Reef Check California

Invertebrate transects sampling

Reef Check California (RCCA) surveys consist of visual surveys performed by scuba divers. At each site, buddy teams of divers conduct eighteen 30 m x 2 m benthic transects, to monitor key species of fishes (35 species), invertebrates (33 species) and algae (5 species & 4 invasive species) and to characterize the reef substrate and relief. Each site is divided into two "zones" by depth (shallow 5-12 meters and deep 12-18 meters - or from offshore to inshore at sites with little depth variation) to assure that samples are distributed across the face of a reef from inshore to offshore. RCCA’s survey methods are based on visual census survey methods developed by the Partnership of Interdisciplinary Studies of Coastal Oceans (PISCO) and have been modified so that they can be taught in a reasonable amount of time to volunteer scuba divers. Species are selected because of their ecological or economic importance or because they are of specific management interest.

Invertebrates are counted on 6 transects per site (3 transects in each zone). To be counted invertebrates have to be larger than 2.5 centimeters. Gorgonians and ‘large anemones’ have to be larger than 10 centimeters to be counted. Each transect is a 2m wide x 30m long swath along the seafloor and flashlights are used to search in substrate crevices but no rocks are moved to find invertebrates. If more than 50 individuals of an invertebrate species are counted along the transect this species is sub-sampled. Sub-sampling is done by counting about 50 individuals and recording the distance along the transect at which this number of individuals is reached. Therefore, to generate densities for a 60 square meter area the count needs to be divided by the distance variable and then multiplied by 30. Abalone are not only counted but also measured and their size is recorded to the nearest centimeter.

For a complete description of the algae sampling methods see the RCCA monitoring protocol at: http://reefcheck.org/rcca/monitoring_protocol.php.