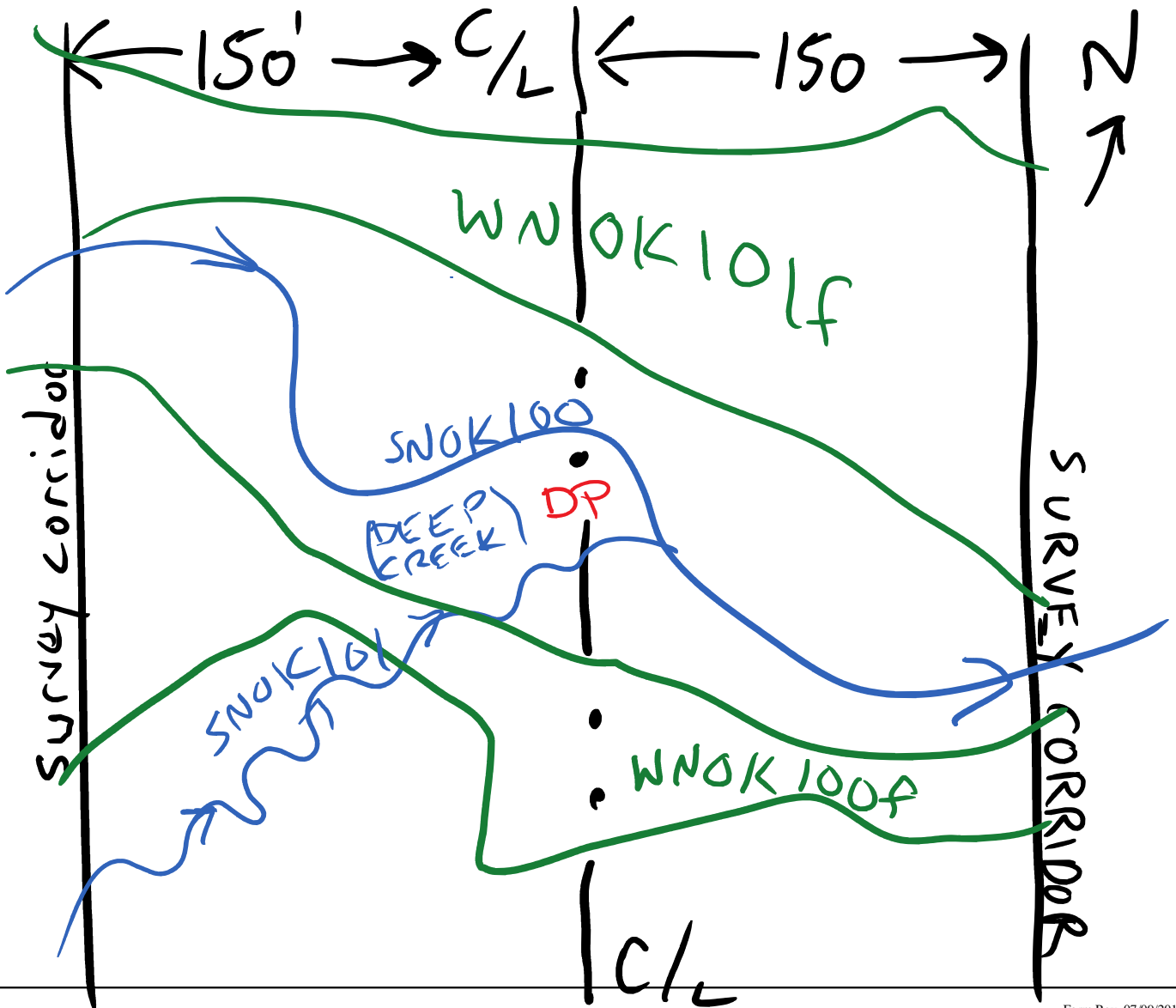
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

PERENNIAL STREAM, MEANDERING SAND BED STREAM WITH <2% SLOPE, MATURE RIPARIAN BUFFER WITH LARGE SPICE BUSH UNDERSTORY, WELL ATTACHED FLOODPLAIN

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





Waterbody point snok100 facing North and
across



Waterbody point snok100 facing West and
upstream



Waterbody point snok100 facing East and
downstream

Linear Waterbody Data Sheet

| Survey Description | | | | | |
|---|---------------------|--|-----------------------------------|---|--------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO DEEP CREEK | | Waterbody ID: SNOK101 | Date: 8/16/2014 |
| State: Virginia | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial JD, SG | Photos: IMG2368,2370,2373 x,u,d | |
| Tract Number(s): 12-044 | | Nearest Milepost: 232 | Associated Wetland ID wnok100f | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | | |
| Physical Attribute | | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | | |
| OHWM Width: <u>5</u> ft. Height: <u>2</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>8</u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u>5</u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>0.5</u> ft. | |
| Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.1</u> ft. | | Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps N/A <input type="checkbox"/> | |
| Bank height Right: <u>3</u> ft. Left: <u>3</u> ft. | | Bank slope Right: <u>80</u> degrees Left: <u>30</u> degrees | | | |
| Qualitative Attributes | | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | | |
| Substrate: <i>(check all that apply)</i> NA ****% of Substrate: NA% NA% NA% <u>5</u> % <u>75</u> % <u>15</u> % <u>5</u> % NA% | | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>20</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>1</u> in. <input checked="" type="checkbox"/> Herbs | | | |
| Dominant Bank Vegetation <i>(list)</i> RED MAPLE, TULIP TREE, SWEET GUM, PAW PAW, IRON WOOD, SPICE BUSH, CHRISTMAS FERN, POISON IVY | | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): OVERHANGING BANKS, LEAF PACKS, NO POOLS, DUNE CONTROLLED BANK BOTTOM WITH SOME ROOTS | | | | | |
| Aquatic Organisms Observed (list): NA | | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | | |

Waterbody ID:

SNOK101

^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.

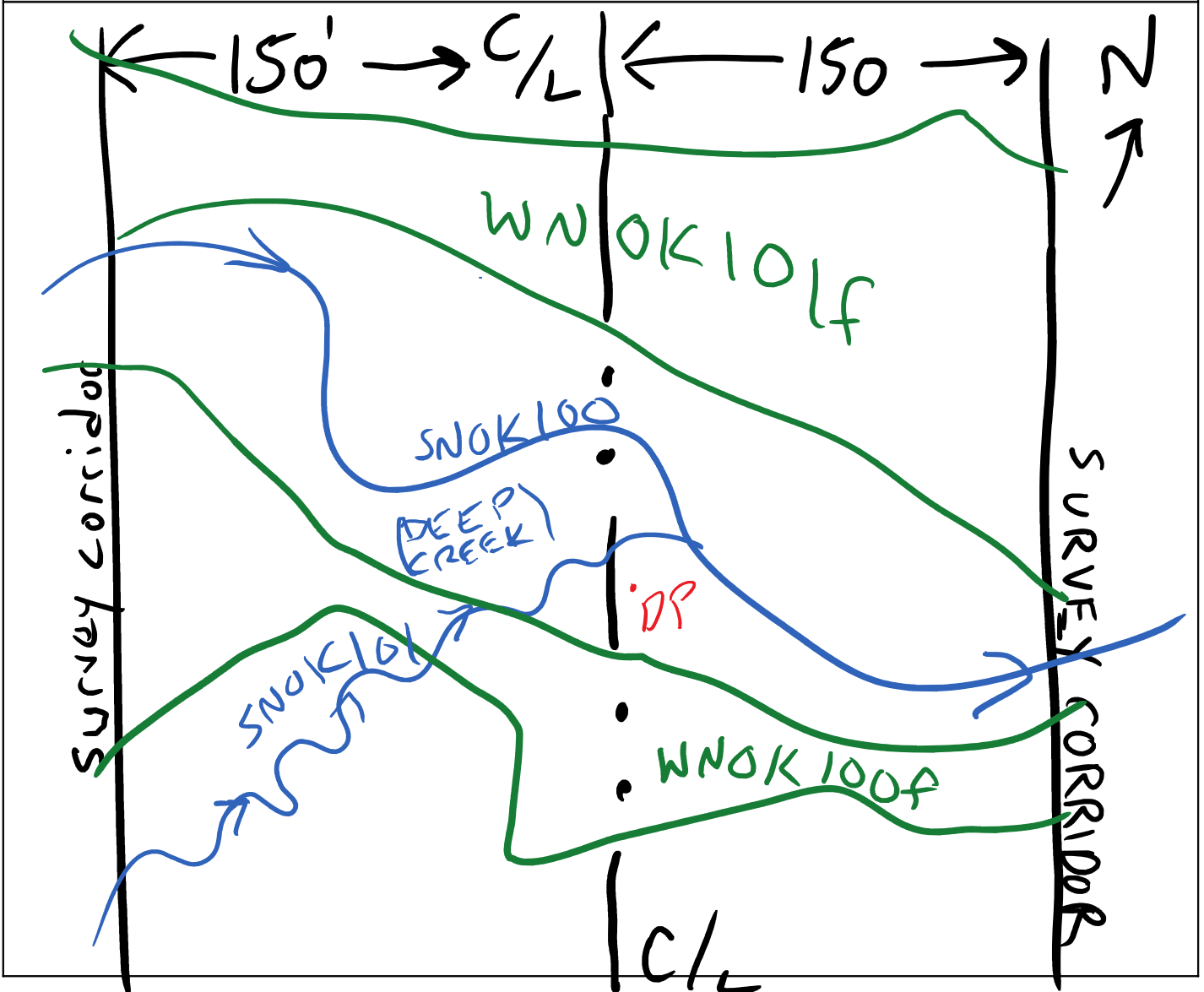
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

INTERMITTENT STREAM CONFLUENCE WITH DEEP CREEK 50FT EAST OF CENTRLINE, MEANDERING SAND BED STREAM WITH <2% SLOPE, MATURE RIPARIAN BUFFER WITH LARGE SPICE BUSH UNDERSTORY, WELL ATTACHED FLOODPLAIN

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





Waterbody point snok101 facing North and
across



Waterbody point snok101 facing West and
upstream



Waterbody point snok101 facing East and
downstream

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|---|--|---|
| Project Name: Atlantic Coast Pipeline | | Waterbody Name: UNT to Deep Creek | |
| Waterbody ID: SNOC001 | | Date: 12/4/2014 | |
| State: Virginia | County: Nottoway | Company: NRG | Crew Member Initials: CR, AS |
| Photos: SNOC001_001-003 | | | |
| Tract Number(s): 12-044; 12-044.5 | | Nearest Milepost: 233.3 | Associated Wetland ID(s): None |
| Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: 7 ft. | | OHWM Indicator: <i>(check all that apply)</i> | |
| Height: 1.5 ft. | | <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining | |
| N/A <input type="checkbox"/> | | <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: 8 ft. | Width of Waterbody - Toe of Slope to Toe of Slope: 2.5 ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 3 ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> 0.8 ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> 0.5 fps N/A <input type="checkbox"/> | Bank height Right: 2.5 ft. Left: 3 ft. | Bank slope Right: 85 degrees Left: 90 degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> | | | |
| % of Substrate: _____% _____% 5% 20% 50% 20% 5% _____% | | | |
| Width of Riparian Zone: _____ ft. N/A <input checked="" type="checkbox"/> | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs | | |
| Avg. DBH of Dominants: <i>(approx.)</i> 12 in. 2 in. | | | |
| Dominant Bank Vegetation <i>(list)</i> : Loblolly-bay, Christmas fern, Japanese honeysuckle, American Beech, River Birch, Sycamore, Red Maple | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Pool and riffles, Leaf packs, overhanging roots | | | |
| Aquatic Organisms Observed <i>(list)</i> : None | | | |
| T&E Species Observed <i>(list)</i> : None | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:
SNOC001

^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.

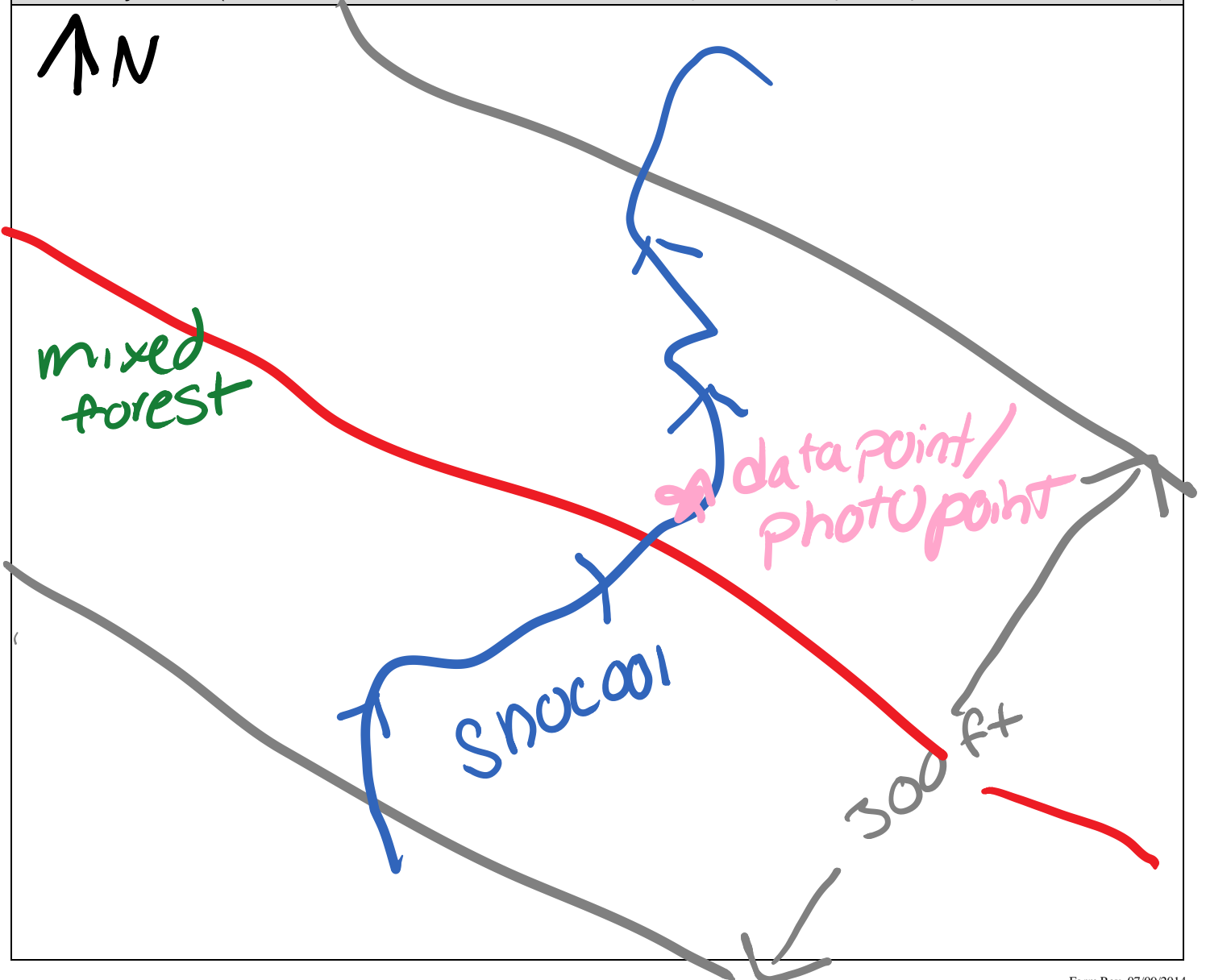
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

Iron deposits were observed on twigs and recent sediment deposits were present.

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





Waterbody SNOC001 facing south upstream



Waterbody SNOC001 facing north downstream



Waterbody SNOC001 facing west across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|--|--|--|-----------------|---|
| Project Name: ATLANTIC COAST PIPELINE | | Waterbody Name: UNT TO DEEP CREEK | | Waterbody ID: SNOL021 |
| State: Virginia | | County: Nottoway | Company: W&C | Crew Member Initials: WLM, RMS |
| Tract Number(s): 12-045 | | Nearest Milepost: 232 | | Photos: 100-1274 TO 1276 |
| Associated Wetland ID(s): NA | | | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>3</u> ft. Height: <u>0.5</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>8</u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u>3</u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>2</u> ft. |
| Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.2</u> ft. | | | | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps N/A <input type="checkbox"/> | | Bank height Right: <u>2</u> ft. Left: <u>3</u> ft. |
| Bank slope Right: <u>15</u> degrees Left: <u>45</u> degrees | | | | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other: % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>10</u> % <u>80</u> % <u>NA</u> % <u>10</u> % <u>NA</u> % | | | | |
| Width of Riparian Zone: <u>>100</u> ft. N/A <input type="checkbox"/> | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>14</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>3</u> in. <input checked="" type="checkbox"/> Herbs | | |
| Avg. DBH of Dominants: <i>(approx.)</i> | | | | |
| Dominant Bank Vegetation <i>(list)</i> : BEECH, SOURWOOD, VACCINIUM, ATHYRIUM, HOLLY, PAW PAW, MICROSTEGIUM | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): SOFT SAND/MUCK, CPOM, UNDERCUT BANKS | | | | |
| Aquatic Organisms Observed <i>(list)</i> : FROGS, CRAYFISH, STONEFLIES, COLEOPTERANS | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

SNOL021

^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.

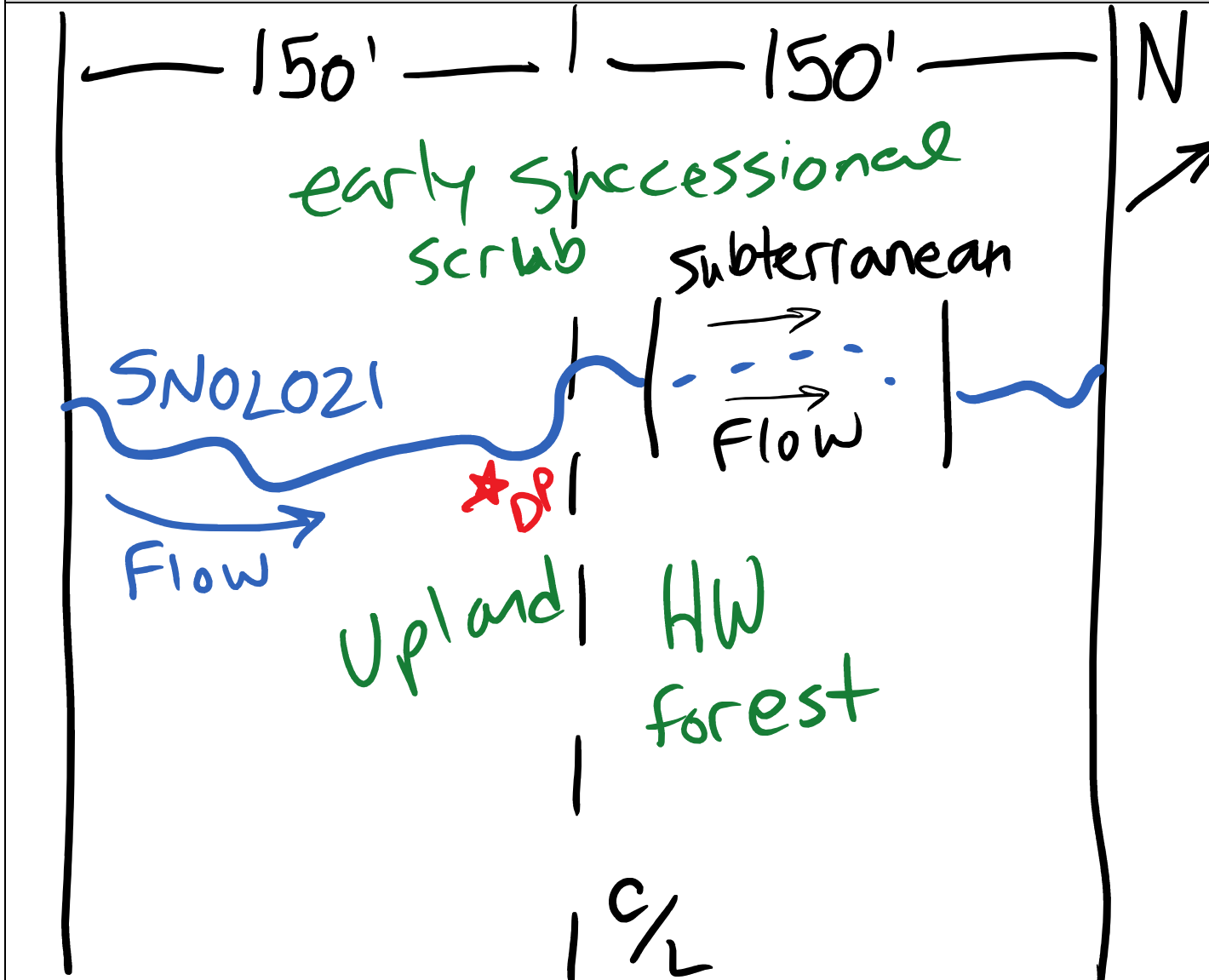
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

GOOD QUALITY HEADWATER INTERMITTENT STREAM WITH SEEPY STREAMBANKS; SOME SUBTERRANEAN FLOW IN AREAS

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





Waterbody data point snol021 facing north,
downstream



Waterbody data point snol021 facing south,
upstream



Waterbody data point snol021 facing east, across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|---|--|---|--|-----------------------------------|
| Project Name: ATLANTIC COAST PIPELINE | | Waterbody Name: UNT TO DEEP CREEK | | Waterbody ID: SNOL020 |
| State: Virginia | | County: Nottoway | Company: W&C | Crew Member Initials: WLM, RMS |
| Tract Number(s): 12-045 AND 12-047 | | Nearest Milepost: 233 | | Photos: 100-1271 TO 1273 |
| Associated Wetland ID(s): NA | | | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>4</u> ft. Height: <u>1</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>12</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>4</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>2</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.2</u> ft. | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.3</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>4</u> ft. Left: <u>3</u> ft. | Bank slope Right: <u>35</u> degrees Left: <u>35</u> degrees | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>20</u> % <u>65</u> % <u>5</u> % <u>10</u> % <u>NA</u> % | | | | |
| Width of Riparian Zone: <u>>100</u> ft. N/A <input type="checkbox"/> | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>14</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs | | | |
| Dominant Bank Vegetation <i>(list)</i> : POPLAR, QUERCUS SPP., DOGWOOD, PAW PAW, GOODYERA, ARISAEMA, CHRISTMAS FERN | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): SOFT SAND/MUCK, UNDERCUT BANKS, OVERHANGING VEG, LEAF PACKS | | | | |
| Aquatic Organisms Observed <i>(list)</i> : FROGS, CHIRONIMIDAE | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:
SNOL020

^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.

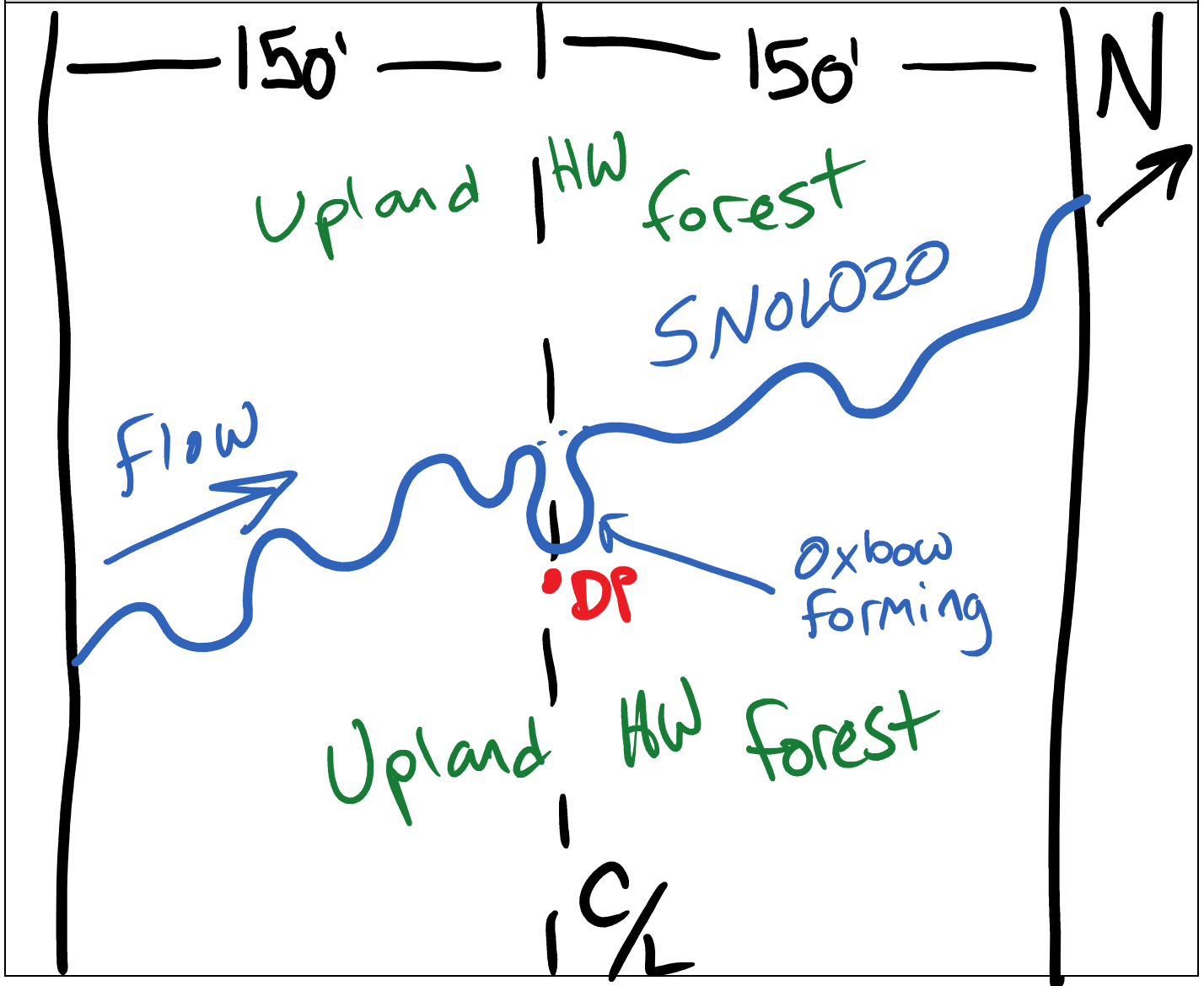
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

GOOD QUALITY HEADWATER INTERMITTENT STREAM; RIPARIAN ZONE WELL STRATIFIED

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





Waterbody data point snol020 facing north,
downstream



Waterbody data point snol020 facing south,
upstream



Waterbody data point snol020 facing east, across

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|--|--|---|
| Project Name: Atlantic Coast Pipeline | | Waterbody Name: UNT to Deep Creek | |
| Waterbody ID: Snoc050 | | Date: 11/19/2015 | |
| State: Virginia | County: Nottoway | Company: NRG | Crew Member Initials: CR, SA |
| Photos: 1-3 | | | |
| Tract Number(s): 12-047-AR 1 | | Nearest Milepost: | Associated Wetland ID(s): None |
| Survey Type: <i>(check one)</i> <input type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input checked="" type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>2</u> ft. | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining | |
| OHWM Height: <u>0.5</u> ft. | | <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| N/A <input type="checkbox"/> | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>20</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>1</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>2</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.5</u> ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.5</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>10</u> ft. Left: <u>10</u> ft. | Bank slope Right: <u>80</u> degrees Left: <u>80</u> degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: | | | |
| % of Substrate: _____% _____% _____% <u>10</u> % <u>30</u> % <u>60</u> % _____% _____% | | | |
| Width of Riparian Zone: <u>20</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs | |
| N/A <input type="checkbox"/> | | Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in. | |
| Dominant Bank Vegetation <i>(list)</i> : Red oak, red maple, sweet-gum, multiflora rose, beech, Japanese honeysuckl | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): None | | | |
| Aquatic Organisms Observed <i>(list)</i> : None | | | |
| T&E Species Observed <i>(list)</i> : None | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Stream starts below a gravel road | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ³ : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:

Snoc050

^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.

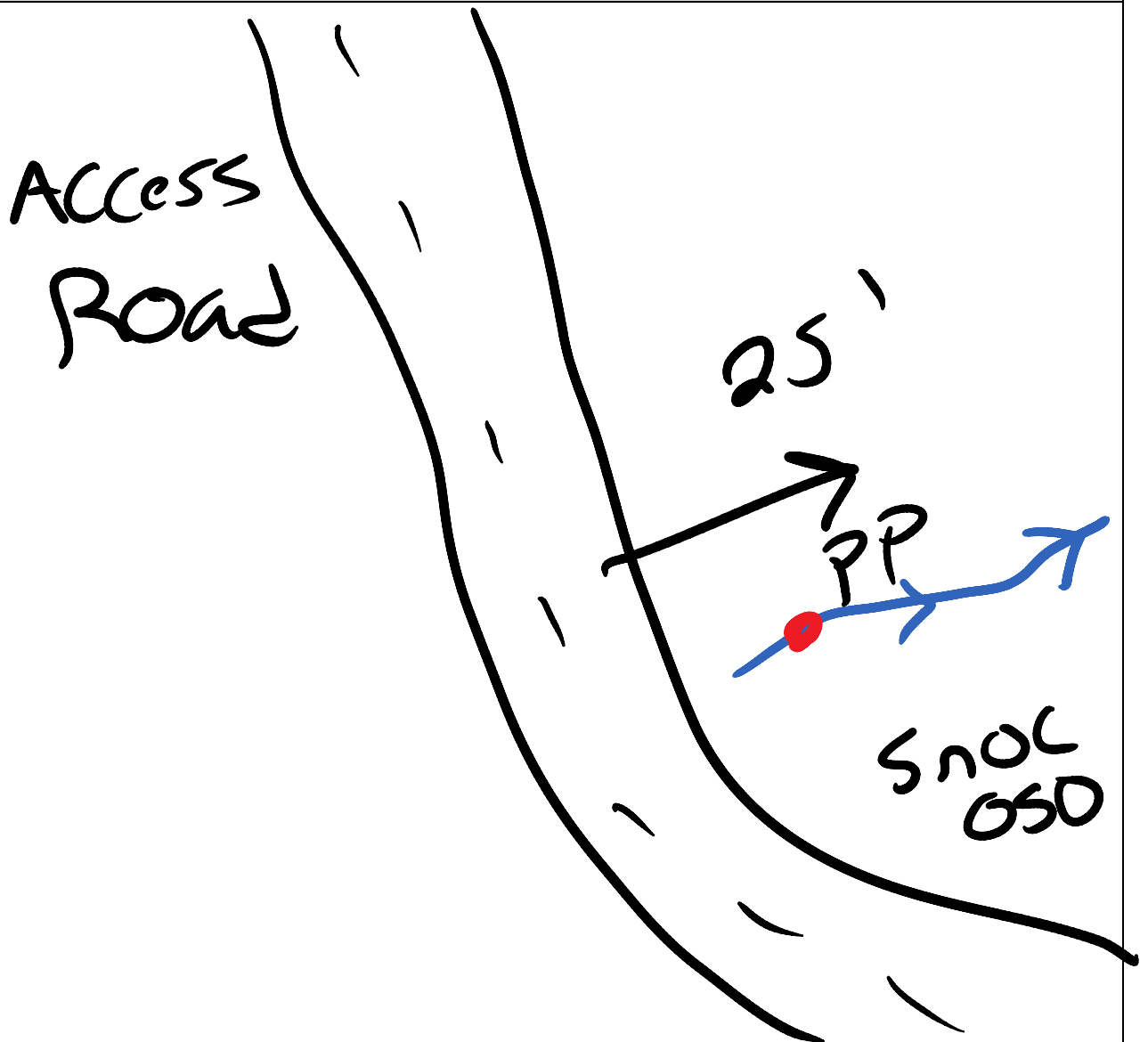
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate 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 starts below the access road at a head cut. No culvert is present under the road. Raining at time of survey

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





Waterbody SNOC050 facing northwest upstream



Waterbody SNOC050 facing northeast downstream



Waterbody SNO050 facing north across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|--|--|--|-----------------|---|
| Project Name: ATLANTIC COAST PIPELINE | | Waterbody Name: UNT TO DEEP CREEK | | Waterbody ID: SNOL019 |
| State: Virginia | | County: Nottoway | Company: W&C | Crew Member Initials: WLM, RMS |
| Tract Number(s): 12-045 | | Nearest Milepost: 233 | | Photos: 100-1268 TO 1270 |
| Associated Wetland ID(s): NA | | | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>5</u> ft. Height: <u>1</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>14</u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u>5</u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>3</u> ft. |
| Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.2</u> ft. | | | | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> <u>0.5</u> fps N/A <input type="checkbox"/> | | Bank height Right: <u>4</u> ft. Left: <u>4</u> ft. |
| Bank slope Right: <u>80</u> degrees Left: <u>40</u> degrees | | | | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input checked="" type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: | | | | |
| % of Substrate: <u>2</u> % <u>NA</u> % <u>NA</u> % <u>30</u> % <u>68</u> % <u>10</u> % <u>NA</u> % <u>NA</u> % | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>12</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>1</u> in. <input checked="" type="checkbox"/> Herbs | | |
| Avg. DBH of Dominants: <i>(approx.)</i> | | | | |
| Dominant Bank Vegetation <i>(list)</i> : POPLAR, BEECH, HICKORY, PAW PAW, CHRISTMAS FERN, MUSCADINE, SMILAX | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): SOFT SANDY SEDIMENT, RIFFLES, SMALL POOLS, LWD, LEAF PACKS | | | | |
| Aquatic Organisms Observed <i>(list)</i> : FISH, CRAYFISH, FROGS, STONEFLY | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

SNOL019

^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.

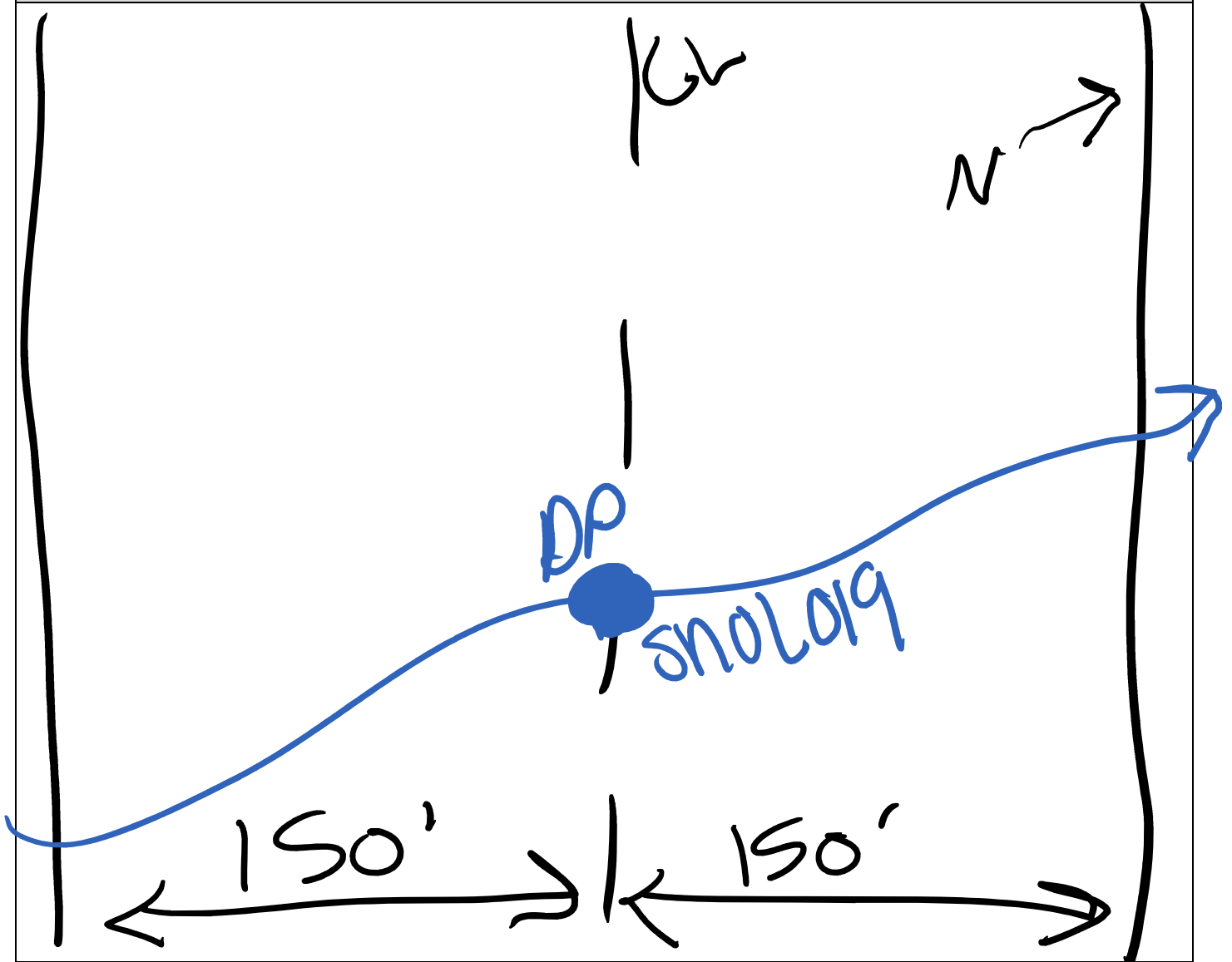
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

SMALL PERENNIAL WITH HARDWOOD FOREST RIPARIAN ZONE. BANKS INTACT AND HIGH LOADING OF SANDY SEDIMENTS.

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





Waterbody data point snol019 facing north,
downstream



Waterbody data point snol019 facing south,
upstream



Waterbody data point snol019 facing east, across

Linear Waterbody Data Sheet

| | | | | |
|--|---|---|---|--|
| Survey Description | | | | |
| Project Name: ACP | | Waterbody Name: LNT to Deep Creek | Waterbody ID: snop001 | Date: 01/18/16 |
| State: VA | County/Parish: Nottoway | Company: ESI | Crew Member Initials: J.B., S.I. | Photos: S, N, E |
| Tract Number(s): 12-05A | | Nearest Milepost: 237.4 | Associated Wetland ID(s): wnop001, wnop002 | |
| Survey Type: (check one) <input type="checkbox"/> Centerline <input checked="" type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Stream Classification: (check one) <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | | |
| Waterbody Type: (check one) <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: 2 ft. | OHWM Indicator: (check all that apply) | <input checked="" type="checkbox"/> Clear line on bank | <input type="checkbox"/> Shelving | <input type="checkbox"/> Wrested vegetation |
| OHWM Height: < 1 ft. | <input checked="" type="checkbox"/> Bent, matted, or missing vegetation | <input checked="" type="checkbox"/> Wrack line | <input type="checkbox"/> Litter and debris | <input type="checkbox"/> Scouring |
| N/A <input type="checkbox"/> | | | | <input type="checkbox"/> Water staining |
| OHWM N/A <input type="checkbox"/> | | | | <input type="checkbox"/> Abrupt plant community change |
| OHWM N/A <input type="checkbox"/> | | | | <input type="checkbox"/> Soil characteristic change |
| Width of Waterbody - Top of Bank to Top of Bank: 5 ft. | Width of Waterbody - Toe of Slope to Toe of Slope: 2 ft. | Width of Waterbody - Water Edge to Water Edge: 2 ft. | Depth of Water: (Approx.) < 1 ft. | |
| N/A <input type="checkbox"/> | | N/A <input type="checkbox"/> | N/A <input type="checkbox"/> | |
| Sinuosity: (check one) <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: (Approx.) 3 fps | Bank height Right: < 1 ft. Left: < 1 ft. | Bank slope Right: 60 degrees Left: 00 degrees | |
| N/A <input type="checkbox"/> | N/A <input type="checkbox"/> | | | |
| Qualitative Attributes | | | | |
| Water Appearance: (check one) <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: (check all that apply) <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: | | | | |
| % of Substrate: _____% _____% _____% _____% 70% 30% _____% _____% | | | | |
| Width of Riparian Zone: 15 ft. | Vegetative Layers: (check all that apply) | <input checked="" type="checkbox"/> Trees: 10 in. | <input checked="" type="checkbox"/> Saplings/Shrubs: 1 in. | <input checked="" type="checkbox"/> Herbs: N/A in. |
| N/A <input type="checkbox"/> | (approx.) | | | |
| Dominant Bank Vegetation (list): Liquidambar styraciflua, Ilex opaca, Juniperus virginiana, Carpinus caroliniana. | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): overhanging roots, woody debris | | | | |
| Aquatic Organisms Observed (list): None observed | | | | |
| T&E Species Observed (list): None observed | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): None | | | | |
| Tributary is: (check one) <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality *: (check one) <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

snop001

• **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.

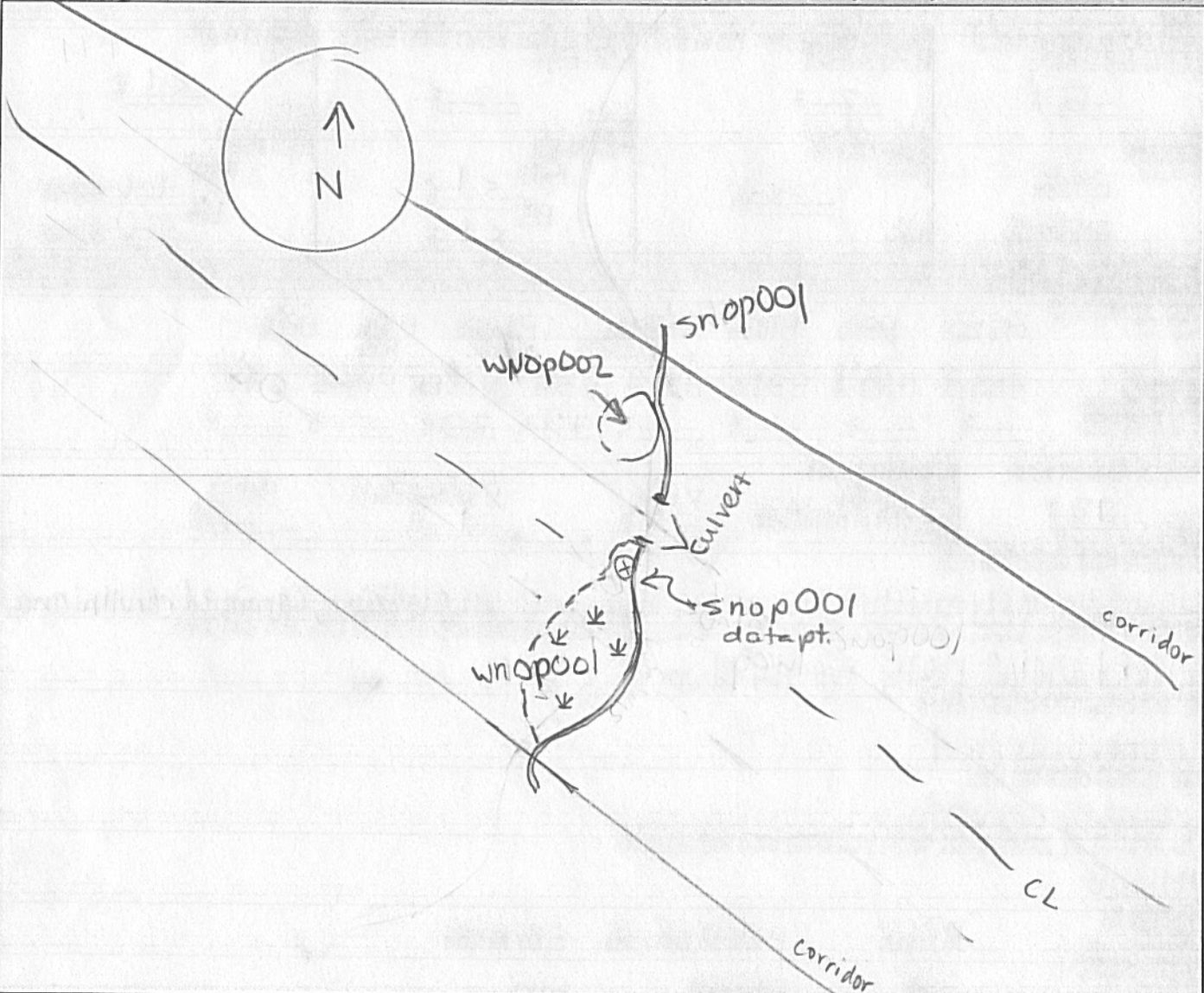
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

Correction: Waterbody is associated with Wetland WNOP002s.

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



Environmental Field Surveys
Waterbody Photo Page



Waterbody data point snop001 facing south upstream.



Waterbody data point snop001 facing north downstream.

Environmental Field Surveys
Waterbody Photo Page



Waterbody data point snop001 facing east across bank.

Linear Waterbody Data Sheet

| Survey Description | | | | |
|---|--|---|---|------------------------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WINNINGHAM CREEK | | Waterbody ID: SNOK010 |
| State: Virginia | | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial JD, JS |
| Tract Number(s): 12-061 | | Nearest Milepost: 234 | | Photos: 100-0034 TO 0036, U D X |
| Associated Wetland ID NA | | | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attribute | | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>2</u> ft. Height: <u>0.5</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>3</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>2</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> <u> </u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u> </u> ft. | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0</u> fps N/A <input checked="" type="checkbox"/> | Bank height Right: <u>1</u> ft. Left: <u>1</u> ft. | Bank slope Right: <u>45</u> degrees Left: <u>30</u> degrees | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> NA % of Substrate: NA% NA% NA% NA% <u>10</u> % <u>30</u> % <u>60</u> % NA% | | | | |
| Width of Riparian Zone: <u>100</u> ft. N/A <input type="checkbox"/> | Vegetative Layers: <i>(check all that apply)</i> Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in. | | | |
| Dominant Bank Vegetation <i>(list)</i> LOBLOLLY PINE, WHITE OAK, SOURWOOD, RED MAPLE, AMERICAN HOLLY, CHRISTMAS FERN | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): OVERHANGING BANKS, LEAF PACKS | | | | |
| Aquatic Organisms Observed (list): NA | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

snok010

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

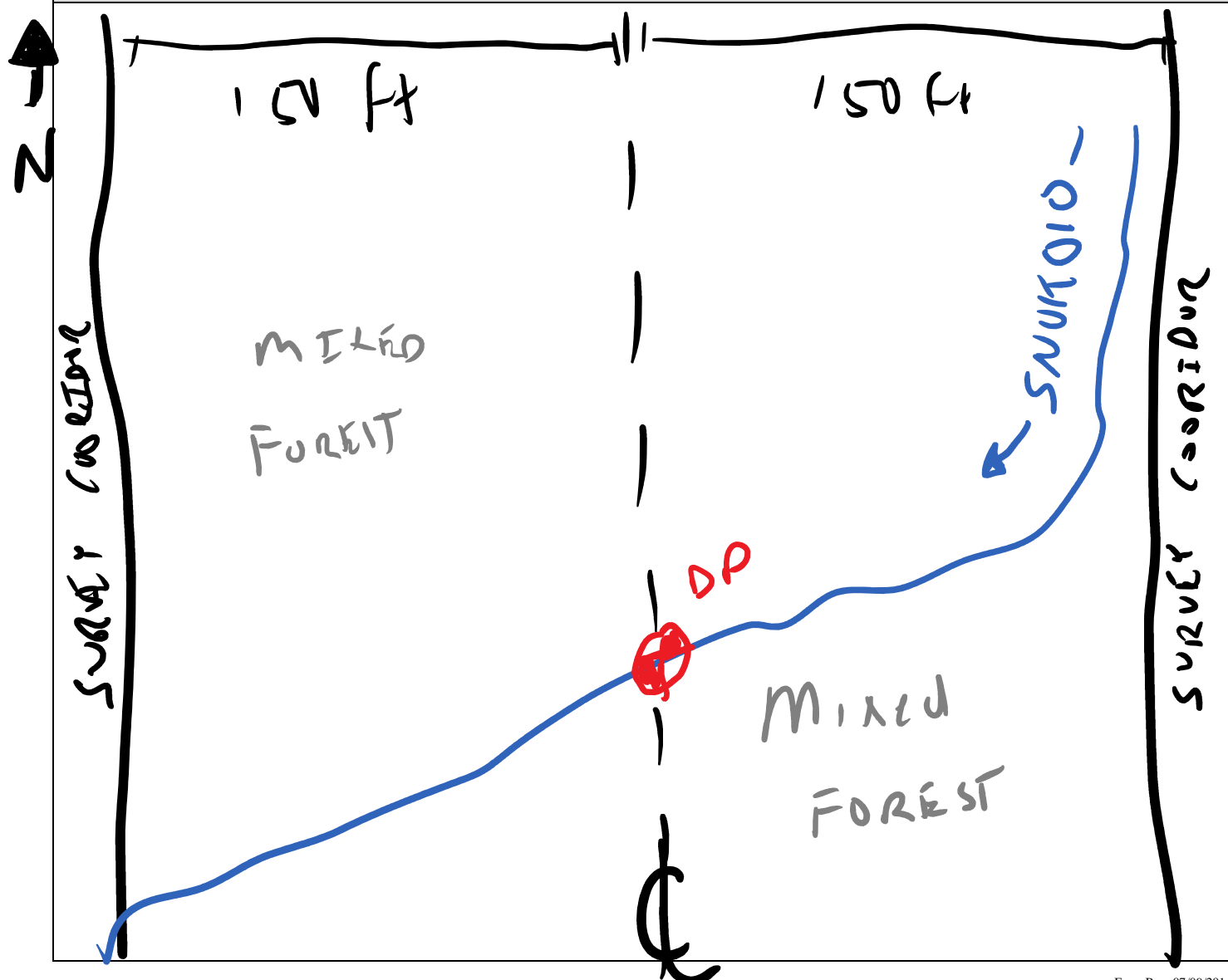
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

EPHEMERAL STREAM IN MIXED FOREST WITH CLOSED CANOPY. CHANNEL BECOMES DEFINED AT HEADCUT ASSOCIATED WITH ROOTS IN CHANNEL.

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





Waterbody point snok010 facing North and upstream



Waterbody point snok010 facing South and downstream



Waterbody point snok010 facing East and across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|--|--|---|--|-------------------------------------|
| Project Name: Southeast Reliability | | Waterbody Name: WINNINGHAM CREEK | | Waterbody ID: SNOK011 |
| State: Virginia | | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial JD, JS |
| Date: 8/18/2014 | | Photos: 100-0053 TO 0055, X U D | | |
| Tract Number(s): 12-061 | | Nearest Milepost: 234 | | Associated Wetland ID wnok010e/f |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attribute | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>50</u> ft. Height: <u>5</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input checked="" type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>70</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>50</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> <u>50</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>5</u> ft. | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>5</u> ft. Left: <u>5</u> ft. | Bank slope Right: <u>0</u> degrees Left: <u>0</u> degrees | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input checked="" type="checkbox"/> Other: pond lily, rice cut grass | | | | |
| Substrate: <i>(check all that apply)</i> N/A ****% of Substrate: NA% NA% NA% NA% NA% <u>40</u> % <u>60</u> % NA% | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>18</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> | | | |
| Dominant Bank Vegetation <i>(list)</i> WILLOW, RIVER BIRCH, RICE CUT GRASS, POND LILY, ALDER, | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): EMERGED AND SUBMERGED VEGETATION, SWAMP STILL WATER | | | | |
| Aquatic Organisms Observed (list): FROG, TURTLE, FISH | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

SNOK011

^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.

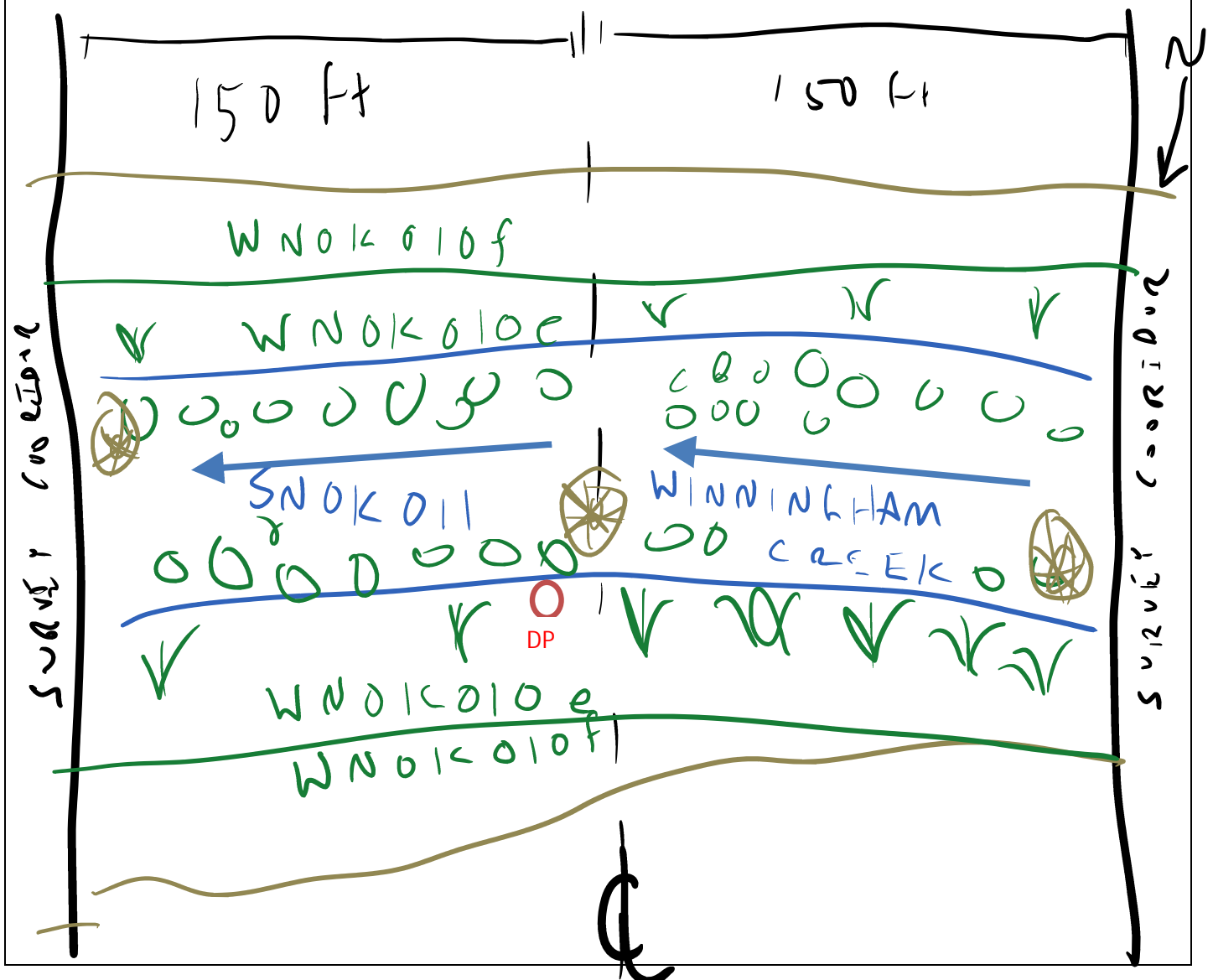
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

PERENNIAL STREAM/SWAMP. WATER SURFACE MEETS TOP OF BANK, LILLY PADS AND GRASS FLOATING ON SURFACE. DRAINING ADJACENT PEM/PFO WETLAND WNOK010. COULDN'T MAP WITHOUT CHEST WADERS AND BOAT.

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





Waterbody point snok011 facing Southwest and
upstream



Waterbody point snok011 facing Northeast and
downstream



Waterbody point snok011 facing East and across

Linear Waterbody Data Sheet

| Survey Description | | | | | |
|---|---|--|---|------------------------------------|--------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WINNINGHAM CREEK | | Waterbody ID: SNOK012 | Date: 8/19/2014 |
| State: Virginia | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial JD, JS | Photos: 100-0071 TO 0073, U D X | |
| Tract Number(s): 12-063 | | Nearest Milepost: 235 | Associated Wetland ID WNOK011E | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | | |
| Physical Attribute | | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | | |
| OHWM Width: <u>3</u> ft. Height: <u>0.5</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>15</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>3</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>1</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u>0.1</u> ft. | | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>3</u> ft. Left: <u>3</u> ft. | Bank slope Right: <u>45</u> degrees Left: <u>45</u> degrees | | |
| Qualitative Attributes | | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | | |
| Substrate: <i>(check all that apply)</i> NA ****% of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>20</u> % <u>30</u> % <u>45</u> % <u>5</u> % <u>NA</u> % | | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> Avg. DBH of Dominants: <u>16</u> in. <u>2</u> in. <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs | | | | |
| Dominant Bank Vegetation <i>(list)</i> IRON WOOD, TULIP POPLAR, RIVER BIRCH, SWEET GUM, PAW PAW, CAREX, BED STRAW, CHRISTMAS FERN | | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): LWD, LEAF PACKS, ROOTS, EMERGED AQUATIC VEGETATION | | | | | |
| Aquatic Organisms Observed (list): FISH, FROG, WATER BOATMAN | | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | | |
| Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | | |

Waterbody ID:

SNOK012

^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.

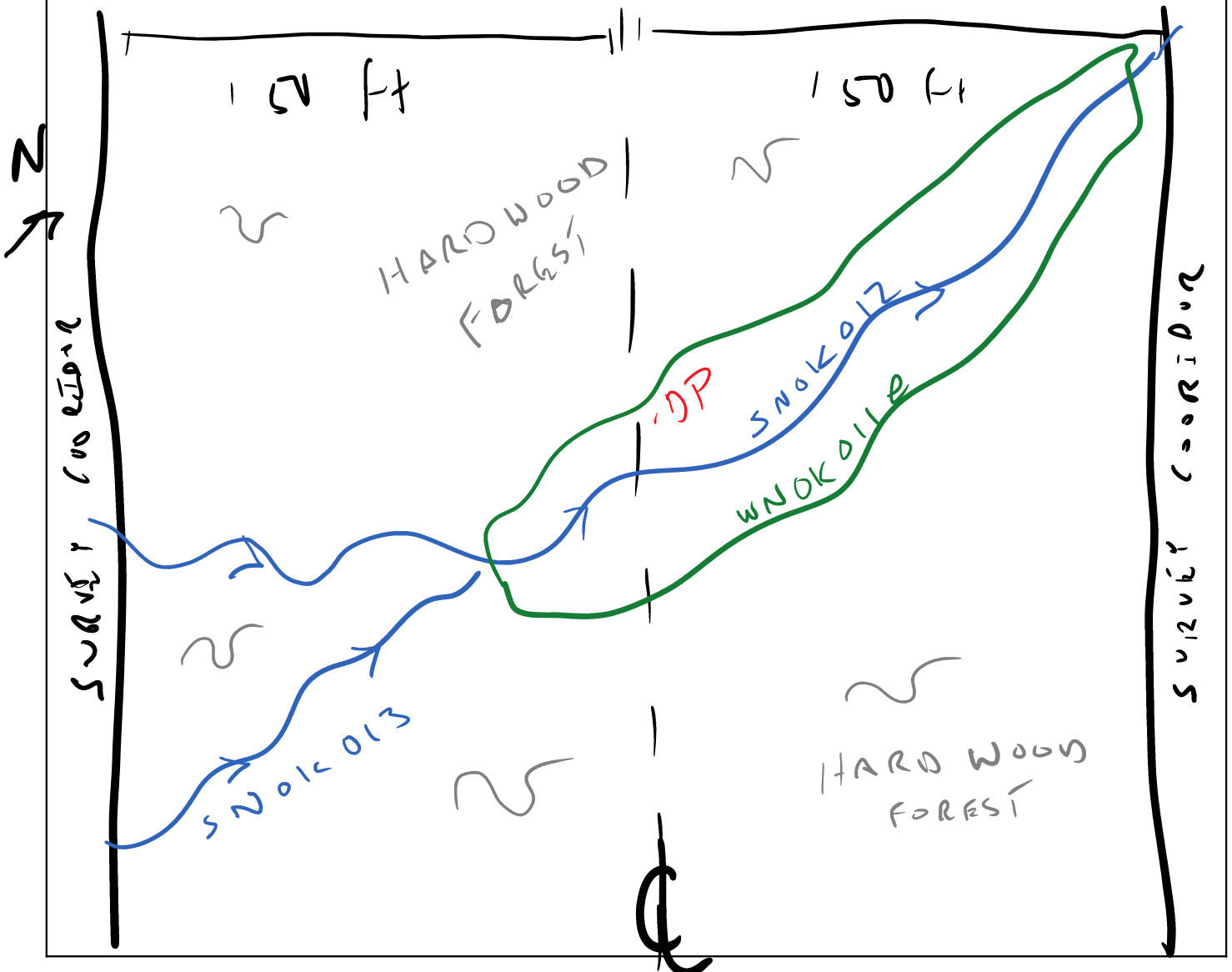
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

INTERMITTENT STREAM IN HARDWOOD FOREST WITH CLOSED CANOPY. MEANDERING CHANNEL WELL CONNECTED FLOODPLAIN , FRINGE WETLAND WNOK011E

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





Waterbody point snok012 facing South and upstream



Waterbody point snok012 facing North and downstream



Waterbody point snok012 facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | | | |
|---|---------------------|---|-------------------------------|--|--------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WINNINGHAM CREEK | | Waterbody ID: SNOK013 | Date: 8/19/2014 |
| State: Virginia | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial JD, JS | Photos: 100-0074 TO 0076, U D X | |
| Tract Number(s): 12-063 | | Nearest Milepost: 235 | | Associated Wetland ID NA | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | | |
| Physical Attribute | | | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | | |
| OHWM Width: <u> 2 </u> ft. Height: <u> 0.5 </u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u> 15 </u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u> 2 </u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u> 1 </u> ft. | |
| Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u> 0.1 </u> ft. | | Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> ____ fps N/A <input checked="" type="checkbox"/> | |
| Bank height Right: <u> 8 </u> ft. Left: <u> 10 </u> ft. | | Bank slope Right: <u> 60 </u> degrees Left: <u> 45 </u> degrees | | | |
| Qualitative Attributes | | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | | |
| Substrate: <i>(check all that apply)</i> NA ****% of Substrate: <u> NA </u> % <u> NA </u> % <u> NA </u> % <u> 15 </u> % <u> 30 </u> % <u> 45 </u> % <u> 10 </u> % <u> NA </u> % | | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u> 100 </u> ft. | | Vegetative Layers: <i>(check all that apply)</i> Avg. DBH of Dominants: <i>(approx.)</i> <u> 12 </u> in. <u> 3 </u> in. | | | |
| Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs: <input checked="" type="checkbox"/> | | | | | |
| Dominant Bank Vegetation <i>(list)</i> IRON WOOD, WHITE OAK, TULIP POPLAR, PAW PAW, CAREX, BED STRAW, CHRISTMAS FERN | | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): LWD, LEAF PACKS, ROOTS | | | | | |
| Aquatic Organisms Observed (list): WATER BOATMAN | | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | | |

Waterbody ID:

SNOK013

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

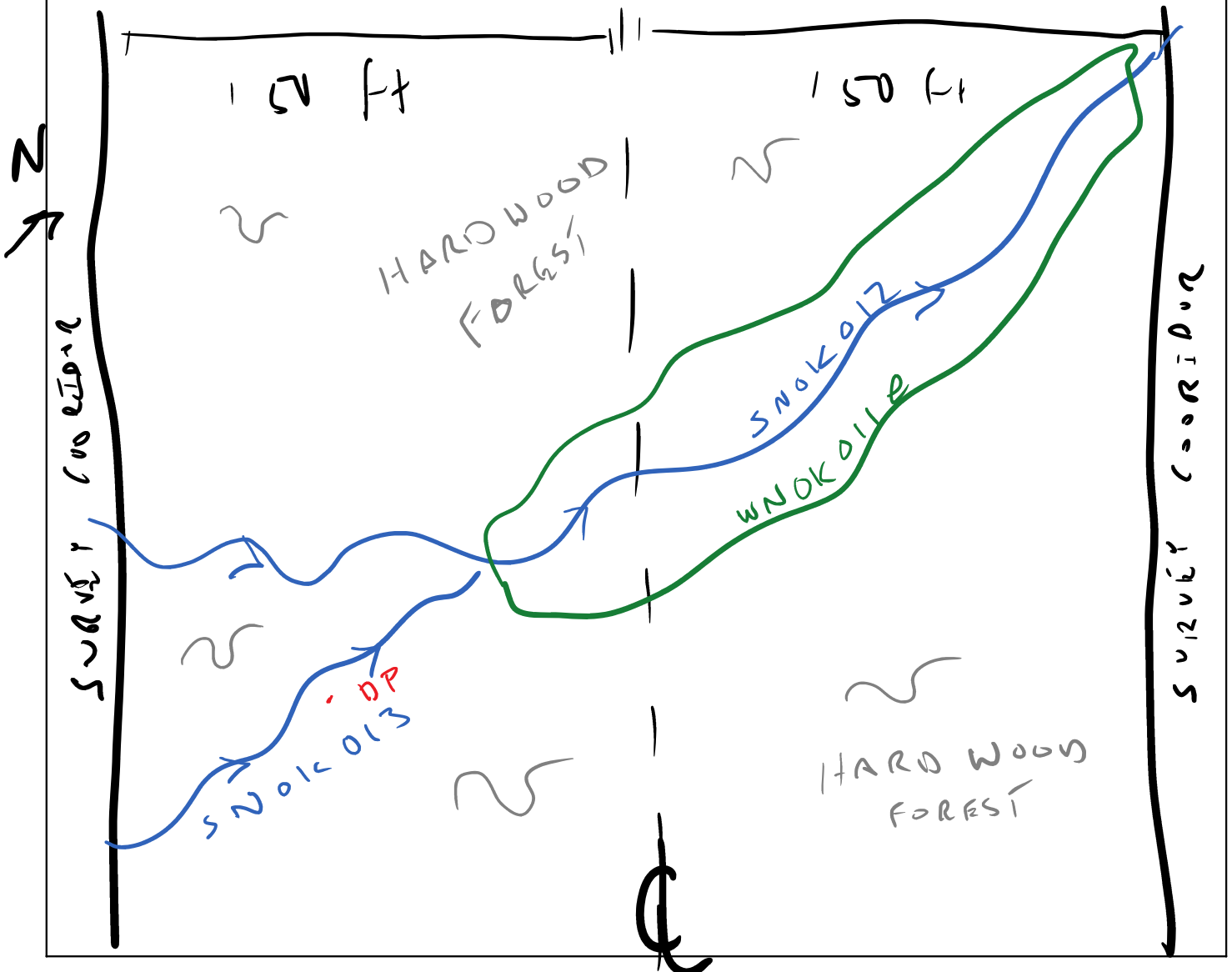
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

EPHEMERAL STREAM IN HARDWOOD FOREST WITH CLOSED CANOPY. MEANDERING V CHANNEL, CONFLUENCE WITH SNOK012

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





Waterbody point snok013 facing South and upstream



Waterbody point snok013 facing North and downstream



Waterbody point snok013 facing West and across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|---|--|--|------------------------------|---|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WINNINGHAM CREEK | | Waterbody ID: SNOK014 |
| State: Virginia | | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial JD, JS |
| Tract Number(s): 12-063 | | Nearest Milepost: 235 | | Photos: 100-0087 to 0089, U D X |
| Associated Wetland ID NA | | | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attribute | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>6</u> ft. Height: <u>2</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>20</u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u>6</u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>5</u> ft. |
| Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u>0.3</u> ft. | | | | |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps N/A <input type="checkbox"/> | | Bank height Right: <u>4</u> ft. Left: <u>4</u> ft. |
| Bank slope Right: <u>70</u> degrees Left: <u>45</u> degrees | | | | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> NA % of Substrate: <u>10</u> % <u>NA</u> % <u>NA</u> % <u>35</u> % <u>45</u> % <u>10</u> % <u>NA</u> % <u>NA</u> % | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> Avg. DBH of Dominants: <i>(approx.)</i> <u>30</u> in. <u>2</u> in. | | |
| Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs: <input checked="" type="checkbox"/> | | | | |
| Dominant Bank Vegetation <i>(list)</i> IRON WOOD, TULIP POPLAR, RIVER BIRCH, SWEET GUM, RED MAPLE, PAW PAW, CAREX, SPICE BUSH, CHRISTMAS FERN | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): LWD, LEAF PACKS, ROOTS, EMERGED AQUATIC VEGETATION, OVERHANGING BANKS, RIFFLES, DEEP POOLS | | | | |
| Aquatic Organisms Observed <i>(list)</i> : FISH, FROG | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): NA | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low | | | | |

Waterbody ID:

SNOK014

^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.

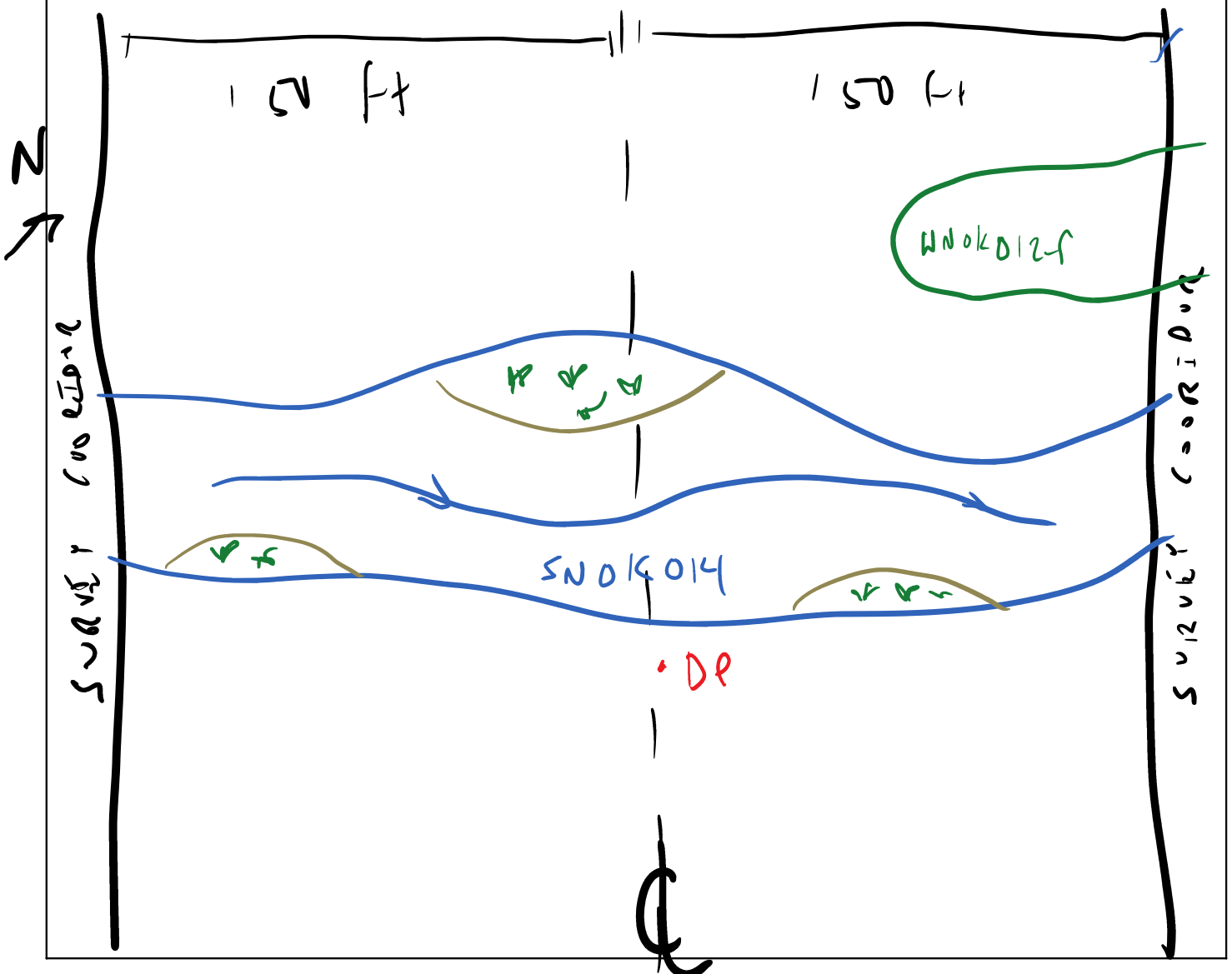
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

PERENNIAL STREAM IN HARDWOOD FOREST, MEANDERING CHANNEL WELL CONNECTED FLOODPLAIN, SLOUGHING AND OVERHANGING BANKS

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





Waterbody point snok014 facing Southeast and upstream



Waterbody point snok014 facing Northwest and downstream



Waterbody point snok014 facing East and across

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|--|--|---|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WOODY CREEK | |
| Waterbody ID: SNOK015 | | Date: 8/20/2014 | |
| State: Virginia | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial: JS, BG |
| Photos: 100-0091 TO 0093, U D X | | | |
| Tract Number(s): 12-067 | | Nearest Milepost: 235 | Associated Wetland ID: NA |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attribute | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>2</u> ft. Height: <u>0.5</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>12</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>4</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>2</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u>0.1</u> ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.1</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>7</u> ft. Left: <u>7</u> ft. | Bank slope Right: <u>80</u> degrees Left: <u>80</u> degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> NA ****% of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>100</u> % <u>NA</u> % <u>NA</u> % | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>16</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs | | |
| Dominant Bank Vegetation <i>(list)</i> SWEET GUM, SYCAMORE, PAWPAW, BLACK WALNUT, AMERICAN ELM | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA | | | |
| Aquatic Organisms Observed (list): FROGS | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): LIVESTOCK USE | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | |

Waterbody ID:

SNOK015

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

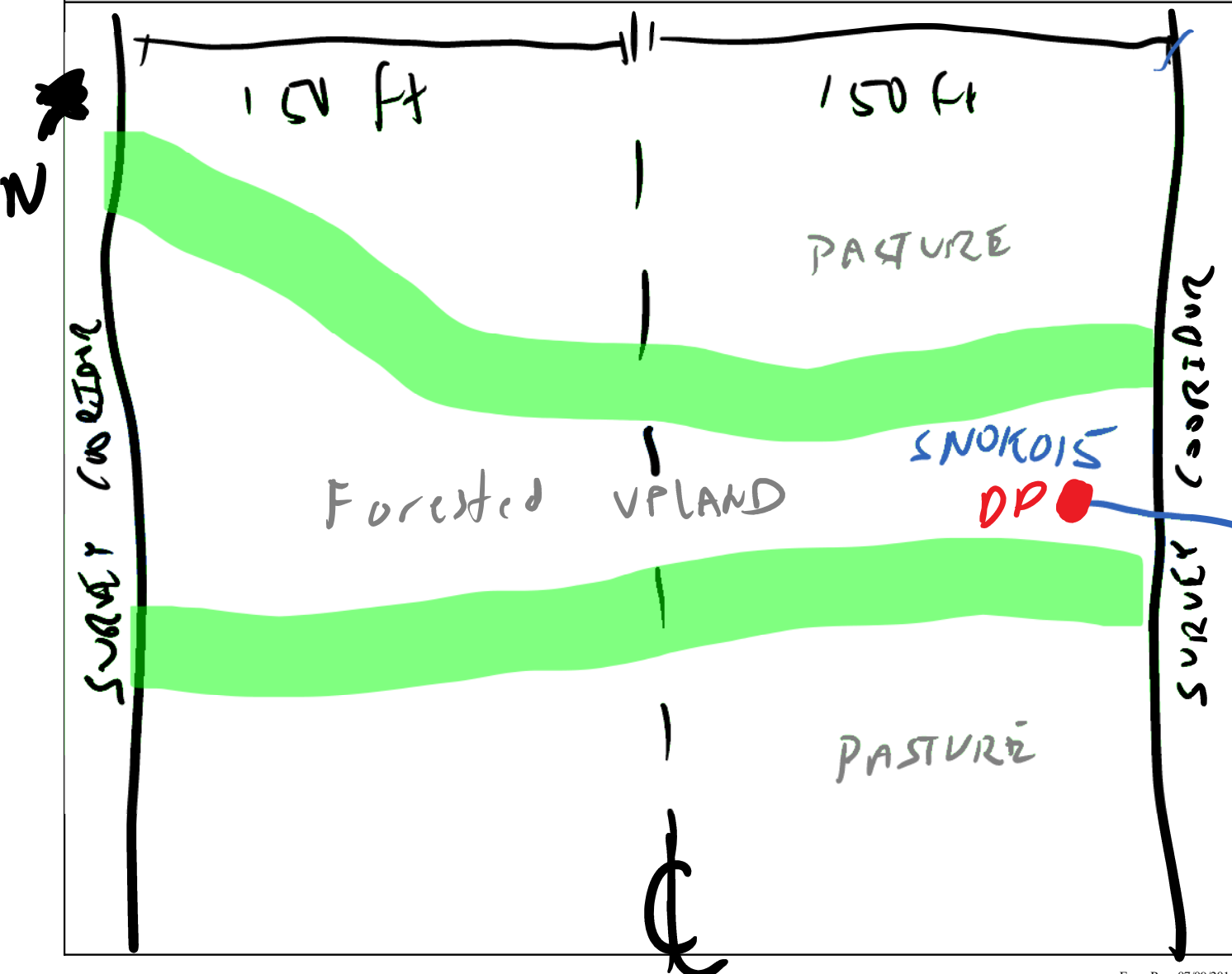
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

EPHEMERAL STREAM IN DEEP EROSIONAL GULLY ON EDGE OF PASTURE.

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





Waterbody point snok015 facing West and upstream



Waterbody point snok015 facing East and downstream



Waterbody point snok015 facing North and across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|---|--|---|------------------------------|--|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WOODY CREEK | | Waterbody ID: SNOK016 |
| State: Virginia | | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial: JS, BG |
| Tract Number(s): 12-068 | | Nearest Milepost: 236 | | Photos: 100-0094 TO 0096, U D X |
| Associated Wetland ID NA | | | | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attribute | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: _5_ ft. | | OHWM Indicator: <i>(check all that apply)</i> | | |
| Height: _0.5_ ft. | | <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining | | |
| N/A <input type="checkbox"/> | | <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: _15_ ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: _6_ ft. | | Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> _0.3_ ft. |
| Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> _3_ ft. | | Bank height Right: <u>7</u> ft. Left: <u>7</u> ft. | | Bank slope Right: <u>80</u> degrees Left: <u>80</u> degrees |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> _0.1_ fps N/A <input type="checkbox"/> | | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> NA | | | | |
| ****% of Substrate: NA% NA% 20% 30% 50% NA% NA% NA% | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> _100_ ft. | | Vegetative Layers: <i>(check all that apply)</i> | | |
| | | <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs | | |
| | | Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in. | | |
| Dominant Bank Vegetation <i>(list)</i> SWEET GUM, SYCAMORE, RED MAPLE, HICKORY, PAWPAW, TULIP POPLAR, NEPALESE BROWN-TOP | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): RIFFLES, UNDERCUT BANKS, CWD | | | | |
| Aquatic Organisms Observed (list): FROGS, FISH, | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): LIVESTOCK USE | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low (no) | | | | |

Waterbody ID:

SNOK016

^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.

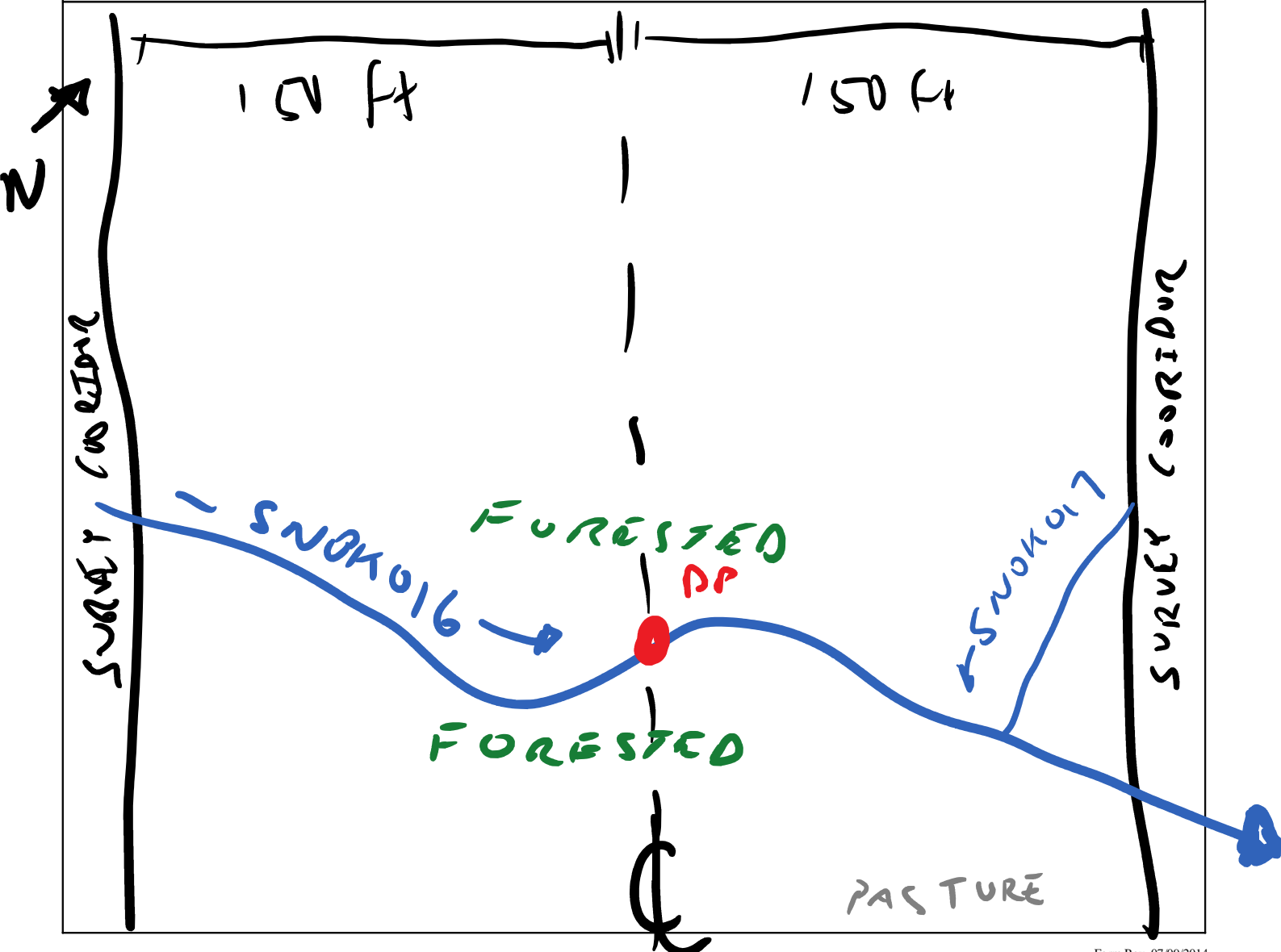
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

PERENNIAL STREAM IN NARROW FORESTED AREA BETWEEN PASTURES. BANK EROSION DUE TO CATTLE USE.

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





Waterbody point snok016 facing West and upstream



Waterbody point snok016 facing East and downstream



Waterbody point snok016 facing South and across

Linear Waterbody Data Sheet

| Survey Description | | | | | |
|---|---------------------|--|-------------------------------|---|--------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WOODY CREEK | | Waterbody ID: SNOK017 | Date: 8/20/2014 |
| State: Virginia | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial JS, BG | Photos: 100-0097 TO 0099, U D X | |
| Tract Number(s): 12-068 | | Nearest Milepost: 236 | | Associated Wetland ID NA | |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | | |
| Physical Attribute | | | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | | |
| OHWM Width: <u>4</u> ft. Height: <u>0.5</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change | | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>10</u> ft. | | Width of Waterbody - Toe of Slope to Toe of Slope: <u>4</u> ft. | | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>4</u> ft. | |
| Depth of Water: <i>(Approx.)</i> N/A <input checked="" type="checkbox"/> <u>0.1</u> ft. | | Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | | Water velocity: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.1</u> fps | |
| Bank height Right: <u>8</u> ft. Left: <u>10</u> ft. | | Bank slope Right: <u>80</u> degrees Left: <u>80</u> degrees | | | |
| Qualitative Attributes | | | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | | |
| Substrate: <i>(check all that apply)</i> NA % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>50</u> % <u>50</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % | | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <u>12</u> in. <input checked="" type="checkbox"/> Saplings/Shrubs: <u>2</u> in. <input checked="" type="checkbox"/> Herbs | | | |
| Dominant Bank Vegetation <i>(list)</i> SWEET GUM, SYCAMORE, RED MAPLE, HICKORY, PAWPAW, TULIP POPLAR, NEPALESE BROWN-TOP | | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): RIFFLES, LEAF PACK | | | | | |
| Aquatic Organisms Observed (list): NA | | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): LIVESTOCK USE | | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low (no) | | | | | |

Waterbody ID:

SNOK017

^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.

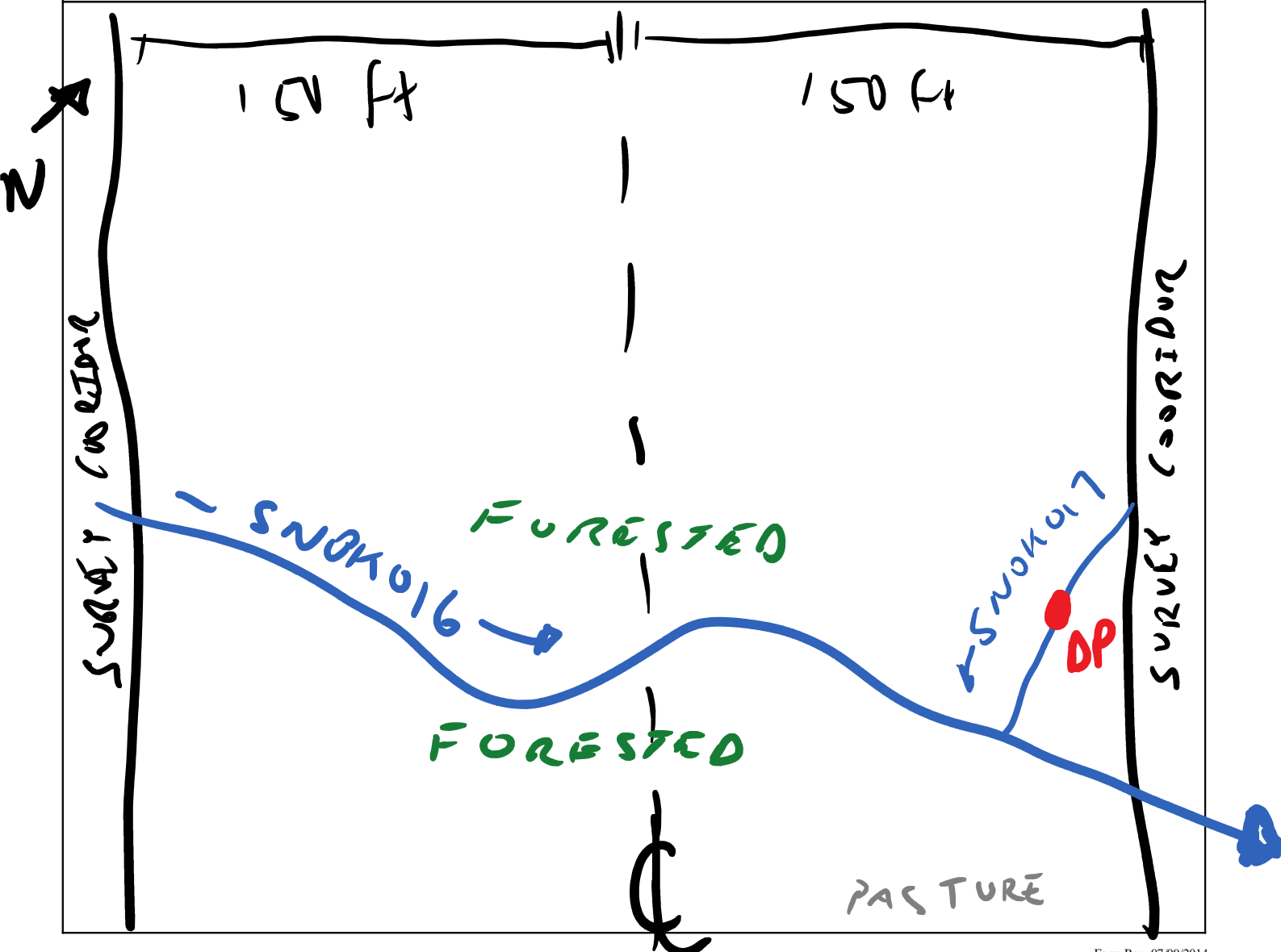
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

INTERMITTENT STREAM IN NARROW FORESTED AREA BETWEEN PASTURES. FLOWS INTO SNOK016. BANK EROSION DUE TO CATTLE USE.

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





Waterbody point snok017 facing North and upstream



Waterbody point snok017 facing South and downstream



Waterbody point snok017 facing East and across

Linear Waterbody Data Sheet

| Survey Description | | | | |
|---|--|--|---|------------------------------------|
| Project Name: Southeast Reliability | | Waterbody Name: UNT TO WOODY CREEK | | Waterbody ID: SNOK018 |
| State: Virginia | | County: Nottoway | Company: WOODARD & CURRAN | Crew Member Initial: JS, BG |
| Tract Number(s): 12-068 | | Nearest Milepost: 236 | | Photos: 100-0100 TO 0102, U D X |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attribute | | | | |
| Stream Classification: <i>(check one)</i> <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | | |
| OHWM Width: <u>2</u> ft. Height: <u>0.5</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>15</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>5</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input checked="" type="checkbox"/> ___ ft. | Depth of Water: <i>(Approx.)</i> ___ ft. | |
| Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> ___ fps N/A <input checked="" type="checkbox"/> | Bank height Right: <u>4</u> ft. Left: <u>3</u> ft. | Bank slope Right: <u>60</u> degrees Left: <u>70</u> degrees | |
| Qualitative Attributes | | | | |
| Water Appearance: <i>(check one)</i> <input checked="" type="checkbox"/> No water <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <i>(check all that apply)</i> N/A <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input checked="" type="checkbox"/> Sand <input type="checkbox"/> Silt/ clay <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Other: ****% of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>80</u> % <u>NA</u> % <u>20</u> % <u>NA</u> % | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>100</u> ft. | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in. | | | |
| Dominant Bank Vegetation <i>(list)</i> SWEET GUM, SYCAMORE, BLACK WALNUT, WHITE OAK, AMERICAN BEECH, PERSICARIA SP. | | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): NA | | | | |
| Aquatic Organisms Observed (list): NA | | | | |
| T&E Species Observed <i>(list)</i> : NA | | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): LIVESTOCK USE | | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | | |

Waterbody ID:

SNOK018

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

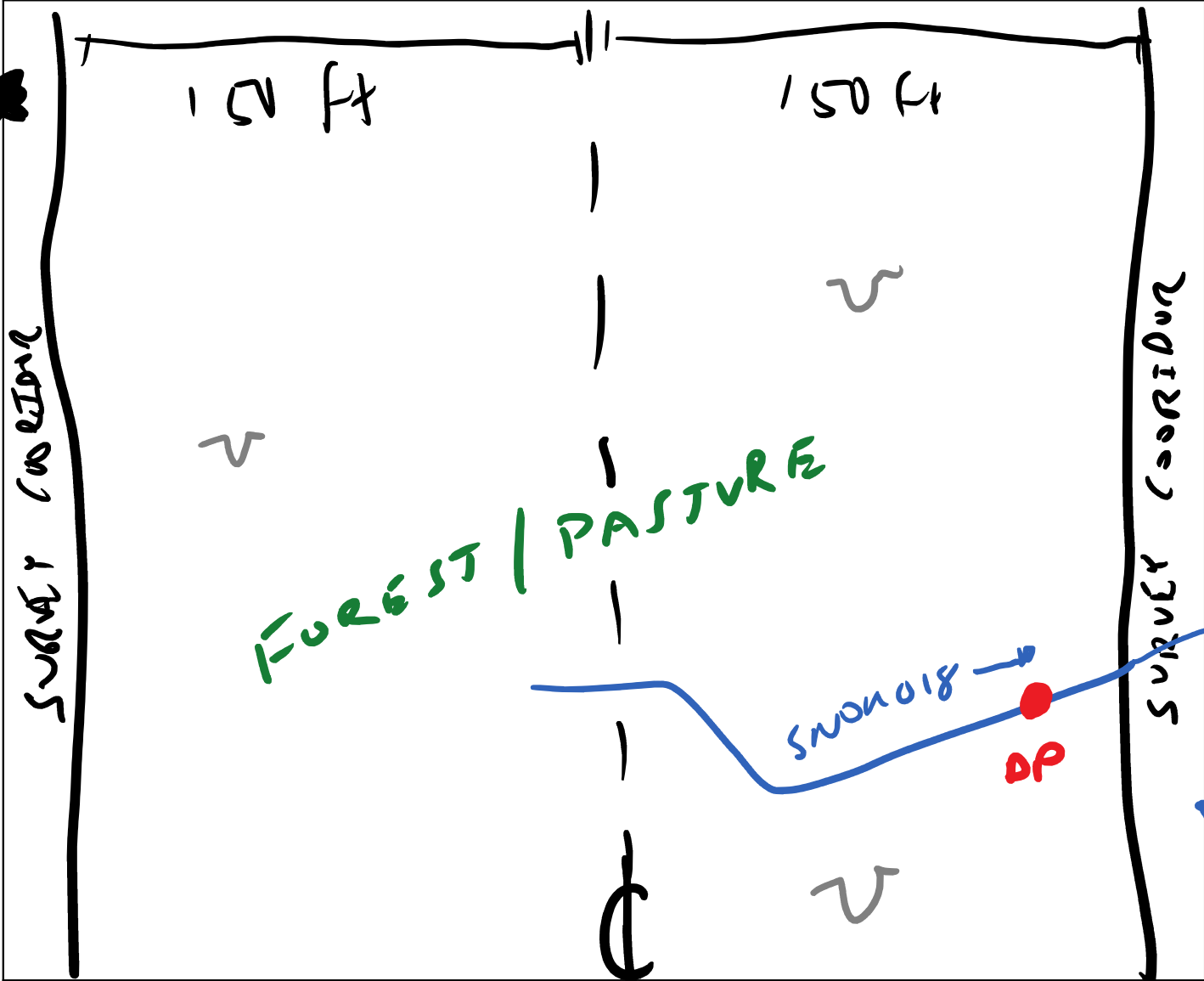
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

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

Notes:

EPHEMERAL STREAM IN EROSIONAL GULLY ON EDGE OF PASTURE.

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





Waterbody point snok018 facing Southwest and upstream



Waterbody point snok018 facing Northeast and downstream



Waterbody point snok018 facing East and across

Open Waterbody Data Sheet

| Survey Description | | | | |
|---|--|---|--|---|
| Project Name: Southeast Reliability | | Waterbody Name: NA | Waterbody ID: ONOK001 | Date: 8/20/2014 |
| State: Virginia | County: Nottoway | Company: Woodard & Curran | Crew Member Initials: BG, JS | Photos: 100-0109 to 0110 |
| Tract Number(s): 12-068 | | Nearest Milepost: 236 | Associated Wetland ID(s): WNOK013 | |
| Survey Type: <small>(check one)</small> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | | |
| Physical Attributes | | | | |
| Waterbody Type: <small>(check one)</small> <input checked="" type="checkbox"/> Stock Pond <input type="checkbox"/> Natural Pond <input type="checkbox"/> Lake <input type="checkbox"/> Reservoir <input checked="" type="checkbox"/> Impoundment <input type="checkbox"/> Oxbow <input type="checkbox"/> Other: | | | | |
| Hydrologic Regime: <input checked="" type="checkbox"/> Permanently Flooded <input type="checkbox"/> Semipermanently Flooded <input type="checkbox"/> Seasonally Flooded <input type="checkbox"/> Temporarily Flooded | | | | |
| OHWM Height: <u> 1 </u> ft. | | OHWM Indicator: <small>(check all that apply)</small> | | |
| | | <input type="checkbox"/> Clear line on bank | <input type="checkbox"/> Shelving | <input type="checkbox"/> Wrested vegetation |
| | | <input checked="" type="checkbox"/> Bent, matted, or missing vegetation | <input type="checkbox"/> Wrack line | <input type="checkbox"/> Litter and debris |
| | | | | <input type="checkbox"/> Scouring |
| | | | | <input type="checkbox"/> Water staining |
| Depth of Water: N/A <input type="checkbox"/> <u> 0.5 </u> ft. | Bank height (average): <u> 3 </u> ft. | | Bank slope (average): <u> 70 </u> degrees | |
| Qualitative Attributes | | | | |
| Water Appearance: <small>(check one)</small> <input type="checkbox"/> No water <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input checked="" type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | | |
| Substrate: <small>(check all that apply)</small> <input type="checkbox"/> Bedrock <input type="checkbox"/> Boulder <input type="checkbox"/> Cobble <input type="checkbox"/> Gravel <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Silt/ clay <input type="checkbox"/> Organic <input type="checkbox"/> Other: | | | | |
| % of Substrate: <u> NA </u> % <u> NA </u> % <u> NA </u> % <u> NA </u> % <u> NA </u> % <u> 100 </u> % <u> NA </u> % <u> NA </u> % | | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u> >100 </u> ft. | | Vegetative Layers: <small>(check all that apply)</small> | | |
| | | <input checked="" type="checkbox"/> Trees: | <input type="checkbox"/> Saplings/Shrubs: | <input checked="" type="checkbox"/> Herbs |
| | | Avg. DBH of Dominants: <small>(approx.)</small> <u> 6 </u> in. | <u> NA </u> in. | |
| Dominant Bank Vegetation <small>(list)</small> : PawPaw, Black Walnut, Unidentified Grass, Persicaria hydropiperoides | | | | |
| Aquatic Habitats <small>(ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools, etc.):</small> n/a | | | | |
| Aquatic Organisms Observed <small>(list)</small> : frogs | | | | |
| T&E Species Observed <small>(list)</small> : n/a | | | | |
| Disturbances <small>(ex: livestock access, manure in waterbody, waste discharge pipes)</small> : Livestock access, | | | | |
| Waterbody is: <small>(check one)</small> <input type="checkbox"/> Natural <input checked="" type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | | |
| Waterbody Quality ^a : <small>(check one)</small> <input type="checkbox"/> High <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Low | | | | |

Waterbody ID:

onok001

^a **High Quality:** Natural, natural bank vegetation around entire waterbody; banks stable and protected by roots; water color is clear to tea-colored; no barriers to fish movement; many fish cover types available; diverse and stable aquatic habitat; no disturbance by livestock or man.

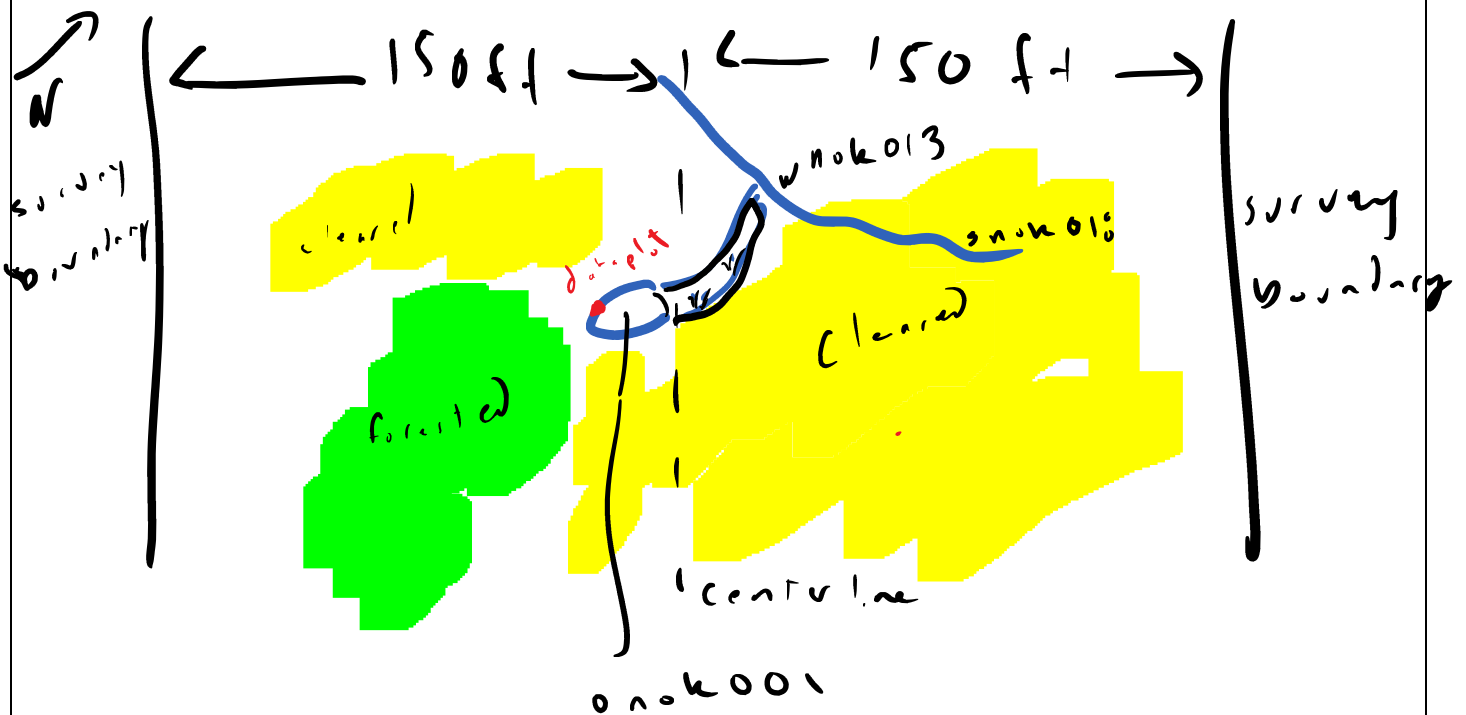
Moderate Quality: Altered by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or bank vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate odor; minor barriers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

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

Notes:

Small highly degraded manmade pond.

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





Waterbody point onok001 facing Southwest



Waterbody point onok001 facing Northwest

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|---|--|--|
| Project Name: Southeast Reliability | | Waterbody Name: WOODY CREEK | |
| Waterbody ID: SNOK019 | | Date: 8/20/2014 | |
| State: Virginia | County: Nottoway | Company: W&C | Crew Member Initials: JS, BG |
| Photos: 100-0113 TO 0115 U D X | | | |
| Tract Number(s): 12-070 | | Nearest Milepost: 237 | Associated Wetland ID(s): WNOK014; wnok016 |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: <u>17</u> ft. Height: <u>1</u> ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input checked="" type="checkbox"/> Shelving <input checked="" type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input checked="" type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input checked="" type="checkbox"/> Abrupt plant community change <input checked="" type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: <u>25</u> ft. | Width of Waterbody - Toe of Slope to Toe of Slope: <u>20</u> ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> <u>10</u> ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> <u>0.5</u> ft. |
| Sinuosity: <i>(check one)</i> <input checked="" type="checkbox"/> Straight <input type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> <u>0.2</u> fps N/A <input type="checkbox"/> | Bank height Right: <u>4</u> ft. Left: <u>3</u> ft. | Bank slope Right: <u>50</u> degrees Left: <u>80</u> degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: <u>NA</u> % <u>NA</u> % <u>NA</u> % <u>20</u> % <u>80</u> % <u>NA</u> % <u>NA</u> % <u>NA</u> % | | | |
| Width of Riparian Zone: N/A <input type="checkbox"/> <u>>100</u> ft. | | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> <u>12</u> in. <u>2</u> in. | |
| Dominant Bank Vegetation <i>(list)</i> : SYCAMORE, SWEET GUM, FLOWERING DOGWOOD, PAWPAW, SMILAX, RIVER BIRCH, GRASSES | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools) RIFFLS, POOLS, BACKWATER, OVERHANGING ROOTS, OVERHANGING VEGETATION, CWD | | | |
| Aquatic Organisms Observed <i>(list)</i> : FROGS, FISH, TURTLES, WIRLY GIGS | | | |
| T&E Species Observed <i>(list)</i> : NA | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): LOGGING IN RIPARIAN ZONE | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input checked="" type="checkbox"/> High <input type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:
SNOK019

^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.

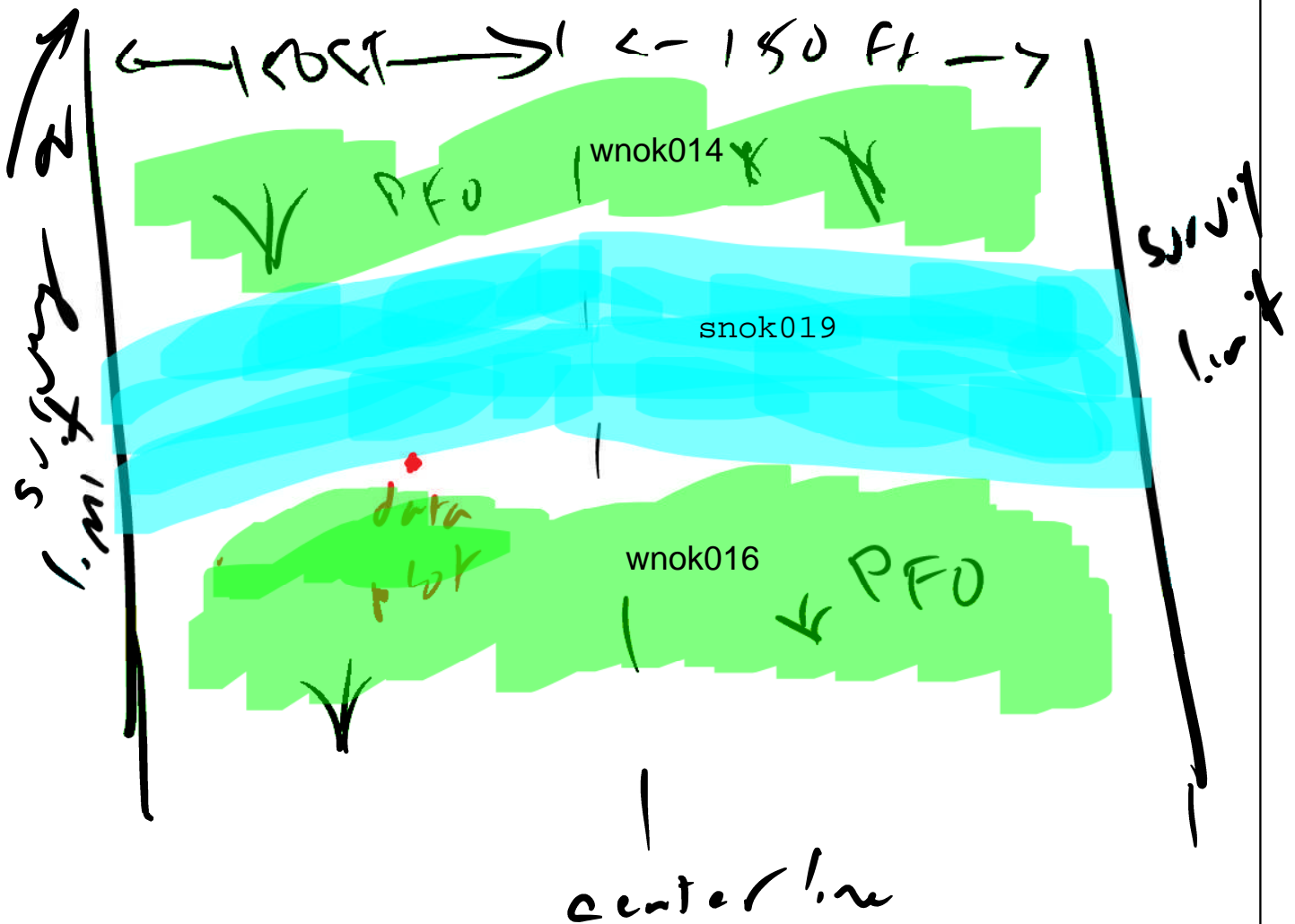
Moderate Quality: Altered channel evidenced by rip-rap; natural vegetation extends 1/3-1/2 of the active channel width on each side; filtering function or riparian vegetation only moderately compromised; banks moderately unstable; water color is cloudy, submerged objects covered with greenish film; moderate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

SMALL PERENNIAL STREAM, SOME BANK EROSION AND SEDIMENTATION, TYPICAL PIEDMONT SMALL STREAM FOREST COMMUNITY

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





Waterbody point snok019 facing Southwest and upstream



Waterbody point snok019 facing Northeast and downstream



Waterbody point snok019 facing Southeast and
across

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|--|---|--|
| Project Name: Atlantic Coast Pipeline | | Waterbody Name: UNT to Watson Creek | |
| Waterbody ID: snoa003 | | Date: 10/21/2014 | |
| State: Virginia | County: Nottoway | Company: NRG | Crew Member Initials: GB, TP |
| Photos: 3 photos | | | |
| Tract Number(s): 12-073 | | Nearest Milepost: 238.2 | Associated Wetland ID(s): none |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: 3.0 ft. Height: 1.0 ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: 9.0 ft. | Width of Waterbody - Toe of Slope to Toe of Slope: 1.5 ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 1.5 ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> 0.15 ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> 0.10 fps N/A <input type="checkbox"/> | Bank height Right: 7.0 ft. Left: 7.0 ft. | Bank slope Right: 85 degrees Left: 90 degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: ___% ___% ___% 5% 65% 25% 5% ___% | | | |
| Width of Riparian Zone: N/A <input checked="" type="checkbox"/> ___ ft. | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> 6.0 in. 1.5 in. | | |
| Dominant Bank Vegetation <i>(list)</i> : Sweetgum, yellow poplar, willow oak, white oak, bitternut hickory, pawpaw, black haw, greenbrier, Christmas fern | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, small pools | | | |
| Aquatic Organisms Observed <i>(list)</i> : snail | | | |
| T&E Species Observed <i>(list)</i> : none | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Logging about 10 years ago | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:

snoa003

^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 begins at a head cut right on edge of corridor; immature mixed hardwoods surrounded by hayfields; snoa004 is a tributary outside corridor

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





SNOA003 facing northeast upstream



SNOA003 facing southwest downstream



SNOA003 facing south across

Linear Waterbody Data Sheet

| Survey Description | | | |
|---|--|--|--|
| Project Name: Atlantic Coast Pipeline | | Waterbody Name: UNT to Watson Creek | |
| Waterbody ID: snoa004 | | Date: 10/21/2014 | |
| State: Virginia | County: Nottoway | Company: NRG | Crew Member Initials: GB, TP |
| Photos: 3 photos | | | |
| Tract Number(s): 12-073 | | Nearest Milepost: 238.2 | Associated Wetland ID(s): none |
| Survey Type: <i>(check one)</i> <input checked="" type="checkbox"/> Centerline <input type="checkbox"/> Re-Route <input type="checkbox"/> Access Road <input type="checkbox"/> Other: | | | |
| Physical Attributes | | | |
| Stream Classification: <i>(check one)</i> <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Perennial | | | |
| Waterbody Type: <i>(check one)</i> <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ditch <input type="checkbox"/> Canal <input type="checkbox"/> Other: | | | |
| OHWM Width: 3.0 ft. Height: 1.0 ft. N/A <input type="checkbox"/> | | OHWM Indicator: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Clear line on bank <input type="checkbox"/> Shelving <input type="checkbox"/> Wrested vegetation <input checked="" type="checkbox"/> Scouring <input type="checkbox"/> Water staining <input type="checkbox"/> Bent, matted, or missing vegetation <input checked="" type="checkbox"/> Wrack line <input checked="" type="checkbox"/> Litter and debris <input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Soil characteristic change | |
| Width of Waterbody - Top of Bank to Top of Bank: 9.0 ft. | Width of Waterbody - Toe of Slope to Toe of Slope: 1.5 ft. | Width of Waterbody - Water Edge to Water Edge: N/A <input type="checkbox"/> 1.5 ft. | Depth of Water: <i>(Approx.)</i> N/A <input type="checkbox"/> 0.15 ft. |
| Sinuosity: <i>(check one)</i> <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering | Water velocity: <i>(Approx.)</i> 0.10 fps N/A <input type="checkbox"/> | Bank height Right: 7.0 ft. Left: 7.0 ft. | Bank slope Right: 85 degrees Left: 90 degrees |
| Qualitative Attributes | | | |
| Water Appearance: <i>(check one)</i> <input type="checkbox"/> No water <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Sheen on surface <input type="checkbox"/> Surface scum <input type="checkbox"/> Algal mats <input type="checkbox"/> Other: | | | |
| Substrate: <i>(check all that apply)</i> % of Substrate: ___% ___% 5% 10% 60% 20% 5% ___% | | | |
| Width of Riparian Zone: N/A <input checked="" type="checkbox"/> ___ ft. | Vegetative Layers: <i>(check all that apply)</i> <input checked="" type="checkbox"/> Trees: <input checked="" type="checkbox"/> Saplings/Shrubs: <input checked="" type="checkbox"/> Herbs Avg. DBH of Dominants: <i>(approx.)</i> 6.0 in. 1.5 in. | | |
| Dominant Bank Vegetation <i>(list)</i> : Sweetgum, yellow poplar, willow oak, white oak, bitternut hickory, pawpaw, black haw, greenbrier, Christmas fern | | | |
| Aquatic Habitats (ex: submerged or emerged aquatic vegetation, overhanging banks/roots, leaf packs, large submerged wood, riffles, deep pools): Leaf packs, small pools, some small wrack piles | | | |
| Aquatic Organisms Observed <i>(list)</i> : none | | | |
| T&E Species Observed <i>(list)</i> : none | | | |
| Disturbances (ex: livestock access, manure in waterbody, waste discharge pipes): Logging about 10 years ago | | | |
| Tributary is: <i>(check one)</i> <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial, man-made <input type="checkbox"/> Manipulated | | | |
| Stream Quality ^a : <i>(check one)</i> <input type="checkbox"/> High <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Low | | | |

Waterbody ID:

snoa004

^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 begins at a head cut in northern 1/4 of corridor and continues out where it flows into snoa003; immature mixed hardwoods surrounded by hayfields.

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





SNOA004 facing west upstream



SNOA004 facing east downstream