Algae Sampling in Wadeable Streams and Rivers (Rock Scrapings)







Collecting Rocks:

- Identify stream reach that is 10x the stream width or 30m in length (whichever is less).
- Identify 6 transects through riffles and runs in sunny areas and randomly select 3 cobble-sized rocks along each transect (stratified random locations on right, middle and left side of channel) for a total of 18 rocks.
- Avoid backwater areas and areas close to stream banks.
- *If the stream is very wide, then identify 3 transects and collect 6 cobble-sized rocks along each transect for a total of 18 rocks.*
- *If the stream is narrow, walk upstream in a zigzag pattern and collect 18 rocks along the way.*
- *If cobble-size rocks are hard to find, then try to find boulders or branches. If necessary, more than one sample can be taken from a large boulder or branch.*

Scraping Rocks:

- Store rocks in large white sample tray.
- Clean all brushes, sample trays, and neoprene rings with stream water.
- Pick up rock and hold it over second, white sample tray.
- Place black, rubber ring over top of rock and hold firmly in place to define the area to be sampled.
- Brush area within the circle with a wire brush (if algae is very thick use a metal scrapping tool first).
- **The goal is to get all the algae within the circle without getting algae from outside the circle.**
- **Do not place rocks or rubber circles in white tray. Only the brush and algae can go in the tray.**
- Hold rock upside down and rinse area within circle using a squirt bottle filled with tap water. Use enough water to rinse thoroughly while also minimizing the final sample volume.
- Rinse tools with squirt bottle and collect sample in white sample tray.
- Repeat process for other rocks and composite all rock scrapings in the white sample tray.

Final Steps:

- Transfer sample from white sample tray(s) to graduated beaker.
- If the sample volume is more than 250 mL, then pour the first 250 mL of the sample from the beaker into a brown, wide-mouth, nalgene sample bottle (usually 500 mL or 1 L) and then fill the beaker again.
- Add tap water to beaker until there is a multiple of 50 mL (e.g. 100 mL, 150mL), pour sample into sample bottle, and record the total volume on the field sheet.
- **Label bottle with date, stream name, town, location, type of sample (rock), number of rocks, and volume.**
- Preserve with M3 using chart below (be sure to wear gloves). You can add a little more to samples with lots of algae, sand, or detritus.

Sample volume (mL)	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1 L
M3 Preservative (mL)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	20

For further information, please refer to the Biomonitoring Homepage at:
http://www.maine.gov/dep/blwq/docmonitoring/biomonitoring/index.htm
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