



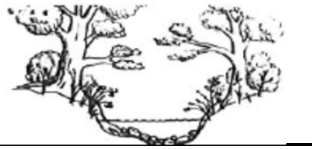
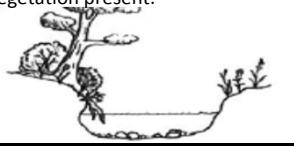
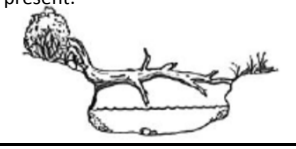




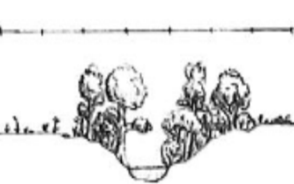



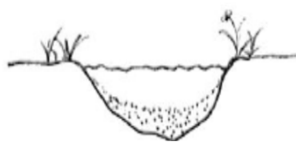


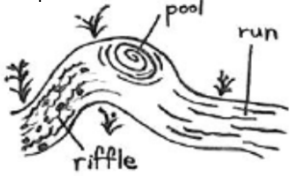


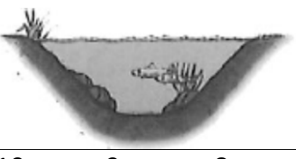
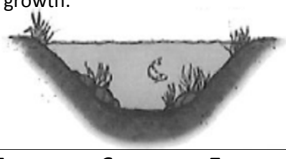

WATER QUALITY FORUM ADOPT-A-STREAM: Stream Walk Form

| | | | | | | |
|--|--|---|--|--|---|---|
| SITE INFO | Group Name: _____ Event Date: _____ Stream Name: _____ Location: _____ Volunteers Conducting Stream Walk: _____ _____ | | | | | |
| WEATHER | Past 24 Hours (check all that apply) <input type="checkbox"/> Heavy Rain <input type="checkbox"/> Steady Rain <input type="checkbox"/> Rain <input type="checkbox"/> Overcast <input type="checkbox"/> Cloudy <input type="checkbox"/> Clear/Sunny | | | Amount of rain, if known? Amount in inches: _____ In last 24 hours: _____ <small>*Refer to wunderground.com for rainfall data</small> | | |
| Water Appearance | Flow/Water Level: <input type="checkbox"/> Dry <input type="checkbox"/> Stagnant/Still <input type="checkbox"/> Low <input type="checkbox"/> Normal <input type="checkbox"/> High <input type="checkbox"/> Flood (over banks) Water Clarity: <input type="checkbox"/> Clear/Transparent <input type="checkbox"/> Cloudy/Somewhat Turbid <input type="checkbox"/> Opaque/Turbid <input type="checkbox"/> Other: _____ Water Color: <input type="checkbox"/> No Color <input type="checkbox"/> Brown/Muddy <input type="checkbox"/> Green <input type="checkbox"/> Milky/White <input type="checkbox"/> Tanni <input type="checkbox"/> Other: _____ Water Surface: <input type="checkbox"/> Clear <input type="checkbox"/> Oily sheen: Does it break when disturbed? Yes? No (circle one) <input type="checkbox"/> Algae <input type="checkbox"/> Foam <input type="radio"/> Greater than 3" high <input type="radio"/> Is it pure white? <input type="checkbox"/> Other: _____ Water Odor: <input type="checkbox"/> Natural/None <input type="checkbox"/> Gasoline <input type="checkbox"/> Sewage <input type="checkbox"/> Rotten Egg <input type="checkbox"/> Fishy <input type="checkbox"/> Chlorine <input type="checkbox"/> Other: _____ Trash: <input type="checkbox"/> None <input type="checkbox"/> Yes, I did a cleanup | | | | | |
| PHOTOS | Photos: Please take images to document your observations and changes in water quality conditions. Images can be submitted with your data. | | | | | |
| OTHER | Hazards <input type="checkbox"/> Steep Bank <input type="checkbox"/> Trash <input type="checkbox"/> Fast Current <input type="checkbox"/> Other <input type="checkbox"/> None | Security <input type="checkbox"/> Drug Use <input type="checkbox"/> Vagrancy <input type="checkbox"/> Animals <input type="checkbox"/> Other <input type="checkbox"/> None | Sources of Bacteria <input type="checkbox"/> Dog <input type="checkbox"/> Human <input type="checkbox"/> Goose <input type="checkbox"/> Livestock <input type="checkbox"/> Other <input type="checkbox"/> None | Barriers to Fish Movement <input type="checkbox"/> Incised Culvert <input type="checkbox"/> Dam <input type="checkbox"/> Narrow Culvert <input type="checkbox"/> Other <input type="checkbox"/> Channelization <input type="checkbox"/> None | | |
| OUTFALLS | Presence of Outfalls <input type="checkbox"/> Culvert <input type="checkbox"/> Other <input type="checkbox"/> Drain <input type="checkbox"/> None <input type="checkbox"/> Pipe <div style="border: 1px solid black; padding: 2px; width: fit-content; margin-top: 5px;"> Diameter _____ in. </div> | Condition of Outfalls <input type="checkbox"/> Eroded or Undercut <input type="checkbox"/> Trash/Debris Present <input type="checkbox"/> Cracked or Damaged <input type="checkbox"/> Clogged <input type="checkbox"/> Clear <input type="checkbox"/> Invasive vegetation, leaves, debris | Presence of Flow after 2 Days of Dry Weather? <input type="checkbox"/> Yes <input type="checkbox"/> No | STREAM WIDTH | Bank Full Width (width from the top of bank to the other) <div style="border: 1px solid black; width: 80px; height: 30px; margin: 5px auto; text-align: center;"> _____ ft. </div> | Active Channel Width (width of the water in the stream) <div style="border: 1px solid black; width: 80px; height: 30px; margin: 5px auto; text-align: center;"> _____ ft. </div> |
| Please send data forms to your Adopt-A-Stream Contact | | | | | | |
| City of Knoxville John Shubzda jshubzda@cityofknoxville.org 865-215-4134 | | Knox County Stephanie Carlson adoptastream@knoxcounty.org 865-215-5540 | | Town of Farragut Lori Saal lsaal@townoffarragut.org 865-966-7057 | | |
| City of Oak Ridge Amy Snyder stormwater@oakridgetn.gov 865-425-3497 | | University of Tennessee Garret Ferry stormwater@utk.edu 865-805-4007 | |  | | |

Stream Walk cont.

Stream condition is evaluated looking upstream and downstream, and includes: channel bottom materials, streamside vegetation, slope, and other channel characteristics. You may choose a value between 1 and 10 for each parameter. **All measurements should be taken during baseflow conditions. Stream reach is defined as 12 times stream width, as measured from top of bank.**

| Parameter | Excellent ----- Poor | | | | | | | | | | |
|---|---|--|--|---|--|--|---|--|--|-------------------|---|
| 1. Channel Condition | No evidence of channelization (straightening) or alterations such as dredging, agriculture, concrete banks or construction activities  | | | Some Evidence of channelization and/or alterations such as dredging, agriculture, concrete banks or construction activities. Or full recovery from any alteration.  | | | Most of the stream reach channelized and/or many alterations present such as dredging, agriculture, concrete banks or construction activities.  | | | What did you see? | |
| Is the stream channel altered by humans? | | | | | | | | | | 10 | 9 |
| 2. Bank Stability | Bank stable; erosion, scouring, undercutting or bank failure absent or minimal. Vegetation overhanging the stream is abundant.  | | | Bank moderately stable: evidence of small areas of erosion, undercutting and scouring, or bank failure present. Moderate amounts of overhanging vegetation present.  | | | Bank unstable: many eroded and scoured areas with undercutting; bank failure present; steep banks; Little over hanging vegetation present.  | | | What did you see? | |
| How stable are the streambanks? | | | | | | | | | | 10 | 9 |
| 3. Canopy Cover | Most streambank surfaces covered and shaded by a large variety of vegetation (trees, flowering plants and grasses).  | | | Some streambank surfaces covered and shaded by a some variety of vegetation (trees, flowering plants and grasses).  | | | Few streambank surfaces covered and shaded by a little variety of vegetation (trees, flowering plants and grasses).  | | | What did you see? | |
| Are streambanks covered & shaded by a variety of vegetation? | | | | | | | | | | 10 | 9 |
| 4. Riparian Vegetative Zone Width | Buffer present; a large variety of vegetation extends at least three channel widths on each side.  | | | Some buffer present; some variety of vegetation extends two to one channel width on each side. Human activities have impacted buffer.  | | | Little or no buffer present; vegetation extends less than one channel width on each side. Human activities substantially impact buffer.  | | | What did you see? | |
| What is the amount of buffer available? | | | | | | | | | | 10 | 9 |
| 5. Embeddedness | Gravel and cobble are slightly embedded in riffle area.  | | | Gravel and cobble are partially embedded in riffle area.  | | | Gravel and cobble are completely embedded in riffle area.  | | | What did you see? | |
| Are fine sediments being deposited in riffle/run area? | | | | | | | | | | 10 | 9 |

| | | | | | | | | | | | |
|---|--|--|---|--|--------------------------------|--|---|---|---|---|--|
| 6. Macrohabitat What types of submerged materials are on the channel bottom? | Abundant stable habitat cover for colonization by macroinvertebrates and fish; submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks. | Adequate stable habitat cover for colonization by macroinvertebrates and fish; submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks. | Little or no stable habitat cover for colonization by macroinvertebrates and fish; submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks; habitat may move during high flows. | What did you see? Score <input type="checkbox"/> | | | | | | | |
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |
| 7. Riffle/Run/Pool Is a diversity of instream habitats available: riffle, runs, and pools? | Yes, all three (3) habitat types (riffle, run, pool) are present and frequent.  | Two (2) habitat types are present.  | Only one (1) habitat type present and dominant.  | What did you see? Score <input type="checkbox"/> | | | | | | | |
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |
| 8. Nutrient Enrichment How much algae and aquatic plant growth exists in the stream? | Clear water in whole reach; diverse aquatic plant community - low <u>quantity</u> of plants, little algae growth.  | Fairly clear to slightly greenish water in whole reach; some to an abundance of lush green plants; moderate to abundant algae growth.  | Pea green, gray, or brown water in whole reach; dense stands of plants clog stream; severe algae blooms create thick algal mats in stream.  | What did you see? Score <input type="checkbox"/> | | | | | | | |
| | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |
| 9. Instream Fish Cover How many cover types are available for fish? | > 7 cover types available <input type="checkbox"/> logs/large woody debris <input type="checkbox"/> boulders/cobble <input type="checkbox"/> thick root mats <input type="checkbox"/> pools other: _____ | 6 to 7 cover types available <input type="checkbox"/> deep pools <input type="checkbox"/> riffles <input type="checkbox"/> underbanks | 4 to 5 cover types available <input type="checkbox"/> overhanging vegetation <input type="checkbox"/> dense macrophyte beds <input type="checkbox"/> isolated/backwater | 2 to 3 cover types available | None to 1 cover type available | What did you see? Score <input type="checkbox"/> | | | | | |
| | 10 | 7 | 5 | 3 | 1 | | | | | | |

Take two photographs looking upstream and downstream, capturing banks and riparian zone on both sides.

Total _____

Add all scores together and divide by 9 to give you an overall stream score.

Stream Score: Excellent (>7.5) Good (5-7.5) Fair (2.5-4.9) Poor (<2.5) Stream Score _____

Please send data forms and photos to your Adopt-A-Stream Contact

