

Reef Watch Invertebrate Survey Manual

Version 1 (6th January, 2007)



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Background

The aim of this survey technique is to count the abundance of a defined list of about two dozen of the larger, mobile invertebrate species/groups and half a dozen cryptic (hidden) fish. The survey is performed within a fixed area measuring 50m by 1m, bounded on one side by a transect line laid out along the reef surface at a constant depth.

The Reef Watch Invertebrate Survey, like all Reef Watch surveys, is non-destructive.

Uses

This data is important for us to gain an understanding of the different factors that influence reef populations and investigate species that may be good indicators of the health of our reefs.

Skill

Requires basic diving proficiency and the completion of the PADI Reef Watch Survey Diver invertebrate survey dive, or the equivalent training program for snorkellers (this training can be provided by Reef Watch).

Time

A survey should take between fifteen and thirty minutes depending on the diver's proficiency, the complexity of the bottom coverage.

Equipment

Each diver conducting the survey will require:

- 50m waterproof tape measure or guide line (if a fish transect has been performed then this line can be reused)
- Reef Watch dive slate
- Pencil (sharpened at both ends and slotted into the tubing attached to the slate).
- Catch bag to hold loose equipment

Method

In addition to the procedures discussed in this section, you should carry out appropriate dive planning and follow standard safety procedures during your dive.

Prior to getting into the water, your pre-dive preparation and planning should include the following:

1. Ensure that you have all of the necessary equipment.
2. Decide the depth and position for your transect lines, referring to the Reef Watch Site Manual.
3. Decide how many surveys can be practically completed within the dive, giving consideration to both no-decompression limits and air consumption.
4. Determine an easy method of accurately gauging a one metre distance from the transect line. One such method is to use the distance from your outstretched fingertip to your opposite shoulder buckle (or some variation).

Once in the water:

1. Locate the position for the first transect, as discussed in pre-dive planning.
2. Record the name or initials of Diver 1, the necessary site/transect position details, depth, and time of the survey. The notes are can be used for general habitat notes.
3. If not already in place from a fish survey, the tape measure or transect line should then be anchored, ensuring that organisms are not damaged in the process (try and wrap the line around a rock rather than around plants or animals). Divers then swim along a constant depth contour placing the line according to the instructions reviewed during dive planning.
4. Once the line is laid, the divers begin the survey, with one diver from the buddy pair on either side of the transect line (see Figure 1).

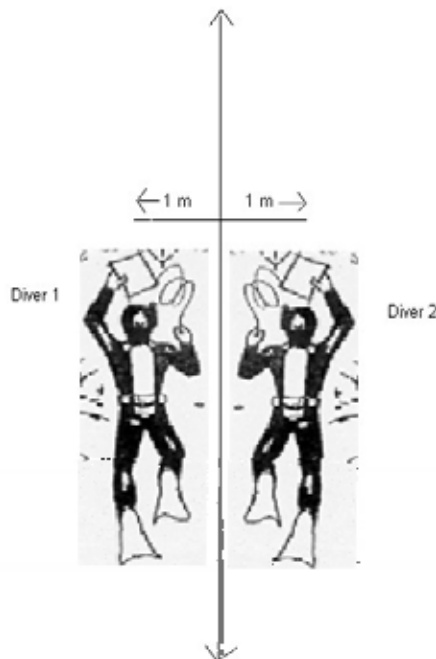


Figure 1: Diver positions for the Reef Watch Invertebrate Survey

Completing the survey:

1. Move along the entire length of the 50m transect line, searching for mobile invertebrates or cryptic fish that lie within the three-dimensional area within one metre horizontal distance from the transect line. Divers should not descend or ascend more than two metres from the transect line.
2. Look into accessible crevices and under ledges, and gently sweep canopy algae aside while feeling within the fronds for invertebrates (e.g. urchins or molluscs) and endeavouring to cause minimal disturbance of animals
3. You may wish to record species other than those depicted on the slate, or species that are observed outside the 1m belt. You can use the notes section for such data, taking care to note whether the species observed were within or outside the belt.

Debrief and Data Entry

At the end of the dive, always conduct a brief review of your data, discuss any issues that arose, and compare notes on species identifications and counts. This will improve the quality of the data and enhance your experience for future dives.

Although the diving component of the survey constitutes most of the work, if your data is not reported then you may as well not have done the survey! The best way to report your data is via the Reef Watch website:

www.reefwatch.asn.au.

Click on the “Enter Survey Data” quick link on the home page to get started. If you have sighted any of the “Feral” species (particularly the European shore crab), then you should also report them using the appropriate quick link from the Reef Watch home page.

Other ways to return your results:

- Email to: info@reefwatch.asn.au
- Photocopy your slate then fax it to: 8232 4782
- Photocopy your slate and mail it to 120 Wakefield St, Adelaide SA 5000