

## LESSON 18 Key Questions

- What is a quadrat?

A quadrat is a metal, wood or plastic square which is placed on the area being sampled; used to isolate a small area for the purpose of counting organisms in the sample area. (DEI has used 30 cm X 30 cm quadrats successfully with several age groups)

- How is a quadrat used to take samples of marine plants/animals?

Because it would be nearly impossible to count every species in an area due to time and expense, sampling has become an accepted way to determine on average the number of species that exist in a particular area. Quadrats are placed at intervals in a particular area and the specific data that are wanted at the time are recorded. Later, mathematically, calculations can be made to give an idea of what a larger area would possibly contain of this same species. The Instructor could lead a discussion about taking marine samples and how the technique is being used to help preserve natural and commercial resources.

Seaweed is currently being harvested in the coastal Maine area. The discussion could center on the use of the age count of *Ascophyllum nodosum* prior to and after a harvest season to check the health and growth of the plant in a particular area.

- What precautions must the people who take samples follow to make sure their data are accurate?

The group needs to be set up in an organized manner so that samples are not repeated and enough samples are done to make the data as accurate as needed for the purpose of the sampling. Safety practices must be followed as the marine habitat has very slippery areas.

- How can we recognize *Ascophyllum nodosum*?

*Ascophyllum nodosum* is a brown seaweed that is characterized by long fronds that look like straps. The fronds hang down and drape on the intertidal rocks. Upon the fronds can be found elliptical-shaped nodes at varying intervals. The nodes represent a year's growth for that particular plant.

- What does a holdfast look like? What is its purpose?

A hold fast is at the base of the plant and attaches it to a substrate such as a rock. It is made from the plant itself and could be compared to the roots of a land plant, except that a holdfast grips the surface.

➤ Why should good stewardship practices be followed while taking samples?

Conservation and stewardship practices should be followed so that the group does not damage other species or the species being counted.