

## Collection Protocols for BIOS Visiting Groups

The following four points represent the Collection Protocols for BIOS Visiting Groups:

- 1) The Group Leader is in charge of making each student and chaperone aware of the BIOS Collecting Policy and is responsible for enforcing/obeying the BIOS Collection Policy as well as all Bermuda Government policies/laws regarding sample collection.
- 2) Whenever possible, Group Leaders are urged to design programs that will cause the minimum environmental impact. Suggestions for such program elements are given below. If collecting and/or field experiments are required as an integral part of the educational program, a "Planned Activities/Collections Form" (see attached) must be signed and submitted at least 1 month before the visiting group's arrival at BIOS.
- 3) A "Realized Activities/Collection Form" (see attached) must be signed and submitted prior to departure from BIOS.
- 4) The above (i.e., #2 and #3) will be reviewed annually by the BIOS Collection Ethics Committee.

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### Suggestions for minimizing the environmental impact of field programs:

The following notes are guidelines "borrowed" from various successful programs. Hopefully some of these ideas may be useful in helping minimize our impact and facilitating our compliance with Bermuda Government policy.

- Make observations in situ rather than collecting. Underwater slates are excellent, inexpensive tools for this, and can lead to the development of observational and scientific sketching skills. Check out the book **Keeping a Nature Journal** for ideas: <http://store.clemetparks.com/product84.html>
- Photo-document rather than collect specimens. This is a great additional exercise and an excellent complement to a species list. Some teachers have created a cross curricular IT exercise using a database, by having students create their own species list with digital pictures, taxonomic classification and general description: IT, Language Arts, biology, mathematics...!
- Restoration projects: we encourage groups to participate in woodland restoration projects at Ferry Reach and Coopers Island. These on-going efforts require lots of willing workers and provide excellent illustrations of threats to Oceanic Islands and the concept of endemic flora and fauna.
- Inter-tidal surveys: students armed only with slates and an ID guide can gather a large amount of useful data on invertebrates on the rocky shore. Several species in this zone are in decline and observational data can be very useful in monitoring them.
- Remind students to avoid touching corals entirely and to limit handling of invertebrates
- Encourage students to return inter-tidal rocks to their original locations after making observations

Thank you to all group leaders whose low impact programs have been models for us to follow and who have advised us on these recommendations. We believe that demonstrating such respect for the environment is one of the best lessons we can teach our students. Thank you very much for your continued feedback and contribution. The collective experience and knowledge of the many group leaders who visit BIOS is a valuable resource and we do appreciate your willingness to share ideas, protocols and field techniques.

## PLANNED Activities/Collection Form

(Please complete if any collecting / field experiments are planned in your program.)

Visiting Group Name: \_\_\_\_\_  
 Group Leader: \_\_\_\_\_

Date of visit to BIOS: \_\_\_\_\_  
 Assistant Group Leader(s): \_\_\_\_\_

Date dd.mm.yy	Species (Common & Scientific Names)	Number	Collection Site(s) Location (w GPS) and depth	Size or Vol.	Fate of sample (e.g., sacrificed, returned alive, return location)	Other information (e.g., collected by ____; unusual observations)
11.4.07 <i>EXAMPLE</i>	Suck Rock ( <i>Chiton tuberculatus</i> )	4	Tobacco Bay, intertidal N 32° 23.185' W 64°40.455'	4 - 6 cm	sacrificed (dissected by students)	N/A
13.4.07 <i>EXAMPLE</i>	Chicken Liver Sponge ( <i>Chondrilla nucula</i> )	1	Harrington Sound, 2 m depth N 32° 20.015' W 64° 43.309'	3 cm	sacrificed to observe spicules under microscope	Unusual yellow color

Field Experiment Description	Dates	Type of equipment (e.g., cages, transect lines) used, if any*	Equipment removal date
Fixed transect line to be installed for coral study	11.4.07	2 x 30cm of re-bar, drilled into sub-strate	17.4.07

\* All equipment for field experiments must adhere to the guidelines in the BIOS Collection Protocols for Research.

Signature of Group Leader \_\_\_\_\_ Date: \_\_\_\_\_

## REALIZED Activities/Collection Form

(Please complete if any collecting / field experiments were conducted during your program.)

Visiting Group Name: \_\_\_\_\_  
 Group Leader: \_\_\_\_\_

Date of visit to BIOS: \_\_\_\_\_  
 Assistant Group Leader(s): \_\_\_\_\_

Date dd.mm.yy	Species (Common & Scientific Names)	Number	Collection Site(s) Location (w GPS) and depth	Size or Vol.	Fate of sample (e.g., sacrificed, returned alive, return location)	Other information (e.g., collected by ____; unusual observations)
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