Reminders for Volunteers with their Own DO meters

Yearly maintenance is needed. For details, please see the YSI Pro-20 manual starting on page 26. YSI_Pro20_Pro20i_User_Manual_English.pdf If you have a YSI 550A meter, maintenance is the same. These are the only two meters allowed under the MiCorps program.

- After the season's last sampling event the oxygen sensor membrane should be removed
    - Remove the plastic sensor cap and metal sensor protective cage.
    - Remove the sensor membrane (yellow cap). Note that the oxygen sensor solution will come out with removal.
- Membranes can be ordered online from https://www.ysi.com/ and Fondriest Environmental www.fondriest.com who is the authorized dealer for Michigan. They can also do the maintenance for you, or problem solve when general maintenance does not solve an issue.
- The oxygen sensor solution is provided with the DO membrane caps. It is in a powder form of Potassium Carbonate, which needs to be mixed with distilled or deionized water before using.
- The membrane cap should be changed at least once a year but may be needed more frequently.
- During membrane changes, examine the gold cathode at the tip of the sensor and the silver anode along the shaft of the sensor. Silver Chloride (AgCl) builds up on the silver anode, which reduces the sensitivity of the sensor.
- If either the silver anode is black in color or the gold cathode is dull, the sensor may need resurfaced using the 400-grit wet/dry sanding fine sanding disks that are included in the membrane kit. If there are no more disks, sandpaper can be purchased at local hardware stores.
- To sand the silver anode:
    - Hold the sensor in a vertical position.
    - Wet the sanding disc and gently wrap it around the sensor and twist it a 3-4 times to lightly sand the anode (the goal is to simply sand off any build-up without scratching or removing layers of the anode itself).
    - Rinse the electrode with clean water to remove any grit left by the sanding disc.
    - Rinse tip of the sensor with distilled or deionized water and install a new membrane
- Prior to first sampling event of the season, the oxygen sensor should be cleaned as noted above, and a new membrane cap put on the meter.
    - Examine the yellow membrane cap for any holes or other defects.
    - Fill the oxygen sensor solution (about 10 drops).
    - Lightly tap the side of the membrane cap to release bubbles that may be trapped.
    - Thread the membrane cap onto the sensor. It is normal for a small amount of electrolyte to overflow.
    - Replace the sensor guard.
- Throughout the season, calibrate the meter prior to every sampling event. A new membrane may be needed if:
    - Bubbles are visible under the membrane.
    - Significant deposits of dried electrolyte are visible on the membrane.
    - Sensor shows unstable readings or will not calibrate.