
Response:

We thank Nithyanandan for his interest in our article. In our response to his query regarding the reliability of data derived from belt transects (BT) on coral bleaching, we would like to cite *A Reef Manager's Guide to Coral Bleaching* by Marshall and Schuttenberg¹. The guide states efficiency of BT over line intercept transect (LIT) due to more area coverage. They have also mentioned, 'When using LITs, the observer notes changes from one benthic life form (plant or animal growing attached to the seabed) to another along the transect. In contrast, when using belt transects, the observer records every organism within a set distance on either side of the transect, usually 0.5–1.0 m. Though more time intensive, belt transects cover a greater area of the site than LITs can. Therefore, managers choosing to implement this method can better assess the proportion of coral colonies that are affected by bleaching and can evaluate differences in bleaching response that may be linked to colony size.'

However, in a recent publication Jokiel *et al.*² suggested that 'there was a

high degree of congruence between the commonly used techniques and there were no significant differences when comparing coral cover or the extent of bleaching' (commonly used techniques are: BT, line transect method (LTM), LIT and point intercept transect (PIT)).

Moreover, coral reef survey methods are still under active research and vary due to different factors like reef characteristics, objectives of the study, logistic support, etc. Due to patchy distribution of coral in the Malvan Marine Sanctuary (MMS), Maharashtra, we have chosen four locations for survey and have placed bleaching belt transect 1 m either side of the 50 m central tape for *in situ* quantification of the coral bleaching. In order to avoid any underwater observer bias in the data, we also recorded high-resolution digital video (Gopro Hero4 and Nikon AW120) of the same transect for laboratory analysis.

The data presented by us were collected during October 2014 to January 2015, which was prior to the global coral bleaching events. Therefore the data are critical, which have suggested ~15% bleaching during our observation. In fact, our recent observations further revealed

severe coral bleaching in the MMS, perhaps due to the global El Niño effect. The objective of our study was to make researchers and managers aware about the health of the reef in the MMS. In fact, our reported observation about onset of the bleaching event in MMS has helped in its management and conservation. As a consequence of recent active research in the MMS more stringent enforcement has been placed by the authorities for recreational SCUBA diving and tourist operators.

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1. Marshall, P. A. and Schuttenberg, H. Z., *A Reef Manager's Guide to Coral Bleaching*, Great Barrier Reef Marine Park Authority, Australia, 2006; ISBN 1-876945-40-0.
 2. Jokiel, P., Rodgers, K. S., Brown, E., Kenyon, J. C., Aeby, G., Smith, W. R. and Farrell, F., *PeerJ.*, 2015, **3e**, 954; doi: 10.7717/peerj.954.

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