5 m Quadrats

Purpose
To determine the abundance of selected rare, clumped and/or sedentary indicator species

Materials
2 dive slates with pencils
2 underwater 5 m quadrat sheets (one each: quadrats 0-20 and quadrats 21-40; Appendix K)
2 metal meter sticks

Personnel
2 SCUBA equipped observers experienced in the identification and search image needed for species listed in Table 5.

Methods
The 100 m transect is divided into 40 quadrats 5 m in length and 1 m wide. Each quadrat is marked with red electrical tape at each 5 m increment along the 100 m transect line. The first quadrat is 0-5 m, the second quadrat is 5-10 m, etc. (Figure 3), with quadrats 1-20 on one side of the line and 21-40 on the other side. Each diver samples opposite sides of the transect line resulting in 40 quadrats total.

One diver will have the quadrats 0-20 data sheet and sample one side of the transect line while the other diver will have the quadrats 21-40 data sheet and sample the other side. The data sheets do not correspond to a certain side of the transect so divers may pick to swim on either side of the transect line. Always starting at the zero end of the transect line, divers swim side by side towards the 100 m end of the transect and record the total number of each species indicated on the data sheet for the corresponding quadrat. Use the meter sticks to determine the width of each quadrat. After returning to the surface, divers should check their own 5 m quadrat sheet as well as their dive partners for readability and outliers. Rinse the data sheets, allow them to air dry and store them in the completed data sheet notebook. The raw data sheets will be used for data entry.

Time Required
Approximately 35 minutes.

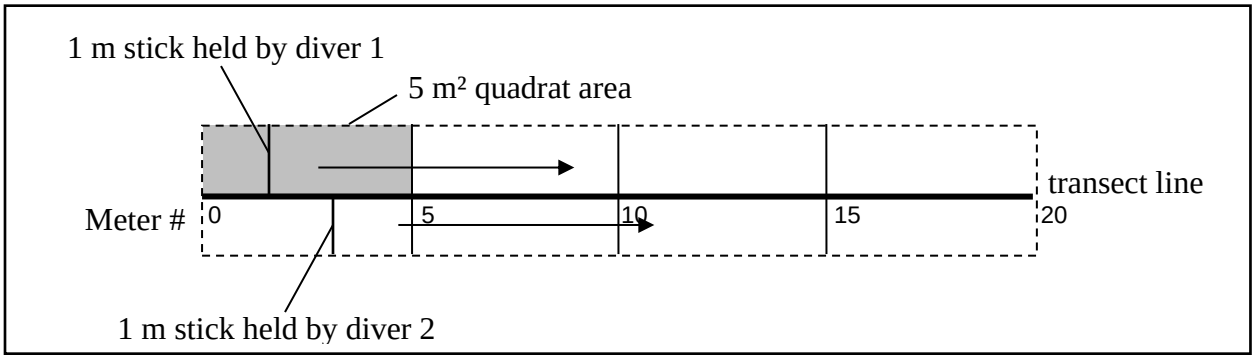
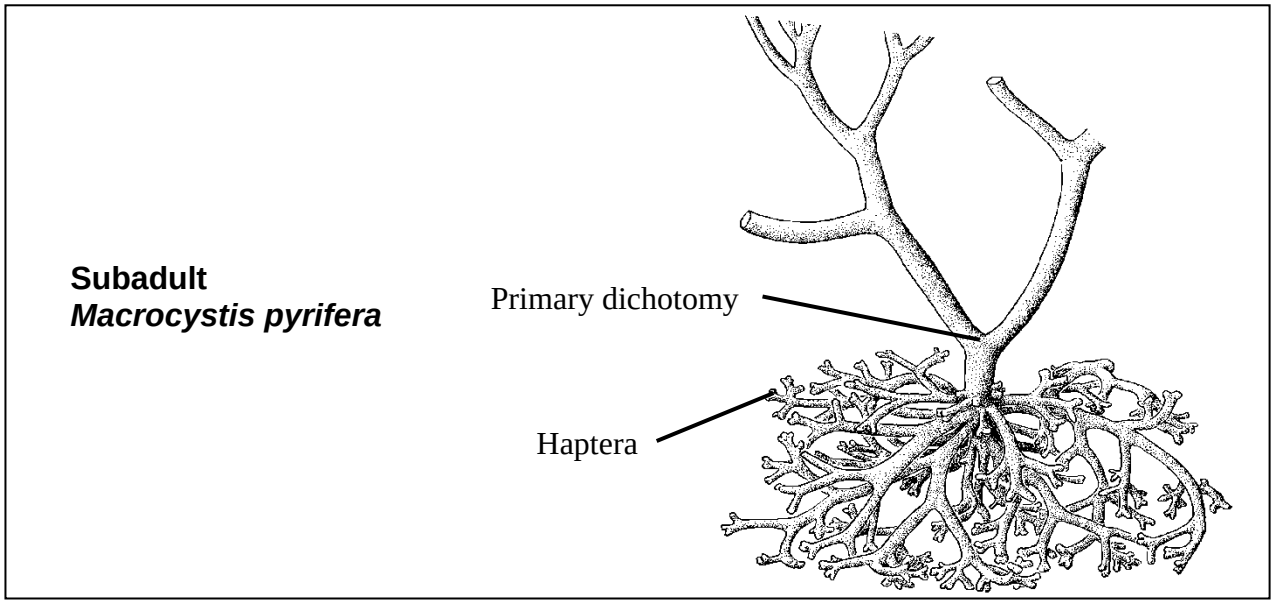


Figure 3. Layout of the 5 m^2 quadrats along the transect line.

Table 5. Organisms sampled for 5 m quadrats.

Species Name	Common Name
Algae	
Macrocystis pyrifera	giant kelp (subadult >1 m tall and no haptera above primary dichotomy, Figure 4)
Macrocystis pyrifera	giant kelp (adult >1 m tall and haptera above primary dichotomy, Figure 4)
Sargassum horneri	sargassum (juvenile = less than 0.5 m tall or reproductive receptacles present)
Sargassum horneri	sargassum (adult = greater than 0.5 m tall)
Invertebrates	
Pisaster giganteus	giant-spined sea star
Pisaster ochraceus	ochre sea star
Additional "Write-In" species:	
Undaria pinnatifida	Wakame (juvenile = less than 0.5 m tall)
Undaria pinnatifida	Wakame (subadult = greater than 0.5 m tall and not reproductive (can have beginning stages of sporopyhll but not well developed or mature sporophyll)
Undaria pinnatifida	Wakame (adult = greater than 0.5 m tall and well developed/reproductive sporophyll)



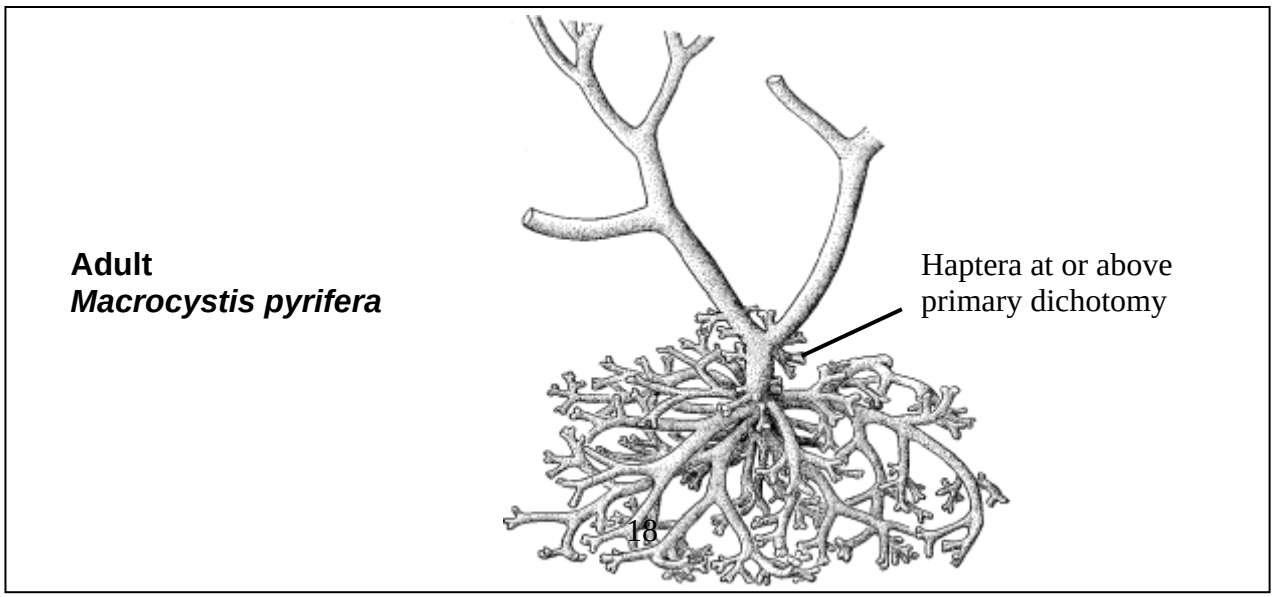


Figure 4. Subadult and adult *M. pyrifera* definition examples.