Best practices for citizen-based aquatic sampling during COVID – a community compilation

This list of best practices has been compiled by Jill Carr (MassBays) and Kris Stepenuck, PhD (UVM), with extensive input from the greater citizen science community via a web-based meeting on 4/21/2020. This document should be used in tandem with the corresponding video recording, powerpoint presentation and chat summary. This list does not supersede any local, State or Federal advisories or orders. Check back for more best practices at this project's living Google Spreadsheet page. Contact jill.carr@mass.gov and kstepenu@uvm.edu for help.

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Volunteer Coordinator - Best Practices

Operations

- Defer to your local Board of Health advisories and regulations. Check for updates regularly to ensure compliance
- Reach out to volunteer base to gauge interest/ability/comfort to sample. Let volunteers know it is okay if they choose not to monitor this year
- Delayed start to field season, or halting altogether
- Lengthen the daily window over which samples may be collected to help decrease the number of people coming to the lab in a given time period to drop off samples
- If crew's tasks cannot be done while maintaining social distancing space, use solo samplers or same-household teams. Tips for using solo samplers:
    - Have a call-in policy for arrival and departure from site
    - Have a second "keep-watch" vehicle or family member at the site
- Limit total number of volunteers to "elite team" to minimize in-person training needs and size of crews
- Minimize exposure from passing off equipment or datasheets (e.g. no-contact). Tips for passing off materials:
    - Maintain social distancing between samplers from different households
    - Each sampler should use only their own designated pencil/pen
    - Assign individuals with specific equipment and tasks that will minimize equipment-sharing
    - Sanitize equipment before returning or sharing it
    - Have samplers enter data online when possible
    - Consider making cleaning supplies available to samplers: hand sanitizer, PPE, disinfecting wipes
- Reconsider sampling sites which: Are in high-traffic areas or tend to engage passers-by; Require samplers to park in State or other lots that may be closed; Require more samplers than you can safely assign to site; Are prone to raw sewage releases (CSOs)
- If sending samples to a lab:
    - Reach out to labs to establish "no-contact" protocols and incorporate into training (e.g. drop cooler off at lab front door instead of handing off)
    - Consider mailing samples to lab instead of in-person drop off
    - Modify chain of custody paperwork process to allow for no contact

- Use remote monitoring via cameras when possible
- Have samplers drive their own vehicles instead of shared/provided vehicles. People riding in the same vehicle should be from the same household
- Make a backup plan in case someone becomes ill and cannot monitor
- If volunteers usually monitor with people outside of their household, consider if they may be able to recruit a household member to monitor with them, and then stagger dates monitored across the various households. If equipment is shared, could be cleaned/disinfected and then dropped off same or next day of use, to allow multiple days of not being used in between people to help with ensuring clean surfaces
- Consider if there are other roles volunteers can play to assist with data analyses, data management, quality checks, etc. that can be done remotely
- Limit boat-based sampling to same-household crews
- Use mail services to ship samples, paperwork and/or calibrated equipment rather than in-person hand off
- Use program-specific distances to help communicate to volunteers how to envision how far they should be from one another (e.g., keep the length of an aquatic D-net pole from one another)
- Stagger roles and times for volunteers who visit the same site, if usually monitored as a team that can currently not monitor together (e.g., person 1 goes to sample site first; as they are departing person 2 shows up to conduct their assigned monitoring)
- Consider staff driving a loop of the project area to pick up samples from volunteers and deliver to lab

<u>Communications</u>

- Conduct training sessions online. Tips for training:
    - Provide refresher training for experienced trainers using videos and demos (see resources section below).
    - Use free meeting platforms such as Zoom, Facebook calls, Hangouts, Skype
    - Send any hardcopy training materials by mail
- Use this field season to create videos of sampling protocols for new volunteers next year
- Consider making short videos that explain how to properly clean and disinfect equipment - what is okay and what could damage equipment. Communicate best practices for proper cleaning and/or disposal (e.g., don't flush wipes)
- Provide volunteers with basic safety training (even more important now, to avoid unwanted trips to the hospital for injuries)
- Supplement existing SOP documents with COVID recommendations
- Contact funding sources to understand changes to your grant requirements
- Communicate with your volunteers no matter what decision you make. If volunteers cannot monitor this year, communicate with them next steps or other ways they can stay engaged
- Consider offering online meet-ups where volunteers can share concern, ask programmatic questions and learn answers, and socialize with peers
- Consider setting up a Google Voice account that forwards to your personal phone # and providing that to volunteers who may have questions while in the field (or otherwise), as many people are not working in the office right now, and to minimize sharing of your personal number with a broad group
- Update program websites with modifications to programming you are making, and other CVOID-related guidance
- Use a waiver. Consider requiring confirmation from volunteers that they have received and understand COVID-related guidance from staff
- Ask volunteers to share videos or photos of them in the field (with household members) to share on social media or with other volunteers to share their monitoring sites to let volunteers get to know one another and their sites a little better
- Have an emergency plan in place with as many details as possible for them (e.g., clinic address, map).
- Consider providing a letter on organizational letterhead that explains what samplers you are doing - possibly laminate and have samplers put under windshield wiper while sampling

- Come up with a schedule for office/lab use, equipment drop offs, sampling times, etc. Consider using a shared calendar or document to keep volunteers well informed in the event of schedule changes

Volunteers - Best Practices Before Leaving Home

- Always defer to your local Board of Health's advisories and regulations. Check for updates regularly to ensure your compliance
- If you or any member of your household is feeling unwell with COVID symptoms, do not sample. Consider monitoring your temperature to be sure you're not getting sick
- Participate in online trainings. If you still don't feel ready to sample, contact your coordinator for more learning material
- Do not carpool with partners from outside your household
- Bring your own PPE (gloves, cloth face mask, sanitizer)
- Discuss any sampling concerns you may have with your coordinator
- Have a plan for parking, restrooms, meals, etc. that allows you to practice social distancing. Limit interactions at gas stations and grocery stores
- If provided, place a letter on organizational letterhead that explains what you are doing under windshield wiper while sampling
- If you will be in a closed area or private property, make sure you have permission. Even if granted, inform local police that you will be there
- Calibrate all equipment and prep as much as possible prior to arriving on site to minimize time with possible exposure to others (e.g., if sampling point is nearby a busy trail)
- Check tips sheet provided by program to be sure they have all usual equipment and any COVID-related cleaning, disinfecting or PPE supplies

Volunteers - Best Practices In the Field

- If working with partners from outside of your household, maintain a 6-ft distance
- Maintain social distancing when parking, using restrooms, eating meals, etc.
- Wear PPE (cloth face mask, rubber gloves) when in public places, when working near individuals that are not from your household, and when handling shared equipment
- Wash hands or use alcohol-based hand sanitizer regularly
- Minimize equipment-sharing: stick to one task for the day. If equipment must be shared, do not pass it hand-to-hand
- Use your own writing instruments
- Use disinfecting cloths or spray to wipe down sampling equipment before and after use, especially high-touch points like clipboards and tote handles
- Denote any temporarily modified practices used on data sheets and chain-of-custody paperwork to avoid confusion later
- If engaged by passers-by, maintain social distancing and refer questions/concerns to your coordinator
- Avoid dining in public areas. When possible, cook, get take-out, or order delivery. Bring food from home to avoid unnecessary stops and eat in your vehicle if in a crowded area
- Stagger roles and times if you usually monitor as a team that can currently not monitor together (e.g., person 1 goes to sample site first; as they are departing person 2 shows up to conduct their assigned monitoring)
- If working alone, make sure someone knows where you are and when to expect to see or hear from you. Use call-ins when you arrive at or leave a site; or have a second person keep watch from separate vehicle.

Volunteers - Best Practices In the Lab/Office

- Practice no-contact relay of equipment or samples with individuals already inside the lab or office
- Limit number of staff or volunteers in lab or office, disinfect high-touch points (doorknobs, light switches) between uses
- Disinfect laboratory equipment before and after use
- Consider the building's ingress/egress to reduce contact with others
- Curb-side drop off for samples - Call to ask lab staff to pick up coolers outside the door
- Do not prepare meals or eat in common areas. Bring food from home, eat in your car or outside away from crowds
- Work in separate lab spaces if possible – make partitions or even use off-the-shelf tents
- At your coordinator's request, enter field data online instead of handing off datasheets
- Use extra care when working with samples from waterbodies that receive sewage releases – do not come in contact with sample water
- Stay in touch with your coordinator so they know when you are finished at a site or at the lab

Shared Resources and Links	
Details	Web address
Article about COVID in sewage	https://www.circleofblue.org/2020/world/virus-hunters-find-coronavirus-clues-in-sewage/
Article about COV-2 and COVID-19 in wastewater	https://www.sciencedirect.com/science/article/pii/S0048969720322816
Concerns about beaches and waters near discharges	https://www.latimes.com/california/story/2020-04-02/coronavirus-ocean-swimming-surfing-safe-beaches-los-angeles
more sewage related	https://www.kgw.com/article/news/local/tracking-coronavirus-covid19-in-sewage/283-68e6204d-8a44-462b-b0e6-20324ffcac22
more sewage related	https://www.medrxiv.org/content/10.1101/2020.04.05.20051540v1.full.pdf
Waiver Form (New York CSLAP)	https://nysfola.org/wp-content/uploads/CSLAP/WAIVER-FORM-2020-1.pdf
WSG Crab Team Social Distancing Guidelines	https://wsg.washington.edu/wordpress/wp-content/uploads/Crab-Team-Social-Distancing.pdf
Example risk and liability waiver form for volunteers collecting data in the field	https://drive.google.com/file/d/1AYBPHrR-lDohhY69u-PlUzjDUuqQFSjL/view?usp=sharing
CSLAP (lake monitoring NY) Training Videos	https://www.dec.ny.gov/chemical/81849.html
Refresher macroinvert sampling videos for our NC training	http://www.environmentalqualityinstitute.org/smie-training.php
Boating during Covid-19 from Discover Boating	https://www.discoverboating.com/resources/boating-during-coronavirus-covid-19
Water action volunteers (WAV) training video library	https://wateractionvolunteers.org/resources/video-library/
Dept. of Environmental Conservation training videos	https://www.dec.ny.gov/chemical/92229.html
Addison County River Watch Collaborative sample training video	http://acrpc.org/programs-services/natural-resources/acrwc/whatsnew/
Macroinvertebrates.org as a helpful identification tool	macroinvertebrates.org
webinar on covid	https://cache.webcasts.com/content/h2oo001/1298571/content/ed83e03a0f527bf0b69503ed910705b859da2355/pdf/Coronavirus_Webcast_041620_FINAL.pdf
WQ training videos (CLAMP program)	http://clamp1909.blogspot.com/2015/05/west-okoboji-lake-water-quality-buoy.html
Adventure Scientists contact	https://www.adventurescientists.org/data-collection-help.html