Coral Disease Transects

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CORAL DISEASE SURVEYS

Goal: Rapid assessment of the type of diseases & number of cases within an area of interest. These assessments can be conducted several times a year and are designed to document changes in disease over time.

What is a coral colony:

It can often be difficult to determine where one coral colony starts and another one ends (especially in Poritids). Here are a few simple tips that will help you.

1. Look for competitive interactions between colonies (pigmentation, swelling, discoloration).
2. Partial mortality is common, so look for the overall structure of the original skeleton. All tissue fragments from parent colony = 1 colony. Be careful, new coral recruits can settle onto old skeleton so look at the color of the fragments.
3. Look for differences in morphology and color.

Materials:

Camera and housing	Underwater data sheet
20m Transect line	Pencil
Clipboard	Buddy
Meter Rod with mark at ½ m (1" PVC pipe)	

Methods:

1. To establish your transects the first time, swim out to an area that best represents that reef type. Since you will be snorkeling, we recommend that you choose a site that is between 6-10ft in depth.

2. Once you have chosen the area that you would like to survey, find a good landmark underwater to start your transect. This will ensure that you will be able to find the transect when you return.

3. Attach the end of the transect to the dead substrate and swim out your 20m transect line parallel to shore.

4. The transect line should be taut.

5. If you have an underwater compass take a bearing on your transect line after it is placed on the reef.

6. Record general features about the reef (landmarks, depth) and take photos of the beginning, end and down your transect line to help you relocate it.

7. Place the meter rod at every 2 meter mark, for a total of 10 1m^2. The center of the rod should be under the center of the transect line (in other words, you will monitor a ½ meter on either side of the line).

8. For each affected/diseased coral head within the area, record the coral species, the type of lesion, and any general notes or questions.

9. On the datasheet, each row is a different diseased colony. Put a check mark in the box for whichever disease the colony is afflicted with. Corals are often affected by more than one disease, so make sure to record them all.

10. We highly recommend that you take photos of any colonies that you suspect have tissue loss syndrome (TLS), *Pocillopora* white band syndrome (PWBS) or any disease that you are unable to identify. Note: remember, when taking photos get a wide angle shot of the colony and several macro shots of the lesion.

11. If you take a photo, record a reference number.

12. Enter your data using the Google Drive file that we will provide you.

13.

Important Notes:

1. These surveys can be very subjective, so it is important that the same person or group of people conduct the surveys within a given area over time.

2. If you do chose to conduct the surveys over multiple years, make sure to conduct the surveys the same time each year. Some researchers have documented seasonal changes in disease.

3. It is important that you chose visible landmarks underwater to reference when you are laying down your transect.

Adopt a Coral (AAC): Data Entry and Photo Uploading Instructions

We are using Google Drive, a free "cloud" sharing website where we can upload and share information. A folder specifically for you will be set up and you will receive an invitation to share the folder. Once you join the folder you will be able enter your data into the datasheet and upload photos for storage and sharing. ***Note***: to make this easier you can also download the Google Drive application and sync your Google Drive account to it. You can then move your photos to your photo folder and update your data sheets on your computer and everything in your shared Drive account will automatically synced.

Instructions for Google Drive:

1. From Google Drive we have emailed you a link to your AAC folder. PLEASE SAVE OR BOOKMARK THIS LINK. Upon clicking on the link in the email, you will be directed to the Google Account sign in. If you do not have a Google Account, please create one by selecting the "Create an account now" and following the directions. You can use your existing email address to create this account. You do not have to have a gmail address.

2. Once you have logged in, you will be directed to your Google Drive folder. In there you will see a number of items: A DisProgDataSht and DisProg Photo folder for the "Adopt a Coral Head' method and a Transect Data worksheet and a Transect Photo Folder for the Transect method. A copy of this document and the CHS training methods is also included for your reference.

Adopt a Coral (Disease Progression Method):

Data Entry:

1. Each time you adopt a new coral head(s), go to your folder and click on the data sheet. This will open the sheet so you can enter your data. Enter your data as instructed. Once you have made changes to the data sheet, an email will be sent to us informing us of your changes.

a. Tracking Bleaching recovery: fill out everything except for lesion info. Do estimate the % of colony affected. Note that you are tracking bleaching recovery.

Photo uploading:

1. You will need to download the pictures from your camera to your computer. For easier organization, we suggest you have a folder specifically for CHS survey photos on your own computer (or use the Google Drive application that automatically syncs). If you wish, you can create subfolders for specific locations as well.

2. Please resize your photos to approximately 800kb – 1MB to reduce upload time and storage. You can do this in the basic image viewing programs such as "Preview" for Macs and "Windows Photo Viewer" for PC's. Look in the Tools menu for "Adjust Size."

3. Rename your photos. This is very important. The photo name should have the site code, coral head # that correlates to the data sheet entry, the date and a photo number, assuming you have taken more than one picture of the coral head on that day. Example: PK1-81611-1.jpg (Site code, Coral head #-date-photo#.jpg)

4. Click on your AAC photo folder in your Google Docs folder.

5. Select "Upload" (red arrow) on the left, then files or folder. This will open a File Upload window for your computer. Select the files you want to upload. (You can select more than one at a time by holding down the Ctrl key as you click on the files in the folder. (Be sure the file or folder names correlate to the data sheet information). Once they are selected, select "Okay".

7. An upload settings dialog box will open. Start upload.