1. Filter water and freeze filters for each site:
   * 1 GF/F for chlorophyll (store in labeled foil packet)
   * 1 GF/F for phycocyanin (store in labeled foil packet)
   * 1 GF/F filter for toxin analysis (PELL)
   * 2 x 40 ml GF/F filtrate for nutrients
   * 1 GF/F Syringe filter + 40 ml filtrate + 40 ml whole water frozen for toxin analysis - water should be stored in sample-triple-rinsed polypropylene tubes at -20˚C – will be sent to Loftin lab for toxin analysis (LC/MS). VWR 50-ml centrifuge tubes are correct plastic type.
   * Blanks for high-res mass spec: run DI water through GF/F syringe filter + 40 ml filtrate + 40 ml whole water frozen for analysis in the same way as toxins above (we do not need replicates- just one sample for each day of sampling)
   * 0.2 µm filters for 16s, metagenomics, and qPCR – 4 filters per site. Store in 2-ml screw top centrifuge tubes. Label with pre-printed cryolabels.
2. Preserve phytoplankton
   * Lugol’s for microscopy
     + 10 ml whole water in 15 ml opaque tube with 100 µl lugol’s solution added
   * Glutaraldehyde-pluronic followed by slow freezing in the -80 for flow cytometer:
     + To a 15 ml opaque centrifuge tube, add:
       1. 50 µl 25% glutaraldehyde (final concentration 0.25%)
       2. 5 µl 10% pluronic F-68 (final concentration 0.01%)
     + Add 4.95 ml sample (lake water or culture)
     + Gently mix sample by inverting three times
     + Slow freeze by putting tubes inside a Styrofoam cooler inside the -80˚C freezer for 90 minutes.
     + Remove tubes from the Styrofoam cooler and put back into the -80˚C freezer for long term storage.
3. Water for nutrients
   * Freeze water for nutrients (2 x 40 ml in a labeled 50 ml tube). This water will also serve as whole water sample for our in-house toxin analysis.
4. Read water on Turner fluorometer and record on fluorometry record sheet.
   * Turbidity
   * Phycocyanin
   * Chl-a (in vivo)
5. Preserve zooplankton samples for meta-barcoding.
   * For one of the two replicate zooplankton samples from each site, filter the zooplankton sample to remove as much liquid as possible and re-preserve in 95% ethanol. Use 95% ethanol to rinse zooplankton sample into glass (do not add glycerol for DNA sample). Record site, date, tow depth and number of tows, and net size on a small piece of card stock in pencil and add to the scintillation vial. Label vial top with site and date.