

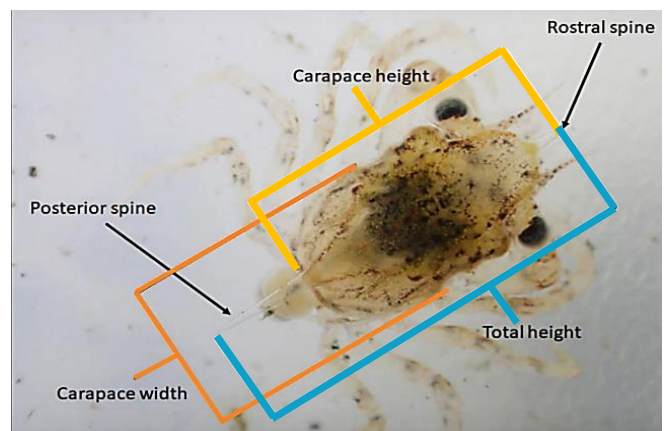
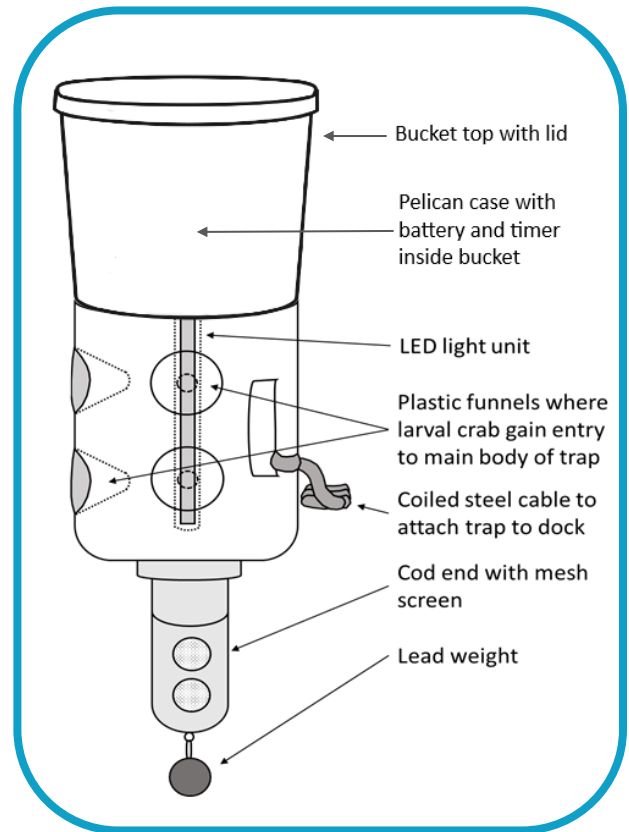
## Light Trap Sampling – Step-by-Step Instructions

### Retrieving the Sample

1. Open the 'Light Trap Data Collection' form within the Device Magic app and fill in the information under the 'Site Details and Today's Conditions' section.
2. Pull the trap from the water using the cable and water jug handle, carefully allowing the water to slowly drain out through the cod end.
3. After unclipping the cod end weight, unscrew the cod end and empty the contents into the tub with a few gentle rinses of seawater.
4. Screw the cod end back on and lower the trap back into the water without the weight. Carefully lift the trap back out and repeat step 3. Do this 1 – 2 more times or until all organisms are cleared from the trap.

### Processing the Sample

1. Return to the main page of the Device Magic form (by selecting the back arrow, top left) and select 'Sample'. Take an overhead photo of the sample using the camera button.
2. Remove non-target species from the sample, noting species/numbers if desired. *Be careful not to discard any Dungeness crab megalopae/juvenile instars.*
3. Count the Dungeness megalopae and juvenile instars in the tub and record the quantity on the Device Magic 'Sample' page under 'Counting'.
4. If there appears to be more than 1,000 Dungeness megalopae, indicate this in Device Magic and it will enable the Subsampling section. Follow the subsampling instructions on page 3.
5. **Once per week when convenient for you**, measure 30 megalopae to the nearest 0.1 mm using calipers. See the adjacent diagram to know which dimensions to measure. Record the measurements in Device Magic on the Sample page under 'Megalopae Measurements' and return the sample to the water.



## Redeploying the Trap

1. Return to the 'Light Trap Data Collection' form main page and select 'Redeployment'.
2. Open the pelican case and record the level of charge remaining by noting the number of green dots illuminated on the side of the battery. Record this on the Device Magic Form.
3. Remove the battery and replace it with the fully-charged battery and turn it on. Record this on the Device Magic form. **Be very careful to only plug the timer into the 12 V output (yellow port) on the battery.** Double check that the green lights are illuminated on the battery, ensuring that it is ON. If checking the trap every day, only replace the battery if it is at half charge or less (2 dots or less).
4. Check the sunset/sunrise schedule and adjust the timer if necessary (see timer instructions below). Reminder emails will be sent out several days before the timers are to be changed. If the timer was changed, record this on the Device Magic form.
5. Close the Pelican case and put it back in the bucket. Fasten the bucket lid securely. Reattach the cod end to the main body of the trap and clip the weight back onto the cod end.
6. Lower the trap back into the water, loop the coiled steel cable around the dock and clip it to itself with the carabiner.
7. Make sure you have filled out the required fields in Device Magic and then submit your data form once the button turns green, or when you have connection to the internet. **Don't forget to plug in the extra battery when you get home using the 24 V output/input (black port) on the battery, and to turn it on while charging.** Record this on the Device Magic form.

## Programming the Timer

1. On the timer, check that the icon beneath the time reads AUTO. If it does not, hit the "manual" button until "AUTO" appears. See the red circles in the diagram to the right that illustrate this.
2. To change the timer, press "P" which will take you to Program 1 ON (the start time for the first program).
3. Press the "D+" button to make sure all the days of the week are included along the top of the display. Change the time the light will turn on with the 'H+' and 'M+' buttons, being mindful of AM and PM.
4. Press "P" again to go to Program 1 OFF (end time for the first program) and change the time the light will turn off.
5. Once you have set the first program, go through all the programs by pressing "P" to make sure there are no other programs set. To clear a program, hit the "C/R" button.



## Further Information

If you have any questions or concerns email us at [sentinels@hakai.org](mailto:sentinels@hakai.org).

To learn more about the project, visit our website at <https://sentinels.hakai.org>.

## Subsampling

Subsampling to estimate megalopae abundance is necessary **only if the Dungeness megalopae appear to be too numerous to count** (greater than 1,000 megalopae). Follow the steps below to subsample by volume.

1. If there appear to be more than 1,000 megalopae in your sample, indicate this in the Counting section under Sample on the Device Magic Form. This will enable the subsample section.
2. Dilute the sample to a known volume (e.g. to the 4,000 mL mark in your white tub) and record this volume in the subsample section of the form.
3. Gently swirl the sample to make sure megalopae are evenly distributed
4. Remove a subsample of known volume (e.g. 250 mL) and count the megalopae within it.
5. It is best not to pour off excess water from your subsample to obtain the right volume, as this may impact the density of megalopae in your subsample. Rather, use another container to pour well mixed sample into your measuring cup until you reach the right volume.
6. Repeat steps 3 - 5 two more times (3 subsamples total).
7. Record the subsample volume and counts in the Device Magic form. This will automatically generate an estimate of the number of megalopae in your sample. If you are using a paper data form, fill out this same information in the subsampling table, and don't worry about calculating the estimate.