



Day 4- Fact Sheet 9

Tales of the Todd- Read all about it!

Wetland Functions

The idea of 'wetlands' in central Australia is something of a surprise. People usually think of arid lands as having very little water, and the Todd River which is dry on the surface most of the time, supports this thinking. However, waterholes in one form or another form a major focus for locals and visitors alike, because they are the places most likely to be visited as recreational areas. If you make a list of the Parks which are protected by Parks and Wildlife in central Australia, many of them would include a waterhole.

As well as this, wetlands (in all their different forms) perform a number of important environmental functions. Along the Todd River, evidence of some of these functions can be seen; in other cases the river has been altered, and its functions may not be so easy to identify.

Flooding

Wetlands located along the banks of the river usually protect surrounding properties from flooding by acting as a 'sponge', temporarily storing flood water and slowly releasing it back into the system. As storm water enters a wetland from surface runoff, it is slowed down by trees, shrubs, reeds, rushes, and other wetland plants. Slowing the flow of water allows more time for it to percolate through the soil rather than continue downstream.

Erosion

During a storm, the effects of rushing water can be very destructive. Fast-flowing water can carry a large load of soil particles from the land which are then washed along the river. Wetland vegetation reduces the erosive effect of rushing water by slowing the velocity of floodwaters, binding the soil with its roots, and causing suspended soil particles to settle out.

Water Purification

Wetlands are good water filters, trapping things like silt and pollutants so that they don't get caught up in the main river flow and end up causing problems downstream.

Sediment Trapping

Water flowing into wetlands slows down dramatically as it comes in contact with wetland vegetation. Suspended soil particles or sediments will settle out of the water and bind to the stems and roots of plants. The role wetlands play in trapping excess sediments is important because it would otherwise accumulate elsewhere and may smother aquatic life, clog up parts of the river system or may even carry pollutants.



Nutrient Removal

While nutrients are usually considered as good thing, an excess of nutrients can result in excess algae growth which will reduce the amount of oxygen available for other life forms. Wetlands are effective at removing and storing nutrients. For example micro-organisms and wetland plants absorb these nutrients, release some of the nitrogen as gas and store the remainder in the soil. Applying this knowledge, Alice Springs has used a man-made wetland for many years for sewage treatment.

Groundwater Recharge

Wetlands connected to groundwater can play a role in maintaining water supplies by recharging groundwater supplies, as water stored in wetlands slowly percolates into the underlying aquifer.

NB Each of the above links to consequences when the natural flow of a river and its associated wetlands is altered (see Threats Fact Sheet)

Wildlife

Wetlands provide a habitat for a wide variety of species; some live permanently in or near a wetland while others are opportunists who make use of it while its there (perhaps to complete its life cycle) but move to other areas if or when it dries up.

Wetlands attract wildlife for a number of reasons:

- their vegetative cover provides shelter from predators
- they provide ideal nesting conditions
- they provide migratory birds with a safe stopover location
- they may provide essential spawning and nursery habitat for aquatic animals
- many have extensive, complex food chains

Wetlands Supermarket

Wetlands are also valuable for the variety of products harvested from them. These include both food and implements to catch, store or carry this food.

Recreation and Aesthetics

People have been drawn to wetlands since time began, because they offer a range of physical and emotional experiences; you can swim, boat or fish as well as take photos or paint or draw, or just sit and enjoy the serenity of the landscape.

Research and Recreation

The diversity and natural beauty of wetlands provide a living, hands on classroom for education and scientific research.