



River Red Gums Wetland Forest Icons

Continuing the series on IYF in Otherways in 2011 by Jeanie Clark



A3 sized 6- piece jigsaw of a River Red Gum tree – jumbled order.

What a wet spring, summer, autumn we've had! Floods everywhere it seems! Feeling 'under the weather' from the media focus on sad news when streams break their banks and damage follows? This is how the catchments work – lots of rain puts water onto flood plains. Damage can occur where people build on and use flood plains. What about the forests?

Good news

Floods bring new life and regeneration to wetland forests and their ecosystems. Here are two web articles which tell this story: J. Le Feuvre's "*the Silver Lining of the floodwaters*" 1 Feb 2011 (<http://www.abc.net.au/environment/articles/2011/02/01/3127082.htm>); and Dr Anne Jensen's "*South Australian River Murray floods 2010-2011 breathe life back into river ecosystem!*" dated April 5, 2011 (which also has some great before-after river photos). For literacy, make a summary list from them of the benefits of flooding. What trees were the articles about? What locations were they? How do they support the idea that, for these wetland forests, floods are a great time? So, when better to visit them?

Forest to visit

Wetland forests over much of Australia are based on the River Red Gums. Where would you find them? What conditions do they like/need? River Red Gums live well where there is fresh water, survive for sometime in brackish water, but die when water turns saline for a long time. Over the years, they grow well even if there are droughts as long as they get floods too, but can die if in water too long. They live on stream banks and floodplains where flooding can be expected at least every decade (see photo below).



River Red Gums River on banks and floodplain at Pooncarrie – Darling River.

So where are their good water conditions found? Use an atlas to find the streams and lakes of an area in which you are interested eg Victoria. These **are** the natural homes of the River Red Gums. Are these trees here now? The present distribution at a broad scale, Australia and Murray Darling Basin, can be found on dot maps on the web at <http://www.anbg.gov.au/cpbr/WfHC/Eucalyptus-camaldulensis/index.html>. Older children could consider if these dots would have

been lines instead 200 years ago.

Where could you go for River Red Gums field work? Anywhere the trees are, but there are some really good forests – icons – which have most of their ecosystem intact. There are six along the Murray River, of which three are in Victoria: Barmah–Millewa Forest; Gunbower–Koondrook–Perricoota Forest; and Hattah Lakes. The Living Murray website has good maps, photos and links to park notes for planning a field trip or learning about these wetland forests at <http://thelivingmurray2.mdbc.gov.au/iconsites.html>.

Now let's return to the Murray River plains that were flooded this year. Today they are mostly flat, irrigated farming land. Two hundred years ago, what trees could have lived where the floodwaters went? Were there still some of these left to remind people that their land can flood? A field trip may be needed to find this out! Identifying trees helps us to know the land better. Finding a River Red Gum in a place tells you that fresh water comes here, but it may come in flood - so don't build anything here that can be flood damaged - or very little water may come in drought - so be prepared for big changes!

Tree parts

How can you recognise a River Red Gum, or any other tree for that matter? First you need to know some tree words, especially with younger children. Visit any tree and draw it. Did the drawing show: trunk, branches, bark, leaves, gumnuts, flowers, roots? Some of these are the key things used for identification. Wander around trees comparing these.

Younger children can paste or write labels onto the parts of a tree. Choose lots of pictures and drawings to repeat this to learn the words. There is a good base drawing on page 1 of http://www.nt.gov.au/nreta/kids/project/pdf/river_redgums.pdf. Also http://www.nafi.com.au/TimberTrek/resources/VIC_Tall_Trees.pdf is a good sheet for young ones using five key tree words in sentences.

What about drawing a tree for a mega-jigsaw eg. the six A3 pieces above on this article's title? These can be used in many ways, including with groups. For a River Red Gum, the drawing should include: a hollow; log on the ground; forked branch up in the canopy; leaf litter on the ground. Check knowledge of the tree parts. Add labels. Draw on creatures where they live in the tree based on knowledge or new information. Write a sentence about these creatures. When the jigsaw is put together, tell an impromptu story that links the creatures in one part of the tree to the piece that came before. When the Wimmera Home Educators Group did this, they had a lot of fun as their story unfolded – and it was all based in the reality of the different places creatures live in the tree. (See photos of two of their drawn jigsaw pieces.)



Canopy



Branch jigsaw sections with creatures drawn on

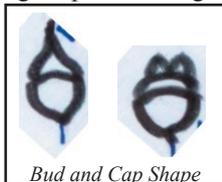
Identification steps

To identify a tree, key parts must be observed. The first step in identifying a River Red Gum is to be sure it is a Eucalyptus tree – ie. it is a tree that has gumnuts? So look around – there may be some on the tree, or fallen under it on the ground. No gumnuts? Not a River Red Gum.

There are several broad groups of Eucalypts, of which ‘Gums’ is one. The second step is to be sure that it is a Gum. There are two parts to this. Look at the trunk of the tree at ground level. If there are a number of fairly even trunks to the tree, it is a Mallee, not a Gum. Then look at the bark. It might be smooth, or rough, thick or thin. When it is shedding bark, does it come off in long strips or in tough blobs? Gum trees have a smooth, thin bark that comes off in long strips.

Gumnut shape, blossom colour and size vary with different Gum species. A River Red Gum has:

- small gumnuts,
- with pointed caps when in bud
- clustered in bunches of about seven
- that blossom into small creamy-white flowers
- and leave small gumnuts with four points that push outwards.

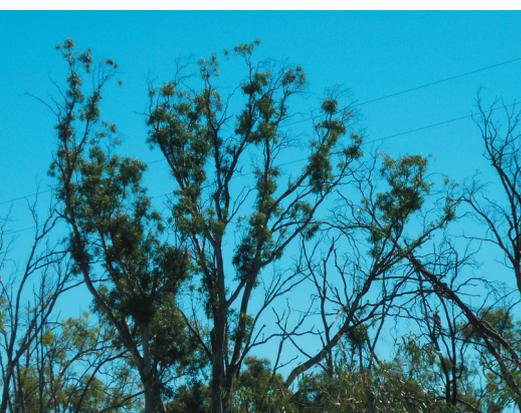


Page 1 of the N.T. Junior Rangers pdf cited earlier has a clear diagram of these stages in the gumnuts. Apart from this, River Red Gums have smooth, mainly grey-cream bark, with red wood inside ... and they like to live along the banks of watercourses and places. There are other trees that like to be near fresh water, like Swamp Gums, Coolibahs and Black Boxes, but when you follow the steps above it makes the River Red Gums pretty easy to recognise.

To be able to identify other species of trees, a good guide is needed, one with diagrams, photos and descriptions, like those by Leon F. Costermans (eg *Trees of Victoria and Adjoining Areas*, 1994, Frankston: Costermans Publishing). The CSIRO's 'Water for a Healthy Country' website has tree species in great detail eg the *Eucalyptus camaldulensis* page.

Do you notice the age of trees when observing them? As the big, old trees are removed, a younger forest is left. Old River Red Gums are huge and imposing. Younger ones have skinnier trunks and form denser thickets, thinning over time.

What about responses to drought and flood? River Red Gum seeds only sprout after flood, and in wet places. In drought, they shed leaves to save moisture and become a forest of 'skeleton' trees, eg photo below - background trees. Do the leaves on the central tree look unusual? Notice how they hug the main 'structure'. This was a few months after the Wimmera River flowed for the first time in nearly a decade. In time, the tree branches fill out again, see bottom of photo!



Skeletons, Regrowth and normal tree top shapes along the Wimmera River.

Forest uses

A lot of forest, not just wetland, has disappeared in the last 200 years. While there are some uses common of trees (like fuel), different properties of woods create some specialised uses, eg Tasmania's Swamp Gum is good for making into paper. There is a good coverage for this tree's uses called the Swamp Gum Puzzle at <http://www.nafi.com.au/TimberTrek/resources/Tas2.pdf>. While trees are a renewable resource, when too many are taken for them to be replaced, the net effect is a loss.

Why have so many River Red Gum trees been cut down? The main reason is that they have been a very valuable resource with many uses. Research Indigenous and European uses. How did squatters use them for their sheep, settlers for their farms, gold diggers in mines, and people in (new) towns?



Century-plus old River Red Gum water trough on farm near Jeparit

The photo above shows one practical farming use, but the main uses since settlement have been in buildings, railways, fences, furniture and fuel. During WWII, a lot of forest around Lake Hindmarsh was turned into charcoal. How could your children find out why this was needed then, how the charcoal was made and for what it was used? They could use books, the web, or visiting a pioneer museum like those at Jeparit and Swan Hill.

What environmental uses do trees have? Water management; soil protection; air quality; carbon storage; creature habitats. Trees have a variety of homes (places for shelter and food): canopy, branches, forks, leaves, hollows, bark, roots, leaf litter on the ground, fallen limbs, old logs, snags in streams! Each creature finding its niche adds to the 'menu' available at that tree! Food chains and food webs – complicated networks of living things! The second page of the N. T. Junior Rangers pdf (cited earlier) has a couple of inhabitants of River Red Gums. For a quick visual summary of who lives where and eats whom in a River Red Gum tree, look at the Riverina Environmental Education Centre's River Red Gum lesson 15 at <http://www.reec.nsw.edu.au/geo/scirrg/scrrg15.htm>. (This series of lessons would be good for older children to learn a lot about the nature of these forest wetlands.) Turn food webs into stories, eg. using the jigsaw basis described earlier.

So let's go back to the IYF logo and check that we have covered its key concepts for the River Red Gum wetland forest: rain; water flowing; parts of a tree; creatures it sustains, uses made of it. Yes, River Red Gums are great trees to get to know in the IYF and they tell us about our land wherever we find them. Go explore them somewhere!

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Photos: Jeanie Clark except for 'water trough' courtesy of S. Schultz, Jeparit.