

Mobile Fauna Analysis Overview

Mobile Fauna analysis begins after seafloor classification has been completed. All classified points are concatenated with associated positioning data and imported into an MS Access 2003 database.

At each point where the seafloor has been classified along the camera sled's trackline, an interval of 15 seconds before and 15 seconds after each position are observed. All mobile fauna (i.e. fish, crustaceans, echinoderms) are identified and recorded to the lowest taxonomic level possible given restraints inherent in video classification (e.g. poor light, camera too high/low). For all ichthyofauna recorded, size in standard length was estimated. Species (sometimes genus if species was not detectable) length-weight coefficients derived from fishbase.org are used to calculate a unit of fish biomass. An average area of 0.0012 hectare per observation was used to calculate a biomass/area estimate. This area was estimated by calculating an average distance between points and an average width of the field of view of the camera from video observations. The resulting biomass estimate is given in metric tonnes/hectare.

Although these maps may not provide the most accurate measure of biomass due to inaccuracy of measurements, inability to identify species, alterations to fish behavior, as well as operational constraints, they do provide a relative measure of abundance of reef fish of all sizes. Coupled with benthic habitat classifications these data provide a more complete description of entire coral reef ecosystem communities in relatively understudied areas typically too deep for conventional SCUBA diving based methods.

For a more detailed account of all trackline procedures and accuracies please refer to *Optical Analysis Overview* which can be found on PIBHMC's Documentation page.