

Marine protected areas as a platform for monitoring reef communities in South Africa

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Many of the existing Marine Protected Areas (MPAs) in South Africa were established with fisheries management or species conservation as their primary goal. As such, non-commercial or non-focal species have been disregarded and a sound scientific basis of ecosystems is lacking. This calls for an improvement in the science base for MPAs. For example, non-commercial sessile and semi-motile reef invertebrates, despite being key ecological species, have been largely unexplored. Moreover, no standardized long-term monitoring exists for such communities and establishing this within MPAs will allow us to better understand the role of natural processes on changing community assemblages. A better description of and understanding of how these communities change over time may strengthen conservation decisions. In 2016, such a long-term monitoring program was initiated in Table Mountain National Park MPA. Thus far, one site within the Karbonkelberg restricted zone has been set-up and surveyed. Permanent monitoring lines consist of two secured pins ~5-10 m apart. Surveys are conducted by connecting a swim line between pins and photographing the same points every time. Preliminary analyses of baseline data indicates that the sponge *Crambe actuata* (49.78%), mollusc *Aulacomya ater* (9.97%) and echinoderm *Parechinus angulosus* (4.6%), together make up the highest percentage cover. Given the ecological role and fragility of sponges, the domination of these communities may be an indicator of good ecosystem health, possibly attesting to protection provided by the MPA. Future work will include setting up monitoring lines at additional sites inside and outside the restricted zone. Sites will be surveyed biannually and monitoring is complimented with jump camera surveys of major reef areas to better describe fauna at various depths (between 8 and 102m). Here we present the initial findings of both permanent monitoring and jump camera surveys emphasising the need to standardize this program across MPAs in South Africa.