



## Apple a day: for forests

### AIM OF THE ACTIVITY:

- To show how little of the earth is made up of forests
- To highlight the vital role forests play in our environment
- To emphasise how we must look after the scarce and vital riverine forests, (like Broken River floodplain) that are still left.
- Use of our natural resources to produce food and fibre is essential. Careful management of the environment through improved knowledge and technologies is necessary to ensure we will always have those natural resources to use without causing environmental damage, such as loss of biodiversity, declining health of rivers, erosion, salinity and loss of wetlands.

### ACTIVITY OUTLINE:

1. Slice an apple into quarters. Set aside three of the quarters, as they represent water on the Earth's surface. (the oceans and the seas)
2. Cut the remaining quarter in half. Set aside one of the halves as uninhabited deserts, the Arctic and Antarctic areas, mountains.
3. Divide the remaining piece into quarters. Set aside one of the pieces that represents land for cities and food production, set aside two pieces, one represents wetlands and one represents wetlands but now is not, due to drying up and draining due to human settlement and agriculture.
4. The remaining piece is 1/32nd (approx 3%) of the original apple. Peel this section. The peel represents the thin layer of the earth's surface covered by for land that is forests. Of this most of it is highland forests and only a tiny part is lowland riparian forests.

# Why teach your class about river floodplains?

## 1. Wildlife habitat and increased biodiversity.

They play a critical role in supporting biota and therefore biodiversity both within the riverside forest floodplains and also within the rivers themselves.

Due to the presence of water and nutrients, riparian land often supports significant plant communities that are generally denser, faster growing and have a greater number of layers or strata, than adjacent plant communities. This means they can support a diverse and abundant animal community as it provides food, nesting, and hiding places for these animals.

Within the rivers this Food chain support is important. Eg. Many fish eat mainly aquatic insects. Aquatic insects spend most of their life in water. They feed on leaves and woody material such as logs, stumps and branches that fall into the water from streambanks. Standing riparian vegetation is habitat for other insects that sometimes drop into the water, providing another food source for fish. As dying or uprooted trees fall into the stream, their trunks, root wads, and branches slow the flow of water. Large snags create fish habitat by forming pools and riffles in the stream. Riffles are shallow gravelly sections of the stream where water runs faster. Many of the aquatic insects that fish eat live in riffles. Fish also require riffles for spawning. They use pools for resting, rearing and refuge from summer drought and winter cold.

## 2. Habitat corridors

With the reduction in native vegetation and the increasingly large distances between remnant habitats, riparian corridors serve a vital function in allowing the movement of flora and fauna between remnants as well as being habitat areas in their own right

## 3. Bank stabilization and water quality protection

The roots of riparian trees and shrubs help hold streambanks in place, preventing erosion. Erosion makes the water turbid which decreases the oxygen for animal life. Riparian vegetation is essential for maintaining high water quality in streams, rivers, lakes, and along shorelines

## 4. Thermal cover

Riparian vegetation shields streams and rivers from summer and winter temperature extremes that may be very stressful, or even fatal, to fish and other aquatic life. The cover of leaves and branches brings welcome shade, ensuring that the stream temperature remains cool in the summer and moderate in the winter. Cooler, shaded streams have less algae and are able to hold more dissolved oxygen, which fish need to breathe.



## **5. Pollution, sediment and nutrient trapping**

Riparian vegetation also traps sediment and pollutants, helping keep the water clean.

## **6. Flood control**

During high stream flows, riparian vegetation slows and dissipates floodwaters. This prevents erosion that damages fish spawning areas and aquatic insect habitats.

## **7. Recreational and aesthetic values**

A healthy riparian zone not only has ecological value but also provides pleasant surroundings that are popular recreational areas near which people often choose to live. Rivers and the riparian zone are an important recreational resource, with fishing, swimming, boating, walking, picnicking and bird watching all being common riparian zone activities. The river and riparian zone tend to dominate the local landscape and may also contribute significantly to the regional landscape and so are important to the aesthetic value of an area.

## **8. Spiritual values**

Rivers are places of spiritual importance. Traditional landowners have strong spiritual attachments to watercourses. Creeks, streams, rivers and estuaries are all connected to the Dreaming. The path of watercourses is often attributed to the actions of the Waugyl (rainbow serpent) who is believed to have carved out river valleys and streamlines from the landscape. Rivers also have strong spiritual values for non- Aboriginal people. The soothing and life giving properties of water may evoke powerful emotional responses from people who recognise spiritual qualities of water. Spiritual connections are different to recreational values as they are generally more passive and may have religious qualities. Meditation, prayer, visualisation, and healing activities often rely on rivers as a context in which to express a spiritual connection between humans and nature.