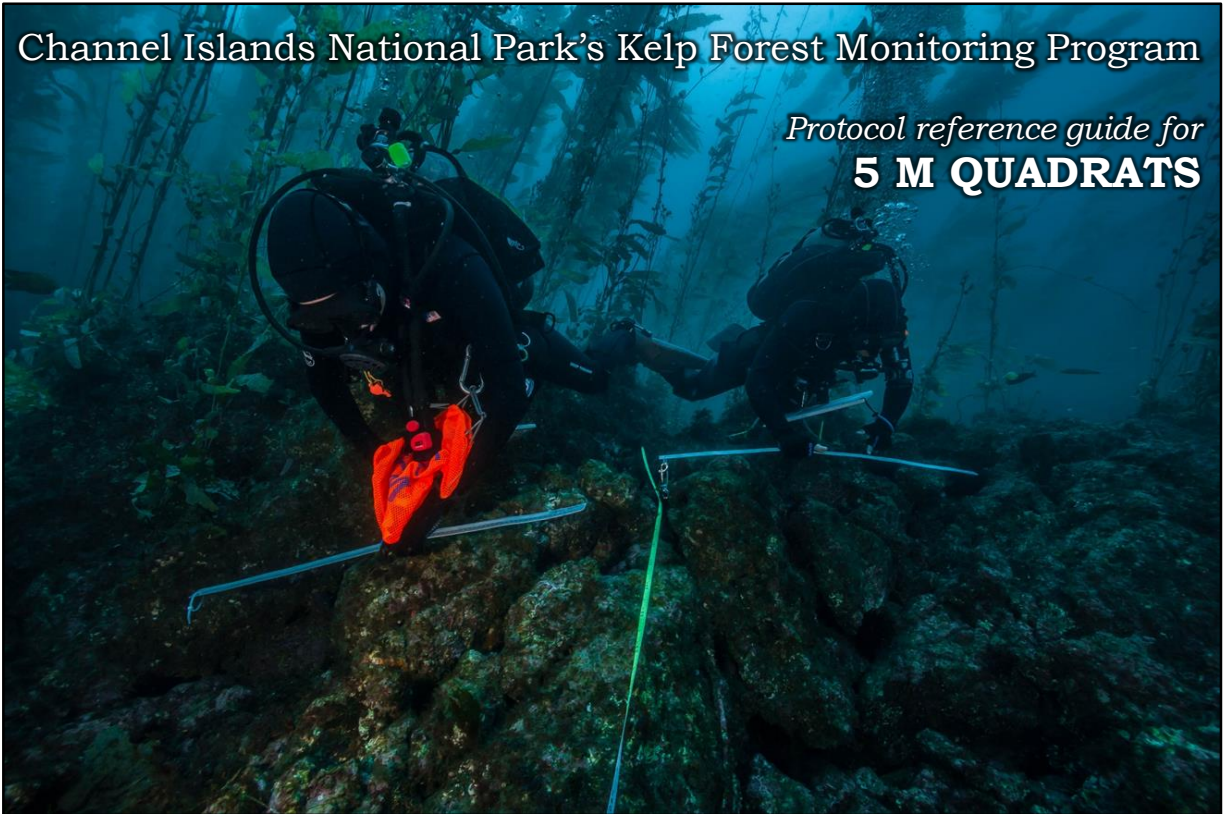


Channel Islands National Park's Kelp Forest Monitoring Program

Protocol reference guide for
5 M QUADRATS



Abstract

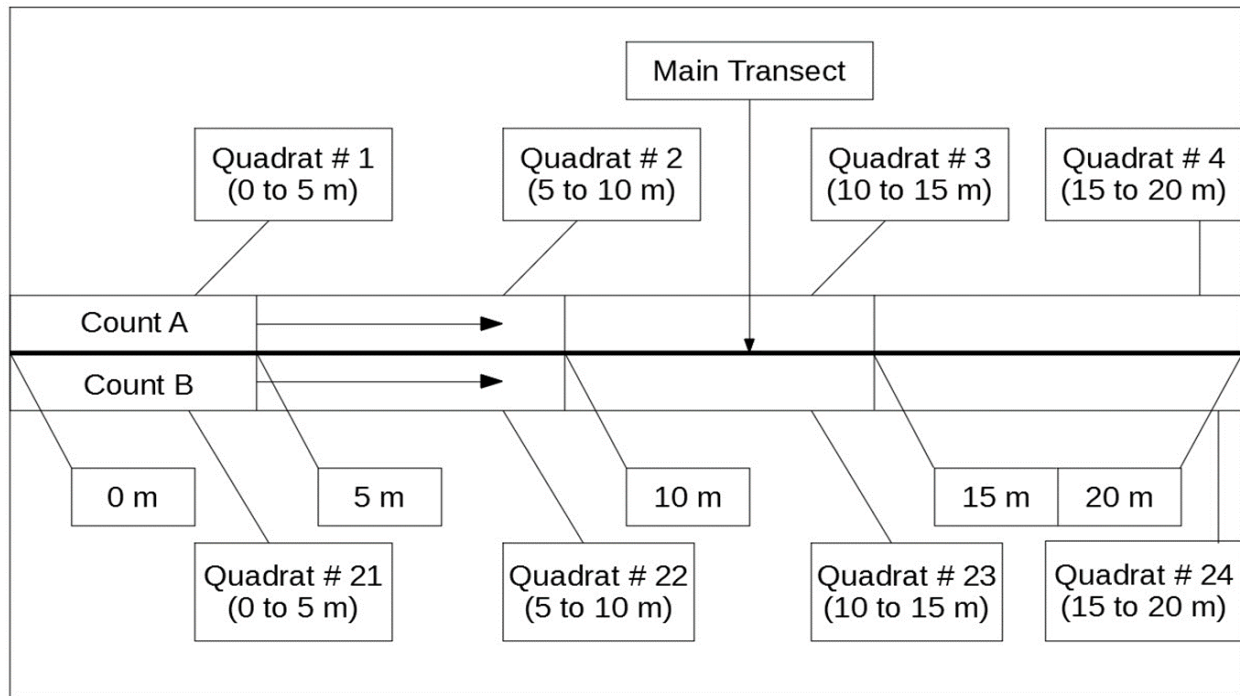
5-meter quadrats are used to estimate density for giant kelp (*Macrocystis pyrifera*), devil weed (*Sargassum horneri*), giant-spined stars (*Pisaster giganteus*), ochre stars (*Pisaster ochraceus*), and wakame (*Undaria pinnatifida*). There are 20 5 m by 1 m quadrats on each side of the main transect for a total survey area of 200 m².

Each diver swims on opposite sides of the main transect with a metal meter stick perpendicular to it for reference.

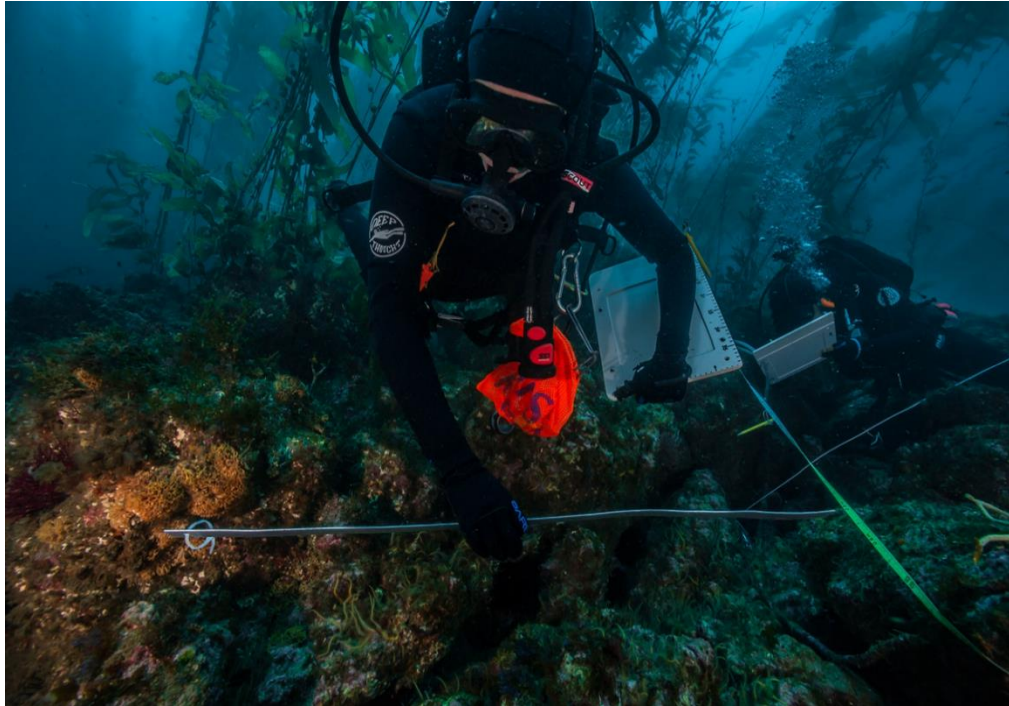


Shaun Wolfe

Each quadrat is 5 meters long by 1 meter wide. The main transect is marked with colored tape every 5 meters.

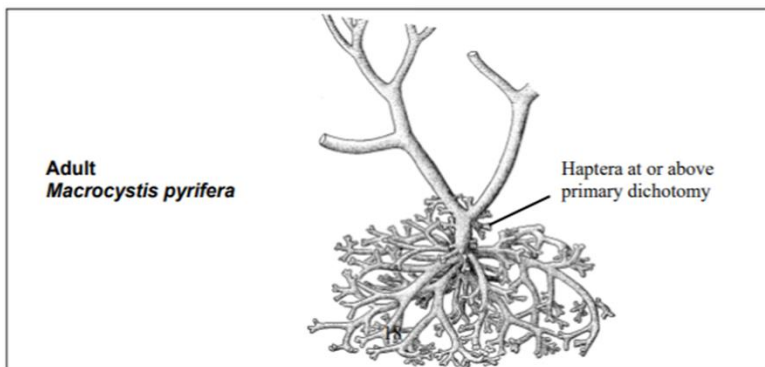
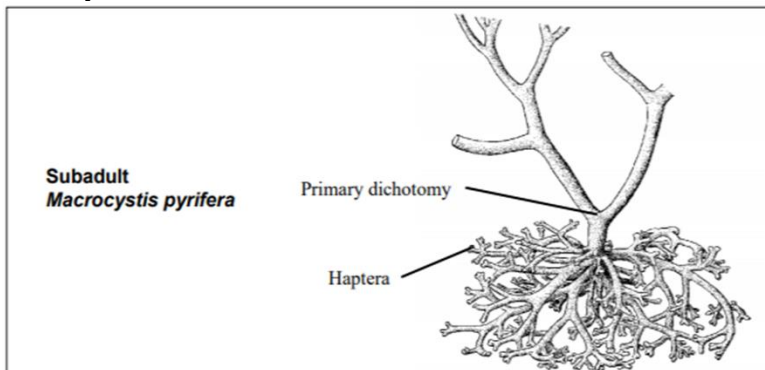


Multiple passes may need to be taken per quadrat to get accurate counts for *Sargassum horneri* and/or *Undaria pinnatifida*. Always remember to check your buddy's quadrats periodically and communicate about things close to the line.



Shaun Wolfe

Subadult giant kelp is greater than 1 m tall with haptera below the primary dichotomy. Adult giant kelp is above 1 meter tall with haptera at or above the primary dichotomy.



Subadult giant kelp



Adult giant kelp can also be discerned by having a fully developed sporophyll at the base of the plant.



Brett Seymour

Be wary of plants with large holdfasts as the primary dichotomy may be buried.



Brett Seymour