Stream Survey Data Sheet

(Please forward a copy of the stream survey data, the visual monitoring, litter clean-up, and any optional testing sheets to the NC Stream Watch Coordinator and retain the original for your files.)

Stream location: ______________________________________________________________
County: ______________________________________________________________________
Group: _______________________________________________________________________
Number of Participants: _______________________________________________________

(Optional)
You should select a riffle where the water is not running too fast (ideal depth is 3 – 6 inches), and the bed consists of cobble-sized stones or larger if possible. Try to select a 3-foot square area if possible.

Width of study area:
Pool section _______ Riffle section _______

Depth of study area:
Pool section _______ Riffle section _______

Speed of stream’s flow: ___________ Water Temperature (C) ___________
Sample number ___________ Date ___________ Time ___________

(Required)
Type of Monitoring: _____ visual monitoring
_____ macroinvertebrate count
_____ chemical tests (Please list) __________________________
_____ other (Please list) __________________________

Comments:

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________
Visual Monitoring

(This section is required. A copy should be made and returned to the Stream Watch State Coordinator. Please retain the original for your records.)

**Water appearance:**
- scum ____________
- foam ____________
- muddy ____________
- clear ____________
- tea ____________
- milky ____________
- color sheen (oily) ___
- brownish __________
- other ____________

**Stream bed coating:**
- orange to red _____
- yellowish __________
- black ____________
- brown ____________
- none ____________

**Odor:**
- rotten egg _____
- musky ________
- other ________
- none ________

**Bank cover**
- good cover __________
  (70% -- 100% of bank soil covered by plants, rocks, and logs)
- fair cover __________
  (30% -- 70% of bank covered by plants, rocks, and logs)
- poor cover __________
  (less than 30% of bank soil covered by plants, rocks, and logs)

**Stability of stream bank:**
- Bed sinks beneath your feet in:
  - _____ no spots
  - _____ a few spots
  - _____ many spots

**Bed composition of riffle:**
- _____ % silt (mud)
- _____ % sand (1/16” – 1/4”)
- _____ % gravel (1/4” – 2”)
- _____ % cobbles (2” – 10”)
- _____ % boulders (> 10” stones)

**Algae color:**
- _____ light green
- _____ dark green
- _____ brown coat
- _____ matted on stream bed

**Algae located:**
- _____ everywhere
- _____ in spots
- _____ % bed cover

- _____ hairy
Land use in watershed:

- homes
- stores
- factories
- farming
- woods
- fields

Are there any discharging pipes? yes no
If so, how many discharging pipes are there?
Did you test above the discharge and below the discharge to determine any changes in water quality and were changes noticed?

Structure causing a water level difference of one foot or more:

- waterfalls
- dams
- beaver dams
- none
- other

Barrier to fish movements:

- waterfalls
- dams
- beaver dams
- none
- other

Comments:
### Macroinvertebrate Count

Use letter codes (A=1 – 9, B=10 – 99, C= 100 or more) to record the numbers of organisms found in a 3 foot by 3 foot area. Then add up the number of letter in each column and multiply by the indicated index value.

<table>
<thead>
<tr>
<th><strong>GOOD</strong></th>
<th><strong>FAIR</strong></th>
<th><strong>POOR</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>caddisfly larvae</td>
<td>beetle larvae</td>
<td>aquatic worms</td>
</tr>
<tr>
<td>dobsonfly larvae</td>
<td>clams</td>
<td>blackfly larvae</td>
</tr>
<tr>
<td>mayfly nymphs</td>
<td>crane fly larvae</td>
<td>leeches</td>
</tr>
<tr>
<td>other snails</td>
<td>crayfish</td>
<td>midge larvae</td>
</tr>
<tr>
<td>riffle beetle adult</td>
<td>damselfly nymph</td>
<td>pouch snails</td>
</tr>
<tr>
<td>stonefly nymphs</td>
<td>dragonfly nymphs</td>
<td></td>
</tr>
<tr>
<td>water penny larvae</td>
<td>scuds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sowbugs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>atherix</td>
<td></td>
</tr>
<tr>
<td>_________________</td>
<td>_________________</td>
<td>_________________</td>
</tr>
<tr>
<td>_____ # of letters</td>
<td>_____ # of letters</td>
<td>_____ # of letters</td>
</tr>
<tr>
<td>times 3 =</td>
<td>times 2 =</td>
<td>times 1 =</td>
</tr>
<tr>
<td>_____ index value</td>
<td>_____ index value</td>
<td>_____ index value</td>
</tr>
</tbody>
</table>

**Now add together the three index values = _____ total index value.**

Compare this total index value to the following numbers to determine the water quality of your stream. Good water quality is indicated by a variety of different kinds of organisms, with no one kind making up the majority of the sample.

| __________ | __________ | __________ |
| EXCELLENT ( > 22) | GOOD (17 - 22) | POOR ( < 11) |

Note: You should test at least 3 different riffles within a 24-foot area to ensure that you have a truly representative sample which includes all key organisms. You may also want to sample some of the rocks in the slower-moving water, nearer the banks, because mayflies and stoneflies are sometimes found there instead.

**Fish:**

- scattered individuals
- scattered schools

**Crayfish:**

- scarce
- abundant
Chemical and Physical Parameters

Collection Date: ___________________________  Monitor Name: ___________________________

Group Name: __________________________________________________________________________

Site name/Location: ____________________________________________________________________

Water temperature (C): _________________  Phosphorous: ____________________ mg/l**

pH: ___________________**  Nitrogen: ________________________ mg/l**

D.O.: _________________ mg/l**  Turbidity: _____________ (meters, units, or JTU's)**

Rainfall: ________________ mm over _________________ time period

Streamflow: ______________ cubic feet/second

** Describe which method or brand of test kit used.
Litter Cleanup

Length of stream cleaned: ___________________  Date: ___________________________

Number of participants: ______________________

Describe % and type of litter in and around the stream: ________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Average number of small and large items collected:

<table>
<thead>
<tr>
<th>paper, small trash</th>
<th>can and bottles</th>
<th>tires, carts, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ 0 - 5</td>
<td>_____ 0 - 5</td>
<td>_____ 0 - 5</td>
</tr>
<tr>
<td>_____ 5 - 10</td>
<td>_____ 5 - 10</td>
<td>_____ 5 - 10</td>
</tr>
<tr>
<td>_____ 10 - 50</td>
<td>_____ 10 - 50</td>
<td>_____ 10 - 50</td>
</tr>
<tr>
<td>_____ more than 50</td>
<td>_____ more than 50</td>
<td>_____ more than 50</td>
</tr>
</tbody>
</table>

Total number of trash bags: ______________________________

Unusual items found: _____________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________