Current Stream and Weather Conditions

Event Information
Project title:
Location (Stream name, Site name):
Date (mm / dd / yyyy): ____ / ____ / _____

Section A – Weather Conditions

Precipitation (select one)	**Cloud cover** (select one)	**Heavy rain**	**Air temp**
☐ Intermittent rain	☐ 0 %	Has there been a heavy rain in the last 7 days?	___ °C
☐ Light rain	☐ 25 %		
☐ Moderate rain	☐ 50 %		
☐ Heavy rain	☐ 75 %	☐Yes ☐No	
☐ None	☐ 100 %		

Section B – Sediment/Substrate

Sediment odor (select one)	**Sediment deposits** (select one)	**Substrate type** (rank top three, no "ties")
☐ Normal	☐ Sludge	☐ Bedrock
☐ None	☐ Leaf litter	☐ Boulder
☐ Sewage	☐ Sand	☐ Cobble
☐ Petroleum	☐ Relict shells	☐ Gravel
☐ Chemical	☐ Paper/Fiber	☐ Sand
☐ Anaerobic (methane)	☐ Other	☐ Silt
☐ Other		☐ Clay

Section C – Streambank and Riparian Zone Characterization

Canopy cover (select one)	**Riparian zone fully intact?** (select one; within 10 meters)	**Stream bank failure?** (select one; within survey reach)
☐ None	☐ Left descending bank	☐ Left descending bank
☐ Mostly open	☐ Right descending bank	☐ Right descending bank
☐ Mostly shaded	☐ Both banks	☐ Both banks
☐ Shaded	☐ Neither bank	☐ Neither bank

Section D – Aquatic Vegetation

Dominant vegetation type (select all applicable)		**Dominant species**	**Percent of reach with aquatic vegetation** (in terms of area)
☐ Rooted floating	☐ Floating algae		
☐ Rooted emergent	☐ Attached algae		
☐ Rooted submergent	☐ Moss	**Other significant species**	
☐ Free floating	☐ None		___ %

Current Stream and Weather Conditions

Section E – Water Quality		
Water surface oil (select one)	**Water odor** (select one)	**Turbidity** (visual)

Water surface oil (select one)

☐ Slick
☐ Globs
☐ Sheen
☐ Flecks
☐ None
☐ Other _____

Water odor (select one)

☐ Normal/None
☐ Petroleum
☐ Fishy
☐ Sewage
☐ Chemical
☐ Other _____

Turbidity (visual)

_____ **cm**
☐ Clear
☐ Opaque
☐ Slightly turbid
☐ Stained
☐ Turbid

Water temp	____ **°C**	**Turbidity**	____ **mg/L**
Conductivity	____ **uS/cm**	**Flow**	____ **cfs**
Dissolved O$_2$	____ **mg/L**	**Gage height**	____ **ft**
pH	____	**Secchi depth**	____ **m**

Water sample collected (for lab tests)

☐ Yes ☐ No

Hach kit used

☐ Yes ☐ No

Section F – Stream Characterization	

Human influence (select all applicable)

☐ Engineered dam   ☐ Bridge (pillars in stream)
☐ Channelized   ☐ Bridge (no pillars in stream)
☐ Ford   ☐ Pipeline (parallel to stream)
☐ Riprap   ☐ Pipeline crossing
☐ Island   ☐ Pipes (inlet/outlet)
☐ Trash   ☐ Wall/Dike/Revetment
☐ Other _____

In stream cover (select all applicable)

☐ Beaver dam
☐ Blow down
☐ Debris dam
☐ Woody debris
☐ Other

_____

Section G – Watershed Features

Human influence/Watershed features (within survey reach)

Proximity: Mark each applicable feature. **P** (Present) >10m from shore, **C** (Close) <10m from shore, **B** (On bank/stream).
Dominant land use: Mark up to two features. Use **R** or **L** for right or left bank; use **X** for both banks.

Feature	Prox.	Dom.	Feature	Prox.	Dom.	Feature	Prox.	Dom.
Residential building			Mining activity			Row crops		
Non-residential building			Forest			Hay field		
Commercial/Industrial			Logging			Pasture		
Railroad (active)			Park/Lawn			Feed lot		
Railroad (inactive)			Pavement			Old field		
Railroad (rails to trails)			Road			Landfill		

Local watershed erosion (select one; pertains to land use, not failing stream banks)

☐ None   ☐ Light   ☐ Moderate   ☐ Heavy

Section H – Notes

_____
_____
_____

Current Stream and Weather Conditions

Event Information

Project title – Enter the project title, corresponding with that on the Mussel Survey Scope of Work Summary Sheet Protocol Form.

Stream name – Enter name of stream.

Site name – Enter the name of the site.

Date – Enter date in mm/dd/yyyy format.

Section A – Weather Conditions

Precipitation – Select <u>one</u> option that reflects current precipitation conditions.

Cloud cover – Select <u>one</u> option that reflects current cloud cover.

Heavy rain – Select whether precipitation in the past week was sufficiently heavy to create runoff.

Air temp – Enter current air temperature in °C.

Section B – Sediment/Substrate

Sediment odor, Sediment deposit – Select <u>one</u> option that best reflects the presence of odors and deposits using criteria established in the EPA manual, Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers, Sections 5.1.11.

Substrate type – Rank the top three most common substrate components, with 1 being dominant. Pebble sizes are based on Wentworth categories.

Section C – Streambank and Riparian Zone Characterization

Canopy cover – Select <u>one</u> option that best reflects the proportion of open to shaded area.

Riparian zone fully intact – Select whether the riparian zone within 10 meters of your survey reach or station is fully intact.

Stream bank failure – Select whether there is stream bank failure in your survey reach or station.

Section D – Aquatic Vegetation

Dominant vegetation type – Select <u>all</u> options that reflect the general type(s) of estimated dominant vegetation.

- **Rooted emergent –** plants that are rooted in the substrate and rise above the water surface (e.g., cattails)
- **Rooted submergent –** plants that are rooted in the substrate and only grow beneath the water's surface (e.g., curly pondweed)
- **Rooted floating –** plants that are rooted in the substrate with tops floating on the surface (e.g., water lilies)
- **Free floating –** plants that are not rooted and float on the water's surface (e.g., duckweed)
- **Floating algae –** algae that are not attached to the substrate and float on or near the water's surface
- **Attached algae –** algae that are attached to the substrate (e.g., green rocks)
- **Moss –** moss or bryophytes covering rocks (e.g., carpeted stream bottom)
- **None –** there is no dominant vegetation

Dominant species – Record the dominant species.

Other significant species – Record any other significant species.

Percent of reach with aquatic vegetation – Estimate the percent of the reach that contains the dominant species.

Current Stream and Weather Conditions

Section E – Water Quality

Water surface oil, Water odor – Select <u>one</u> option that best reflects the presence of oils and odors using criteria established in the EPA manual, Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers, Sections 5.1.10.

Turbidity (visual) – Record estimated visual depth in cm. Select <u>one</u> option that best reflects water turbidity.

Water temp (°C), Conductivity (uS/cm), Dissolved O_2 (mg/L), pH, Turbidity (mg/L), Flow (cfs), Gage height (ft) – Record values in the units listed. Take readings according to manufacturer instructions for the meter used.

Secchi depth – Lower the Secchi disc in the water until black and white cannot be distinguished. Raise the disc to the point at which you can again distinguish black and white. Record this depth to the nearest 0.01 m.

Water sample collected – Select whether a water sample was collected for analysis.

Hach kit used – Select whether a Hach kit was used.

Section F – Stream Characterization

Human influence – Select <u>all</u> options that are present at the site. These refer to any man-made structure, object, equipment, or activity that occurs or has occurred within the stream channel.

In stream cover – Select <u>all</u> options that are present at the site. These refer to "natural" in stream occurrences that may affect stream morphology and provide cover for aquatic organisms.

- **Debris dam –** complete obstruction of the stream channel created primarily by natural materials
- **Blow down –** recent fallen tree or large limb that can potentially affect stream morphology and provide cover for aquatic organisms
- **Beaver dam –** debris dam engineered by beavers
- **Woody debris –** wood pieces that can influence aquatic organism cover and stream morphology

Section G – Watershed Features

Human influence/Watershed features – Mark <u>each</u> influence/feature that is within your survey reach or can be seen directly from your survey area. Indicate up to two dominant land uses.

- **Proximity –** Mark each influence/feature at the site with "P", "C", or "B"; leave absent influences/features blank
    - **P –** Present in the riparian zone, but >10 m from shore
    - **C –** Close to the riparian zone (<10 m from shore), but not in stream or on bank
    - **B –** On the bank (located in the stream or on the stream bank)
- **Dominant land use –** Mark <u>up to two</u> influences/features that are dominant
    - **R –** Dominant feature is on the right descending bank
    - **L –** Dominant feature is on the left descending bank
    - **X –** Dominant feature is on both banks

Local watershed erosion – Select <u>one</u> option that indicates the erosion extent resulting from the above human influence(s). This does not refer to failing banks (e.g., cattle feedlot – high erosion).

Section H – Notes

Include any important notes about the current stream and weather conditions.