Phytoplankton Monitoring Instructions

Kachemak Bay Research Reserve

Last updated April 2016

Plankton Tows: (Qualitative Analysis)

1. Make sure sample bottle has label. Fill in all blanks, easier to write when not wet.
2. Attach 125mL sample bottle with label to cod-end of (20 µm mesh) plankton net.
3. Lower net into water.
4. Fill sample bottle with water so there are no air bubbles in the sample bottle or net.
5. Tow net horizontally for THREE MINUTES, "porpoising" the net up and down between the surface and approximately 3 feet down, as you tow.
6. After pulling the net out of the water, wash plankton into bottle using another vessel, or by jiggling net back and forth to force plankton down into bottle. IMPORTANT: if using another vessel, wash only the outside of the net!
7. Detach 125mL sample bottle from net.
8. Use plastic calibrated pipette to add 2.5mL lugols solution to the 125mL bottle. Do not use the pipette you use for salinity with the refractometer.
9. Cap 125mL sample bottle.
10. Clean equipment thoroughly with fresh water to avoid contamination of future samples, as well as salt water damage to equipment.
11. Hang plankton net to dry.
12. Store equipment carefully between samples.

Sample Transportation

If you are not reading the sample yourself, get samples to KBRR as soon as possible. KBRR is located at 2181 Kachemak Drive. There is a small black drop box on the railing if you come after hours. If sending sample via water or air taxi please write our name and number on the outside of the plastic bag that you put the sample in. Since samples are preserved, bottles do not need to be kept cool.

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Air Temperature (Do this first before water temperature)

1. Take air temperature out of direct sunlight for at least 60 seconds.
2. Hold thermometer at top, not bottom.
3. Read at eye level.
4. Read temperature to nearest 0.5 degree C.

Water Temperature

1. Immerse the thermometer in the water for at least 60 seconds in the same area of the sample collection.
2. Read the temperature promptly as it will change quickly once in the air.
3. Hold thermometer at top, not bottom.
4. Read at eye level.
5. Read temp to nearest 0.5 degree C.
   IMPORTANT: Do not take temperature from sample bottle.

Salinity

1. If using the same pipette to read salinity for different samples, rinse the pipette with the new sample 3 times to remove the previous sample. Do not use the lugols solution pipette (marked with yellow tape) as it will affect the reading.
2. Wipe the prism clean with lens paper or a soft cloth.
3. Hold the refractometer at an angle, so the face of the prism is horizontal.
4. Open the cover; fill the prism with 5-6 drops of the sample.
5. Close the cover; look through the cover and make sure the sample covers the entire prism. If there are bubbles or gaps on the prism, the reading will not be accurate.
6. Hold the refractometer up to the brightest light.
7. Look through the eyepiece; if the scale is not in focus, adjust it by turning the focusing ring.
8. Read the right side of the scale where the blue and white boundaries meet (scale from 0 to 100). Read salinity to the nearest 1 ppt.
9. After recording the salinity, clean the sample from the prism using fresh water and a cloth that won't scratch the prism.

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