

Activity 3: A Virtual Transect

Background: When conducting biological surveys scientists use long lines called *transects* that cross through a community and provide a reference point along which observations can be recorded.

In underwater surveys divers use transect lines to find out about marine habitats. Where water is too deep or difficult for divers to visit, video cameras are towed behind a boat and the data collected is later analysed to work out what is found in an area. Scientists are interested to know what material is found on the sea floor and what changes in the type of habitats are found in different areas.

Information collected using video tows can be matched with the information obtained from the multibeam sonar images to accurately predict what the different textures on the multibeam images represent in terms of the type of materials on the sea floor and the various living communities. This information is then used to create habitat maps.



Flyaway video surface unit

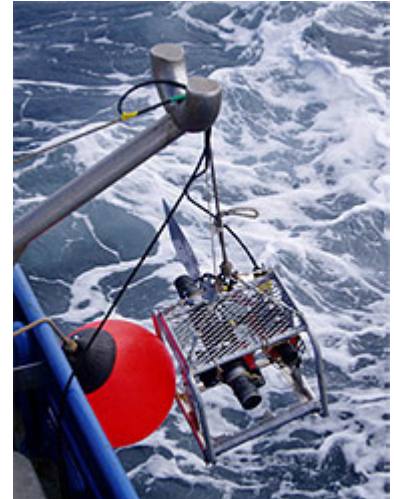
Objective: You will conduct an underwater survey of a park by analysing a section of towed video footage collected in a section of Point Addis Marine National Park.

Materials:

- Towed video footage of a section of Point Addis Marine National Park
- Data tables

Method:

- Watch the video clip several times to get a sense of the changes that occur in this section of the Marine National Park
- Using the distance information provided with the video clip use the table to record any changes that are observed in the type of materials that occur on the sea floor. Record these as sand or rock on the table.
- Repeat the clip and this time observe where kelp (brown seaweeds) occur and record this on the table.
- Repeat the clip again and this time make note of any sponge habitats that found along the bottom.
- Finally record the presence of large groups of fish or other animals.
- Using different symbols to represent the differences you have noticed construct a linear picture of the different communities as they are found along the transect



Underwater video camera being lowered into the water

Marine Mapping Education Resource Kit

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Results:

Distance (m)																			
Substrate*																			
Kelp**																			
Sponges**																			
Animals seen																			

Use these symbols to complete the table

- * **R= rock** **S = Sand**
- ** **+ = present** **- = absent**

Discussion:

1. Do more animals and plants occur in sand or over the rock?
2. Why would this be likely?
3. What difficulties did you find in observing the video?
4. How might this technique be used to explore deep ocean environments?

Extension Activities: Sea Search

Parks Victoria encourage community and school groups to get involved in collecting information about our Marine National Parks and Marine Sanctuaries through a program called Sea Search. Working with the local rangers, Sea Searchers use transects to conduct surveys and provide data that can be used to help manage the park.

For more information about Sea Search visit <http://www.seasearch.org.au/>

For information on conducting marine surveys on rocky shores visit the Marine Discovery Centre’s website at <http://www.rockyshores.auz.info/>

For information on Reefwatch - a community marine monitoring program visit <http://www.reefwatchvic.asn.au/>

