

## Rivers of carbon are rivers of life!

We work with landholders to protect and restore their rivers so that the fish, birds, platypus and other animals who call the river 'home', can thrive. Looking after our rivers makes sense, as trees, shrubs and reeds along their banks stop erosion, filter and trap sediment, provide habitat for native animals, and make our rivers great places to swim, paddle and picnic.



# Stream condition CHECKLIST

There are many rivers, streams or creeks that need our help. This checklist is an easy-to-use way of working out the health of the waterway you might be interested in looking after.



When you walk along your stream or creek bank it is often hard to know what to look at to assess whether your waterway is healthy. This quick and easy checklist will help you to work out the health of the streams or creeks running through your property by looking at six features we know affect whether a stream is healthy (in good condition).

1. Management of riparian areas
2. Bank erosion
3. Shade and shelter
4. Water quality
5. Wildlife
6. Weeds and pests

The checklist on the following pages provides colour coded pictures that you can use to quickly assess the condition of your stream or creek against each of the six features.

The three categories of green, yellow and red have been developed to reflect the full spectrum of conditions found along many waterways. Hence they are extremes, and it is likely that your waterway's condition will fall somewhere between these categories and will vary along its course. Doing the assessment should help prompt ideas about what you want your waterway to look like, and things you can do to achieve that.

**Green** Stream is in good condition and management should aim to maintain it in this state.

**Yellow** Stream remains in moderate condition, but some changes in management needed to maintain or enhance it.

**Red** Stream is in poor condition and will require significant changes to current management to return it to a healthy state.

### After using the checklist

Once you have made your assessment of all six features, it may be the case that your stream is in good condition for two or three of the features, but needs help to improve in other areas.

Take a look at what management options are available to maintain or improve that condition. If you need more information about how to better manage these parts of the farm, turn to the back page where there is a list of free publications, websites and people who can help.



## To use the checklist ...

... walk along your river, stream or creek bank and at different points assess the six different features of riparian areas. Tick the box underneath the picture and description that best matches your waterway. Once you have made your assessment, use the information provided to help think about some of the opportunities that exist to improve your stream or creek so that it can become 'healthier' and increase its value as a property asset.

Photocopy this checklist and it can be used at different points of your river, stream or creek.

### Increasing production by managing streams and riparian areas as special parts of the farm

#### MANAGING RIPARIAN AREAS

		
Green (good condition)	Yellow (moderate condition)	Red (poor condition)
<ul style="list-style-type: none"> <li>Off-stream watering system provides clean, uncontaminated water on demand, water points sited to optimise feed utilisation</li> <li>Grazing of riparian areas managed for optimum pasture composition, feed production and feed utilisation, and to minimise parasite loads</li> <li>Riparian areas fenced to control stock access, prevent losses and make mustering easier</li> </ul>	<ul style="list-style-type: none"> <li>Stream used to water stock, but at constructed watering points only, stock cannot wander along the banks and channel</li> <li>Rotational grazing used in riparian areas, based on assessment of feed available</li> <li>Riparian areas partly fenced or other means used to control timing and duration of stock access</li> </ul>	<ul style="list-style-type: none"> <li>No fencing or other means of controlling stock access to the stream and riparian areas, stock can use all parts of the stream</li> <li>Riparian areas set-stocked, or stock have full access year round, riparian areas grazed heavily</li> <li>Potential stock losses from bogging or floods, mustering difficult from deep channels or when stock have wandered onto neighbouring properties</li> </ul>
		

### Bank erosion

#### BANK EROSION

		
Green (good condition)	Yellow (moderate condition)	Red (poor condition)
<ul style="list-style-type: none"> <li>No obvious areas of active erosion along the channel banks, no stock tracks adjacent to, or within the channel</li> </ul>	<ul style="list-style-type: none"> <li>Majority of bank top and sides are well-vegetated, but some signs of bare and actively eroding areas (e.g. stock tracks)</li> </ul>	<ul style="list-style-type: none"> <li>Much of the banks are bare with obvious active erosion, stock tracks prominent</li> </ul>
		

## Shade and shelter

SHADE AND SHELTER



Green (good condition)	Yellow (moderate condition)	Red (poor condition)
<ul style="list-style-type: none"> <li>• Native riparian vegetation including tall trees retained, sufficiently wide (25–50 metres) for natural regeneration, and replanted where required</li> <li>• Paddock layout and fencing enable riparian areas to be used to provide shelter and shade for stock, for example, newly shorn sheep and at lambing</li> </ul>	<ul style="list-style-type: none"> <li>• Some native riparian vegetation present as a narrow strip, but tree canopy and ground cover reduced (compared with an ungrazed site), little regeneration, and replanting required to fill gaps</li> <li>• Native riparian vegetation of limited use for shade and shelter (narrow and contains gaps)</li> </ul>	<ul style="list-style-type: none"> <li>• Most native riparian vegetation cleared, lost from old age, or by damage. No tall vegetation (above 5 metres) present</li> <li>• Lack of regeneration of native plants due to continuous grazing pressure, no replanting, grass and weeds dominate</li> <li>• Stock have no ready access to shelter or shade during extreme weather</li> </ul>
		

## Water quality

WATER QUALITY



Green (good condition)	Yellow (moderate condition)	Red (poor condition)
<ul style="list-style-type: none"> <li>• Vigorous riparian pasture acts as a filter to prevent contaminants (e.g. soil, nutrients, animal waste) from upslope reaching the stream</li> <li>• Good vegetation cover along the top and sides of stream banks</li> <li>• Stream water appears clear, no evidence of excessive in-stream algal growth</li> <li>• Stock cannot enter stream channel</li> </ul>	<ul style="list-style-type: none"> <li>• Some bare areas in riparian pastures and risk of soil erosion</li> <li>• Vegetative cover along the stream bank is at least 70%, but some bare soil noticeable</li> <li>• Stream water may appear cloudy after rain but clears in a few days</li> <li>• Some in-stream algal growth and plants present</li> <li>• Stock can access only limited parts of the channel</li> </ul>	<ul style="list-style-type: none"> <li>• Significant areas of bare soil visible within riparian pastures and along top and sides of bank</li> <li>• Stream water is often muddy and remains so even without rain</li> <li>• Obvious algal growth along stream edge due to excessive light and/or blocking of the channel by excessive growth of reeds</li> <li>• Stock access the entire channel length with risks of contamination from urine and dung</li> </ul>
		

Wildlife



**Green (good condition)**

- Riparian areas vegetated with a mix of native species including trees, shrubs and herbs/grasses, and including old trees (nesting hollows)
- Native vegetation wide enough to enable natural regeneration (at least 25–50 metres)
- Riparian areas connect to other blocks of native vegetation (without gaps)



**Yellow (moderate condition)**

- Some native vegetation along stream, but with gaps and/or a limited mix of species and vegetation ages — few old trees
- Native vegetation in riparian area less than 25 metres wide in places
- Riparian vegetation not directly connected to other blocks of native plants, but gaps less than 100 metres



**Red (poor condition)**

- Little or no native vegetation remaining, riparian areas dominated by grasses, weeds and introduced plants
- Riparian areas heavily grazed and not connected to adjacent native vegetation



Weeds and pest animals



**Green (good condition)**

- Vigorous native vegetation in riparian areas at least 25 metres wide
- Stock excluded and areas not disturbed by vehicles, fire, etc
- Area inspected regularly and weeds removed by hand or spot spraying
- Active management applied to prevent pest animals establishing, and to reduce fire risk



**Yellow (moderate condition)**

- Some gaps present in native vegetation, but replanting used to reduce risk of weed invasion
- Access by stock carefully managed to ensure minimal damage from grazing
- Some weeds present but numbers controlled by grazing and/or targeted spraying
- Active management applied to prevent pest animals establishing, and to reduce fire risk



**Red (poor condition)**

- Little native vegetation remains and weeds have invaded riparian areas
- No control of stock access, heavy grazing and nutrients from urine and dung promote weed growth
- Little or no control of weeds or of pest animals. Fire a low risk given lack of flammable vegetation





## How did you go?

When you worked your way through the checklist did you have some areas in the moderate or poor condition category? If you have a stretch of river in good condition, do you have fencing in place to keep stock out?

Here are some reasons why the landholders we work with believe it is important to look after their rivers as different, but special parts of their property. They have each developed a plan with the Rivers of Carbon team for the waterways on their property.

“We wanted to protect the waterways and provide a habitat for all the wildlife which lives along the river... the river is such a real living thing. Our second motivation was purely practical and production focused, we can now graze the area which is fenced off from the river, which provides more pasture for our sheep and keeps the weeds under control.”

Jane Major, 'Yurrah'



“We are doing this work for livestock shelter, the environment and aesthetics, and most importantly to leave the land in a better way for the next generation. I think trees are beautiful and an important part of our landscape. We are at the top of the catchment... so it benefits all water users, we want to keep the soil on our property and not washed away.”

Tom McCormack, 'Red Hill' and 'Mt Henry'



“We have a responsibility to be proactive about managing the environment and protecting our on-farm resources. It also fits with our production goals of reducing labour costs and improving stock management. Fencing off creeks and riparian areas has provided significant cost savings in running our farms.”

Allan Munns, 'Suffolk Vale'

“Carbon credits have played a major role in my thinking, but it has come indirectly as part of a process and awakening of what this whole idea of sequestering carbon means. I can see the benefits and it will make a huge difference in our atmosphere if we can do our bit to get the carbon back into the ground... It is a lot to aim for, I know, and it will take time.”

Margie Fitzpatrick, 'Australind'



*The care of rivers is not a question of rivers, but of the human heart.*

TANAKO SHOZO



The Rivers of Carbon project, as well as other organisations in your local region, can provide incentives to landholders for looking after their waterways. The best place to start is to contact Haydn Burgess (Yass, Boorowa, Goulburn District) or Antia Brademann (Murrumbidgee), our on-ground project managers, to see if your project might be one that Rivers of Carbon can assist with. If not, Haydn and Antia can put you in touch with another organisation who might be able to help.

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You can find out more about the Rivers of Carbon project by signing up for our free monthly newsletter [www.arcc.com.au/news](http://www.arcc.com.au/news) or by visiting our website [www.riversofcarbon.org.au](http://www.riversofcarbon.org.au). There are also lots of free fact sheets, case studies and guidelines on the Australian River Restoration Centre website that cover different waterway management topics you might be interested in.



**PARTNERS IN THE RIVERS OF CARBON PROJECTS**

