

**Procedures for Russian River Bacteriological Sampling – Summer 2007**  
**(Revised May 22, 2007)**

Preparing To Go

1. Call the analytical laboratory if the sampling day needs to be changed. I have told the lab that sampling will be done on Tuesday of each week, with samples being dropped off by 3:00 p.m., unless we notify them otherwise.
  - a. Our routine samples will be analyzed by the Sonoma County Health Department Laboratory at 3313 Chanate Road (across the parking lot from Sutter Hospital). Our contact there is Carol Dubay 565-2711.
2. Check your supply of sampling containers. For our routine weekly sampling, sampling containers should be picked up at the Sonoma County Health Department Laboratory. We should be picking up sample bottles from the lab when we are there dropping off samples.
3. Sign out a vehicle at least a week ahead. Jeeps work well for this type of sampling.
4. Check field supplies to make sure you have everything on the attached list.

Pre-Sampling Routine (day of sampling)

1. Put blue ice (or ice in heavy bags or frozen water bottles) in ice chest. There should be sufficient ice to keep samples cold for 4 or 5 hours in a hot vehicle.
2. Calibrate Datasonde and record calibration results on calibration record sheet.
3. Bring a cell phone so that you can phone into the office if you have any problems or questions. John Short keeps our Unit cell phone in his office. If it is not available, you may check out a cell phone from Janet Mahoney. When you sign out on the Sign-Out Board, identify the cell phone number so that you can be reached if needed.

In the Field

1. We will sample six sites this summer: Camp Rose, Healdsburg Memorial Beach, Steelhead Beach, Sunset Beach, Johnson's Beach and Monte Rio. These are identified on the maps in my clipboard. We sample at the same spot on each beach every week.
2. Bring the ice chest, Datasonde, bacti sampling bottle and turbidity container to the sampling location. **The bacti sample must be put in the ice chest immediately after it is collected.**

3. As soon as you get to your sampling spot, set the thermometer out in a shady spot (off the ground) to record the air temperature. Record observations on the field sheet (how many swimmers/bathers, presence of ducks, birds or dogs in or above water, dirty diaper on bank, algae, etc.)
4. Two containers need to be filled at each sampling site: bacti container and turbidity container.

Enter the water walking slowly upstream so that you minimize disturbance of sediment. By walking upstream at an angle to the stream bank, small amounts of disturbed sediment should flow downstream if the water is flowing. In impounded areas, any disturbed sediment will move in all directions. You must be watching so that you don't dip your sample into an area with disturbed sediment.

- a. The sampling containers for collecting the bacti samples are specially prepared so that they are aseptic. The container must be handled carefully so that your fingers don't touch the rim or interior of the container.

To sample, you should be facing upstream. The goal of the sampling technique that follows is to avoid sampling the surface film of the water. Remove the lid of the bacti container and hold the bacti container comfortably in your hand with the opening of the container pointed down. The container is dipped down and up in a smooth sweeping arc through the water column against the direction of the flow.

When this is done correctly, the container is submerged approximately 9 inches below the water column before it comes back up. If the water depth is too shallow then sample midway between the surface and bottom and avoid stirring up bottom sediments. The sampling container should be filled to the 100 ml line on the bottle. You can have more, but not less water. The bottle should have approximately  $\frac{1}{2}$  " to 1" of air space. Carefully put the lid back on the container making sure that is completely sealed.

Place the container in a clean plastic bag and store the container on ice in the ice chest for transport to the laboratory.

- b. Fill the turbidity container after rinsing it with river water.
5. Put bacti sample in ice chest.
6. Record the Datasonde readings (water temperature, dissolved oxygen, pH, conductivity) on the field sheet.
7. At the first sampling site, pour the contents of the field sampling container into the bottle marked "REP". You will use this water at the end of your sampling day to check the calibration of the pH stick and conductivity meter.

### Post-Sampling Routine

1. Deliver samples to the laboratory. Fill out one lab slip for each sample. The Sonoma County Health Department and our contract lab use different lab slips.

If samples are analyzed through our contract laboratory a Chain of Custody form must also be filled out following the attached example. When you drop the samples off at the lab, sign it, the lab tech will sign it and return the original to you. A copy of the Chain of Custody form must be faxed to Robert Butler at Sequoia Analytical (fax number 792-0342). Make a Xerox copy of the Chain of Custody, write the cost of sampling on it and give it to Lynda Dougherty at our office.

2. Calibrations. Perform a post-calibration check of the Datasonde when you return to the office.

Note: More procedural details are available in “Protocol For Conducting Russian River Bacteriological Sampling At Summer Recreational Beaches”, revised July 29, 1999