

Standard Operating Procedure #5

Seasonal Survey Task Sequence

Version 1.01 (January 3, 2020)

Change History

New Version #	Revision Date	Author	Changes Made	Reasons for Change	Previous Version #
1.01	1/3/2020	David Raikow	Odonate and plant surveys may be conducted while traps are in the water.	Field trials show work can be made more efficient.	1.0

Only changes in this specific SOP will be logged here. Version numbers increase incrementally by hundredths (e.g., version 1.01, version 1.02) for minor changes. Major revisions should be designated with the next whole number (e.g., version 2.0, 3.0, 4.0). Record the previous version number, date of revision, author of the revision, changes made, and reason for the change along with the new version number.

Purpose

This SOP describes setting up a sampling station and the general order of seasonal sampling tasks for the Pacific Island Network Anchialine Pool Monitoring Protocol. While all sampling tasks should be conducted during normal sampling events, some measurements may be taken at other times if conditions at the time of normal sampling are not favorable.

Seasonal Sampling Sequence

Regular sampling surveys should be conducted between 2 hours prior to, and 4 hours after, local ocean high tide, in order to account for tidal lag.

1. Conduct visual shrimp survey (see SOP #14).
2. Conduct water quality sampling in accordance with most recent version of Water Quality protocol (SOP #11; Jones et al. 2011).
3. Deploying Shrimp and Fish Traps: Baited shrimp traps are deployed in the pool for 15 minutes. Baited fish traps are deployed in the pool for 30 minutes (see SOPs #13, #15).
4. Remove Shrimp Traps: After 15 minutes of deployment, shrimp traps are removed from the pool and shrimp enumerated.

5. Remove Fish Traps: After 30 minutes of deployment, fish traps are removed from the pool and fish enumerated.
6. Odonate Survey: Conduct a visual odonate survey. The survey may be conducted while traps are in the water (see SOP #16).
7. Riparian Vegetation Survey: Conduct the riparian vegetation survey. The survey may be conducted while traps are in the water (see SOP #17).
8. Pool Diagram: Sketch a pool diagram that includes descriptive features of pool, trap locations, water quality sampling location, transect location, and directions (e.g., north, mauka, makai). The approximate perimeter of the pool should be measured and noted on the sketch. These measurements can be used to estimate the pool surface area (see SOP #12).
9. Transect layout: A transect should be set up that crosses from one bank to the other side, through the center of the pool at a randomly determined angle. A transect tape will be set up along the length of the transect (SOP #18).
10. Habitat Characterization: Sediment size, water depth, and detritus depth are measured every 0.25 m across the length of the transect. Riparian canopy closure is measured on each end of the transect and in the center of the pool (see SOP #18).
11. Light survey. Conduct the light survey if atmospheric conditions are favorable. Light measurement may be conducted at the time of regular sampling if time of year, time of day, and cloud cover are acceptable. Otherwise, light measurement will have to be conducted at another time, though as close to regular sampling as possible and always within the 4th quarter of calendar year (see SOP #7).
12. Snail survey: Any snail found within 0.25 m on either side of the transect should be identified and measured (see SOP #19).
13. Photographs: Take photos of the pool following instructions in SOP #10 and photos of any features of note or major changes since the last sampling event. Record the compass bearings in the direction that the photos were taken. Use the Ricoh GPS camera if available.
14. Review data sheet: Add any additional notes on other taxa observed that were not yet noted on data sheet. Prior to leaving the sample site review the data sheet for completeness and quality.