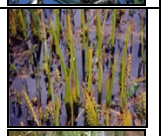
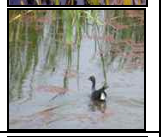
CASE STUDY: Integrated Water Cycle Management

2. Wetland Wonders

ACTIVITY:

The Table below lists the main vegetation communities of Porters Creek Wetland. The first column lists five ecosystems from wettest to driest, but the other columns contain scrambled information about their communities. Your task is to unscramble the information and match it to the appropriate environment. (See **Appendix 1** for a blank template of the Table.)

Surface water conditions	Community type (scrambled)	Description of the community with images of typical community members (scrambled)
1.Always wet	The Low Paperbark Forest	Woollybutt and Prickly Paperbark Woodland grows in places that are more often dry than wet, are sometimes damp and rarely flooded. It has many woollybutt gum trees and needle-leaf prickly paperbarks. Needle-leaf prickly paperbarks provide safe nesting places for small birds and animals.  
2. Almost always wet	The Sedgelands	Tall paperbark forest grows in areas that are often wet but sometimes dry. The two main trees in these forests are the Laced Paperbark and the swamp mahogany. The winter flowers of the swamp mahogany are an important food source for many insects, birds and possums.  
3. More wet than dry	Woollybutt and Prickly Paperbark Woodland	Red gum and grass tree woodland grows in places that are dry as often as they are wet. Beneath the many red gum and scribbly gum trees and paperbarks, there are grass trees, banksias and tea trees. The plants provide homes and food for honeyeaters and endangered squirrel gliders. Its dimpled ground provides shelter and breeding pools for the endangered Wallum froglet.  
4.Sometimes wet, sometimes dry	The Tall Paperbark Forest	Sedgelands are places with very few trees but lots of sedges, reeds, rushes and the endangered water blades. They are found in the wettest parts of the wetland. Animals found in the sedgelands include the large and noisy purple swamp hen, the tiny Porters Creek yabbie, the rare Wallum froglet, the southern emu-wren and the mouse-like dusky antechinus.  
5. More dry than wet	The Red Gum and Grass Tree Woodland	Low paperbark forest grows in places that are mostly wet, but not as wet as sedgeland. The main tree is a short skinny paperbark called *Melaleuca ericifolia*. It can survive long periods of flooding. Low paperbark forest provides nesting and feeding places for many small insect and nectar feeding birds as well as the brown bandicoot, swamp rat and many frogs.  

(source: Wetland Web CD)

TESTABLE HYPOTHESIS: Increased storm water runoff into Porters Creek Wetland would alter the relative proportions of its five vegetation communities; e.g. Sedgeland is likely to increase and the Woodland communities decrease in area.

OPEN-ENDED QUESTION: Think about what sources of evidence there might be for major changes in the Porters Creek Wetland since pre-European times. Suggest methods for researching whether increases in stormwater have affected the Porters Creek Wetland and whether the proportions of the five communities have changed during the past 250 years.