CT-NRCS STREAM SEGMENT SURVEY SHEET

Make all observations facing *DOWNSTREAM*.

NAME(S): _____ **DATE(S)**: _____
PHONE(S) _____ **NAME OF STREAM** _____
DRAINAGE BASIN CODE _____ **SEGMENT CODE** _____

NOTE: Items marked with an asterisk (*) may indicate an area of concern.
Please record specific information on the "Areas of Concern Sheet"

1. DESCRIBE LOCATION AND EXTENT OF SEGMENT (i.e. from ___ to ___). IF POSSIBLE, USE LANDMARKS & ROAD NAMES:

DID YOU SURVEY THIS WHOLE SECTION OF THE STREAM? ❑**YES** ❑**NO,** Which section(s) were not surveyed? Why?

2. HOW WOULD YOU DESCRIBE THIS SECTION OF THE STREAM? CHECK ALL THAT APPLY:
____ Cascade ____ Step-Pool ____ Pool-Riffle ___ Run ____ Glide
____ Steep (slope > 3%) ____ High Gradient (1% ≤ slope ≤ 3%) _____ Flat (slope < 1%)
____ Closely associated with an inland or riverine wetland (bottomland, marsh, meadow, swamp).
____ Flood control or water reservoir area or lake (>5ac.)
____ Piped ____ Channeled ____ Lined (stone, concrete) ____ Other (describe)

3. AVERAGE WIDTH OF THE ACTIVE CHANNEL: _____FT.

4. AVERAGE POOL DEPTH:____FT. AVERAGE RIFFLE DEPTH:____FT. AVERAGE RUN/GLIDE DEPTH:___FT.

5. APPROXIMATE COMPOSITION (%) OF SUBSTRATE MATERIALS (SUM EQUALS 100%):
___ % Silt or Clay (smooth)* ___ % Sand (gritty)* ___ % Gravel (.1-2")
___ % Cobbles (2-10") ___ % Boulders (>10") ___ % Bedrock
___ % Concrete or Riprap ___ % Organic (Plant debris, muck, and shells)

6. RECORD THE NUMBER SEEN:
Impoundments (Small ponds*, Dams*) _____ Discharge pipes* _____

Do you see excessive fine sediment deposits on the streambanks, or sediment deltas originating from storm pipe outlets, tributaries, or overland runoff? ❑**YES*** ❑**NO**
COMMENTS:

7. VISUALLY DESCRIBE WATER CONDITIONS:
___ Clear ____Stained (dark "ice-tea") ___ Turbid* (muddy / silty) ___ Green *
___ Rusty-Red* ___ Yellow-Brown* ___ Foamy* ___ Oil Slicks* ___ Milky*

Are discharge pipes or overland runoff associated with changes in water conditions? ❑YES* ❑NO
COMMENTS:

8. DESCRIBE AQUATIC VEGETATION: CHECK ALL THAT APPLY.

A. ALGAL GROWTH:

____ Everywhere*	____ Floating on surface	____Hairy	____Brown
____ In spots	____ Suspended within the water column	____Scum	____Green
____ Absent	____ Matted on substrate		

B. VASCULAR AQUATIC PLANTS:

____ Everywhere*	____ Submerged Rooted (Elodea, Pondweed)	___ Floating free (duck weed)
____ In spots	____ Submerged free (Coontail, Milfoil)	___ Floating rooted (water lily)
____ Absent	____ Emergent (cattails, rushes)	

Are discharge pipes or overland runoff associated with algal blooms? ❑YES* ❑NO
COMMENTS:

9. STREAMBANK COVER/VEGETATION. CHECK ALL THAT APPLY FOR RIGHT BANK (RIGHT) AND LEFT BANK (LEFT): (the first 15' from the edge of the active channel)

Type	*Few*		*Common*		*Abundant*	
	Right	Left	Right	Left	Right	Left
Conifers (pines, higher than 20 ft.)	____	____	____	____	____	____
Deciduous (oaks/maples, higher than 20 ft.)	____	____	____	____	____	____
Small trees and shrubs (smaller than 20 ft.)	____	____	____	____	____	____
Grasses/Emergent (cattails/rushes)	____	____	____	____	____	____
Natural Rock/Ledge	____	____	____	____	____	____
Lawns *	____	____	____	____	____	____
Artificial (concrete/riprap/walls/buildings) *	____	____	____	____	____	____

10. ARE THE UPPER 2/3 OF STREAMBANK SOILS MOSTLY EXPOSED? ❑YES* ❑ NO

11. ESTIMATE THE AVERAGE UNINTERRUPTED WIDTH OF RIPARIAN VEGETATION:

Right side: ___ <25'* ___ 25-100' ___ >100'
Left side: ___ <25'* ___ 25-100' ___ >100'

12. IMMEDIATELY ADJACENT LAND USES: **Label: 1 = Most 4 = Least**

____ Rural Residential	____ Suburban	____ Agricultural	____ Industrial
____ Urban Residential	____ Forest	____ Commercial	____ Recreational
____ Schools	____ Non Residential Roads		

13. ADDITIONAL COMMENTS OR OBSERVATIONS:

14. AREAS OF CONCERN

Site Number	Type of Concern(s)	Describe Location (Locate & Label on Map)	Description of Site

Site Number: Assign a number to each area of concern you identify starting with the number 1.
Type of Concern(s): Excessive algae growth, barriers to fish passage(dams, culverts above low flows, obstructions higher than 8 inches), litter, sedimentation, streambank erosion, lack of riparian vegetation, discharges (from pipes or channels), channelization or streambank manipulation, etc.
Describe Location: Approximate distance and direction from nearest landmarks (i.e.- roads, buildings, power lines, etc.). Mark and label on the topo map.
Description of Site: Describe conditions - length of eroded streambank, height of streambank, type of dam, height of dam, water conditions, algal growth and large aquatic plant growth, adjacent land uses, potential sources of pollution, etc.

INSTRUCTIONS:

The purpose of this form is to collect information about the overall characteristics of a particular stream segment, and to identify areas of concern. You should aim at surveying the main stem of the stream and all of its **perennial** (flow all year) tributaries.

The minimum length of a stream segment is **1000 feet.** You will complete one stream survey sheet for each stream segment. A stream segment is identified by the physical characteristics of the stream channel and its corridor (gradient, width, depth, substrate materials, stream bank vegetation, channel pattern, etc.). Use questions 2, 3, 4, and 5 as guidelines.

This survey sheet is not intended to identify the physical characteristics of large ponds (>5 acres), lakes, or reservoirs. Such information should be recorded separately.

The State's drainage basin code will be provided. Write the name of the stream as it appears on the topo map. If the stream does not have a name write **unnamed.** Use capital letters in alphabetical order to label stream segments as you survey the stream. Make sure to mark the segments on the topo map. Because the survey may be conducted by canoeing or walking, observations should be recorded facing downstream to maintain consistency.

1. With as much detail as possible describe the location and the extent of the area that is being covered. When possible, use road names or landmarks.

2. Select the statements that best describe this section of the stream. If you do not feel it meets the provided descriptions, describe under *other*.
Cascade: narrow and steep channel, fast turbulent flows, rocky substrate. **Step:** Steep stairway pattern channel, fast turbulent flows, large substrate materials **Riffle:** shallow fast running water, substrate mostly composed of cobble and gravel. **Pool**: slow flowing area, deeper than adjacent areas, but not wide enough to change the character of the stream (not a pond). **Run:** somewhat turbulent and fast flows in low to moderate slopes usually in association with riffle/pool areas. **Glide:** section with smooth flowing deep water, substrate materials tend to have little influence on the flow of surface water.

3. Measure or estimate the average active channel width of the stream. The active channel is the portion of the channel which receives frequent enough flow to influence substrate and prevents the growth of woody vegetation.

4. If the stream can be described as a step pool sequence, then measure or estimate the depth of pools. If it is a pool-riffle sequence, provide the average depth for both pools and riffles. If the stream is classified as a either a run or a glide, provide the average depth of the stream.

5. **Substrate:** the material that makes up the bottom (or floor) of a stream. The composition of the substrate is indicative of stream type and stability as well as fish habitat quality. Visually estimate in percentage the relative proportion of each of the substrate types listed.

6. As you walk downstream keep count of any discharge pipes, small ponds (<5 acres), and dams. At the end of the section record the total numbers observed.

7. Color and clarity of water could indicate water quality concerns in the stream. Also note floating foam or slicks in the water.

8. **Algae** are mostly single cell plants. They can color the water green, and they can grow in colonies which can form long filamentous bodies or can form a mat on the stream's substrate. Algae are usually green and slimy and do not have any visible structural characteristics. **Aquatic vascular plants** are visible to the naked eye and have distinct features such a stems, leaves, and flowers.

9. Understanding streambank cover is important for stream stability and aquatic habitat. Note what is found on the Right and Left bank of the stream.

11. **Riparian** zones are areas adjacent to watercourses. Riparian vegetation refers to the plants that naturally occur in riparian zones. Lawns and mowed areas should not be considered natural riparian vegetation. Estimate the uninterrupted width of riparian **vegetation** on both sides of the stream.

12. Adjacent land uses can influence the water quality of a stream, especially through storm water discharges. Concentrate on describing the land use areas adjacent to the stream. Use 1 for the most abundant land use and 4 for the least.

13. Please make note of any additional observations not noted in the preceding spaces.

14. Areas of concern are sections of stream where the physical characteristics of the stream are indicative of conditions adverse to aquatic life and human uses. The area of concern should affect at least 50 ft of the stream. Use numbers to label every impaired site you identify starting with the number 1.

NOTE: Sewage spills should be immediately reported to town officials. Oil or chemical spills should be immediately reported to DEP at (860) 424-3338.