

Habitat Data Sheet

Reproduce for use

The Habitat Survey links the physical characters of the stream and the surrounding land use to the macroinvertebrate survey results. There are two major factors that influence macroinvertebrate presence and absence: the overall water quality and the amount of available suitable habitat. Therefore, poor availability and poor quality of habitat features could influence the biotic index score since habitat and macroinvertebrate diversity are closely linked. The presence of poor habitat is considered one of the major stressors on aquatic communities.

The habitat survey should be completed at the start of the monitoring period - near the time that the leaf packs are placed in the stream. If average stream width, average stream depth, stream velocity, and stream discharge are to be determined, complete sections 12-15 before the leaf packs are placed in the stream.

Definitions:

Survey Stream Reach: the total length of stream that is included in the survey. The recommended length is approximately 15-meters upstream and 15-meters downstream from the leaf pack placement location, for a total of 30-meters.

Right and Left Bank: determined by looking downstream with the flow of the stream. The right bank is on the right and left bank on the left.

See the Glossary for unfamiliar terms.

IN-STREAM CHARACTERISTICS

This section is a survey of what attributes occur within the stream - not on the banks or in the riparian zone.

1A. Stream Habitats Present Enter the relative percentages for each category to total 100%.

_____ Pools _____ Riffles _____ Runs _____ Cascades _____ Log Steps _____ Boulder Steps

1B. Submerged Stream Habitats Present Check all that apply

Woody Debris Leaves Aquatic Plants Submerged Roots

2. Stream Bottom Mineral Composition Check all that apply

Cobbles (2.5 - 10" or 6.4-25.6 cm diameter) Boulders (>10" or 25.6 cm) Fine Sediment and Silt Gravel (0.08-2.5" or 0.02-6.4 cm diameter) Bedrock Other: _____

3. Water Appearance Check all that apply

Clear Turbid Foamy Oily Sheen Algae Colored [describe]: _____

4. Human and Hydrologic Modifications to Stream Channel Check all that apply

None Cement Rip Rap Pipe or Ditch Entering Stream

Upstream or Downstream from the packs? (Circle One)

Bridge Upstream Downstream Dam Upstream Downstream Beaver Dam Upstream Downstream

5. Presence of Litter in Stream or on Banks Check all that apply

None Tires Cans Plastic/Glass Bottles Other: _____

STREAMBANK CHARACTERISTICS

The streambank is the area of land immediately adjacent to the bed of the stream. It is important to maintaining the health of the waterway.

6. Percent of Streambank Covered by Vegetation (grass, shrubs, trees, etc.) Check the appropriate category for each bank.

Left Bank 0% (bare soil) <20% 20-50% >50%

Right Bank 0% (bare soil) <20% 20-50% >50%

7. Bank Slope (or Grade) Check the appropriate category for each bank

Left Bank <6% >6% **Right Bank** <6% >6%

To determine the slope or grade of a stream bank:

1. Have two people stand 100 feet apart and face one another; one uphill or further from the stream and one downhill, closer to the stream.
2. Have the person who is uphill hold a flat surface (e.g. notebook or clipboard) at horizontal sight level and look in the direction of the downhill person. If the uphill person can see any part of the downhill person's body, the slope is rated at less than 6%. If no part of the downhill person's body is visible, the rating is greater than 6%.

RIPARIAN ZONE

The riparian zone is the area of land immediately next to the stream and begins at the edge of the streambank. If vegetated, this zone is also called a streamside forest or buffer, and is a critical component to keeping a stream healthy. The trees, shrubs, and herbaceous plants stabilize the stream banks with their roots, provide shade to keep streams cool, and filter pollution within runoff.

8. Vegetation in the Riparian Zone Explore 30 meters from the stream edge into riparian zone of the left bank and the right bank. Check all that apply.

Left Side No Vegetation Grass Herbaceous Shrubs Trees

Right Side No Vegetation Grass Herbaceous Shrubs Trees

9. Width of the Riparian Zone within the 30 Meter Stream Reach Use a meter tape measure to determine the minimum and maximum width of the riparian zone within the 30-meter stream reach for both the left bank and the right bank.

						Minimum Width [m]	Maximum Width [m]
Left Side	<input type="checkbox"/> No Forest	<input type="checkbox"/> Forest (>5m tall; >40% interlocking canopy; >20% deep)	<input type="checkbox"/> Forest is: (Mostly evergreen)	<input type="checkbox"/> Forest is: Mostly deciduous		_____	_____
	<input type="checkbox"/> No Forest	<input type="checkbox"/> Forest (>5m tall; >40% interlocking canopy; >20% deep)	<input type="checkbox"/> Forest is: (Mostly evergreen)	<input type="checkbox"/> Forest is: Mostly deciduous		_____	_____

LAND-USE CHARACTERISTICS

The types of land use in an area surrounding a stream contributes greatly to the health of a waterway. From agricultural uses to forests, commercial spaces to wetlands, it is important to know how the land is being used in the stream reach and in the greater watershed. The questions in this section only begin to scratch the surface of this understanding, but the process of identifying what might be playing a factor in your leaf pack monitoring result is a start.

Describe the main land use within the 30 meter reach area – 15 meters upstream and 15 meters downstream from the leaf pack location.

10. Current Land use Observed from the Leaf Pack Location Check all that apply

- | | | |
|--|--|---|
| <input type="checkbox"/> Row Crop [in growing season] | <input type="checkbox"/> Parks and Recreation | <input type="checkbox"/> Mowed Lawn |
| <input type="checkbox"/> Row Crop [non-growing season] | <input type="checkbox"/> Sewage Treatment Plant | <input type="checkbox"/> Active Construction |
| <input type="checkbox"/> Pasture with animals | <input type="checkbox"/> Forest | <input type="checkbox"/> Residential/Commercial |
| <input type="checkbox"/> Meadow | <input type="checkbox"/> Resoration Area [tree planting] | <input type="checkbox"/> Industrial |
| <input type="checkbox"/> Hay Field | <input type="checkbox"/> ATV Trails | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Trails | |

11. Percent of Impervious Surfaces Observed from the Leaf Pack Location Check all that apply

- <20% 20-50% >50%

ADDITIONAL INFORMATION ABOUT YOUR STREAM

Simple measurements provide important supplemental information about the available habitat and size of the stream. Complete Activity 2 Determining Stream Discharge before placing any leaf packs in the stream to obtain the average stream width, stream depth, stream velocity and stream discharge.

12. Average Stream Width (m) _____

13. Average Stream Depth (m) _____

14. Stream Velocity (m/s) _____

15. Stream Discharge (m³/s) _____