

The Tsitsikamma Marine Protected Area

A natural laboratory for intertidal research and long-term monitoring

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THE ECOLOGY STUDENT FIELD EXCURSIONS UNDERTAKEN IN THE TSITSIKAMMA MPA HAVE BEEN EXPANDED TO INCLUDE A ROCKY SHORE MONITORING PROGRAMME WHICH WILL PROVIDE USEFUL INFORMATION ON LONG-TERM CHANGES.

Since 2015, a research group, consisting of the University of Johannesburg, North-West University and the University of Hong Kong have visited the Tsitsikamma Marine Protected Area (MPA) to provide field experience to their undergraduate and postgraduate marine science students. The joint programme includes almost a full week of exploring the intertidal rocky shore and lessons learned include zonation, predator-prey interactions as well as intertidal and subtidal community composition. A series of practicals are designed to build on the previous day's knowledge, culminating in a basic understanding of rocky shore and intertidal community ecology.

In a collaboration with SANParks, a recent addition to this programme is the inclusion of fixed intertidal transects, which closely follow the broader national intertidal monitoring protocol adopted by the Department of Forestry, Fisheries and the Environment. The national programme aims to monitor long-term changes in the rocky shore communities along the entire South African coastline and will be used to, inter alia, monitor the effect of sea-level rise on zonation and intertidal community structure.

Three transects were established within the no-take section of the MPA during the most recent visit of the research group to Tsitsikamma. Markers were drilled into the rocky coastline every 5m along each transect to provide a representative cross-section of the shoreline while allowing sufficient representation of 30 cm x 30 cm plots within each zone. The design of the transects allows for annual fixed point photo comparisons along each transect. Approximately 10-25 photographs are obtained per zone per transect during each annual sampling event which will provide useful information on long-term changes within these communities.



Top: Tape measure placed between two fixed markers to allow photographs to be taken every 1 m. **Bottom:** Permanently marked 30 cm x 30 cm quadrats are surveyed in each zone, surveys follow the broader national intertidal monitoring protocol adopted by the Department of Forestry, Fisheries and the Environment.