

### ***Train and Coordinate BleachWatch Volunteer Observer Network:***

Although remote sensing and *in-situ* data collection can provide an indication of when conditions are ideal for the onset of coral bleaching, the actual onset of bleaching can be a gradual process, and effects can vary over an area as large as the FKNMS. In order to accurately assess the initial affects of bleaching events, and to assess coral condition during and after bleaching events, a large network of trained observers will be coordinated to provide regular reports of actual coral conditions on the reefs (Figure 1).

The BleachWatch observer network will utilize residents, marine professionals, and other researchers to provide information on the condition of reefs before, during, and after bleaching events. BleachWatch participants fall into two categories:

- “*Community*” – resident and visiting recreational divers and snorkelers.
- “*Professional*” – educational groups, marine life collectors, commercial divers, and other researchers conducting fieldwork.

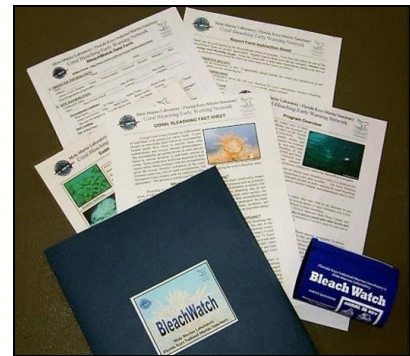
“*Community Observers*”: Comprised of recreational divers and snorkelers, both residents and tourists, who may participate on a regular basis, or occasionally if visiting the Keys, and who may or may not frequent the same areas regularly. Several public workshops will be held to enlist volunteers from the community, provide training materials, as well as guidance of the underwater reporting aids and filling out the report form. Many resident divers visit areas outside of the Sanctuary Protection Areas and often dive the smaller nearshore and mid-channel reefs that often require local knowledge to find, which will provide valuable information on these less frequented reef areas throughout the Keys.

“*Professional Observers*”: Throughout the Florida Keys, there are a variety of marine professionals that frequent the same reefs, most of whom have a better than average understanding of the area and the signs and affects of coral bleaching. Educational groups, marine life collectors, and commercial divers spend a considerable amount of time on the water, and are often more highly motivated to provide observations as the health of the reef directly relates to their professions. The dive tourism industry will also be approached, but because most operators and boat staff in the Keys do not enter the water, this group does not hold much promise for active reporting. However, dive and snorkel boats will be approached for their cooperation in assisting other volunteers to obtain access to the reefs, as well as helping to enlist additional recreational divers to volunteer by posting material in shops and on their vessels. Numerous Federal, State, and private or academic scientists actively conduct fieldwork throughout the Florida Keys every year. In many cases, these groups and individuals are already trained in observational techniques, and are often collecting data from the field on coral health and reef conditions, making participation in the program minimal additional effort. These observers should require little training, but will likely be able to provide additional information beyond the lay person or “community observer”.



**Figure 1** – BleachWatch observer.

Each individual will receive a packet containing information on the project and FAQ's on coral bleaching, report forms complete with detailed instructions, and underwater visual aids in the form of a wristband (Figure 2). Observers will be asked to report as regularly as possible, and will be made to understand that observations of no bleaching present are equally as important. The report form has been designed to minimize the effort needed to make observations and report on conditions, and the underwater visual aids are designed to minimize gear for the diver to carry yet be easily accessible and available when needed to help make mental notes on coral condition throughout the dive. The underwater visual aid provides a summary of the important information from the monitoring form, specifically the percent cover and bleaching category reference tables, images depicting the major coral growth types, and specific observations that should be noted while in the water. After exiting the water, observers simply note their observations on the report form provided. The monitoring form is made to require as little time and effort as possible, and can be completed and mailed or faxed back to the project coordinator, or completed online. All forms and information are also available online.



**Figure 2** – BleachWatch observer training materials, data forms, and underwater aids.