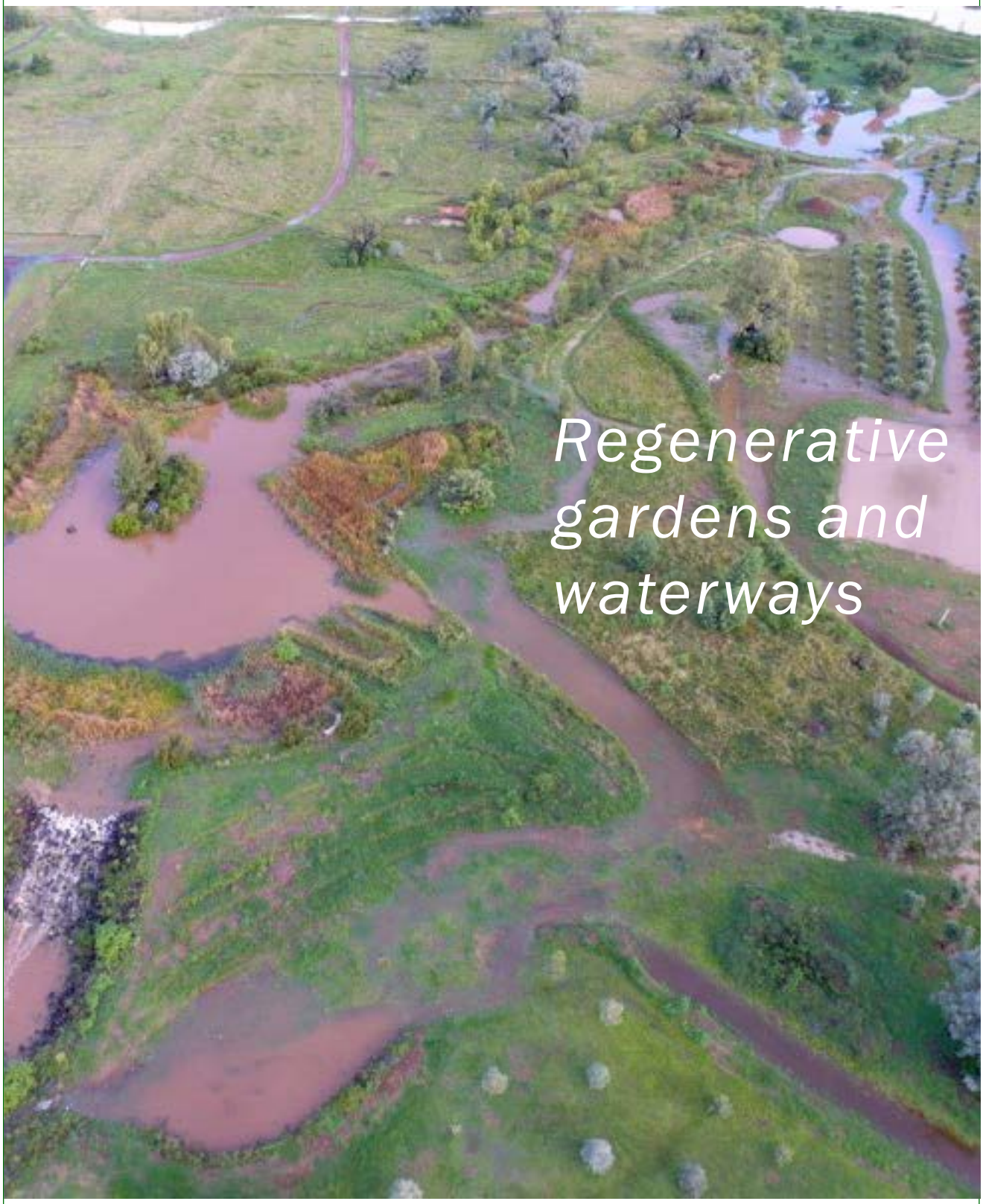
The Living Classroom



Regenerative gardens and waterways

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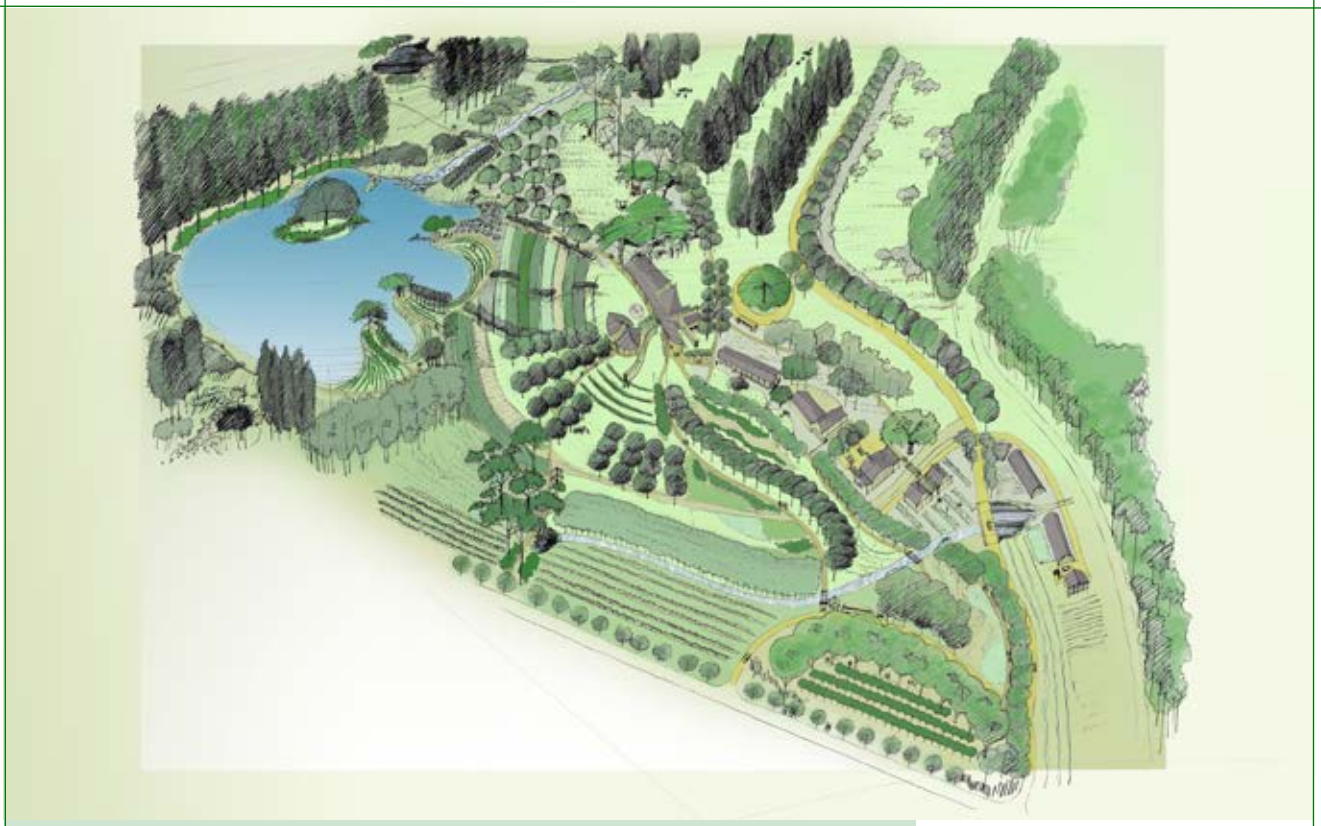

The Living Classroom is designed to redirect floodwaters into a chain of lakes and ponds connected by water holding contour swales. These areas are being revegetated to act as biological links between ecosystems. The same system of water gardens takes water from the building precinct and channels it to ponds along waterways which mimic local brooks and gullies. Water is harvested in all parts of these gardens.

The water gardens feature billabongs, which are used to polish and hold water, and to provide moisture near productive areas. They are shaded to prevent evaporation and feature local plants of the rivers and waterways. Many of these plants were used by Aboriginal people for food and medicine.

The Waterway Gardens

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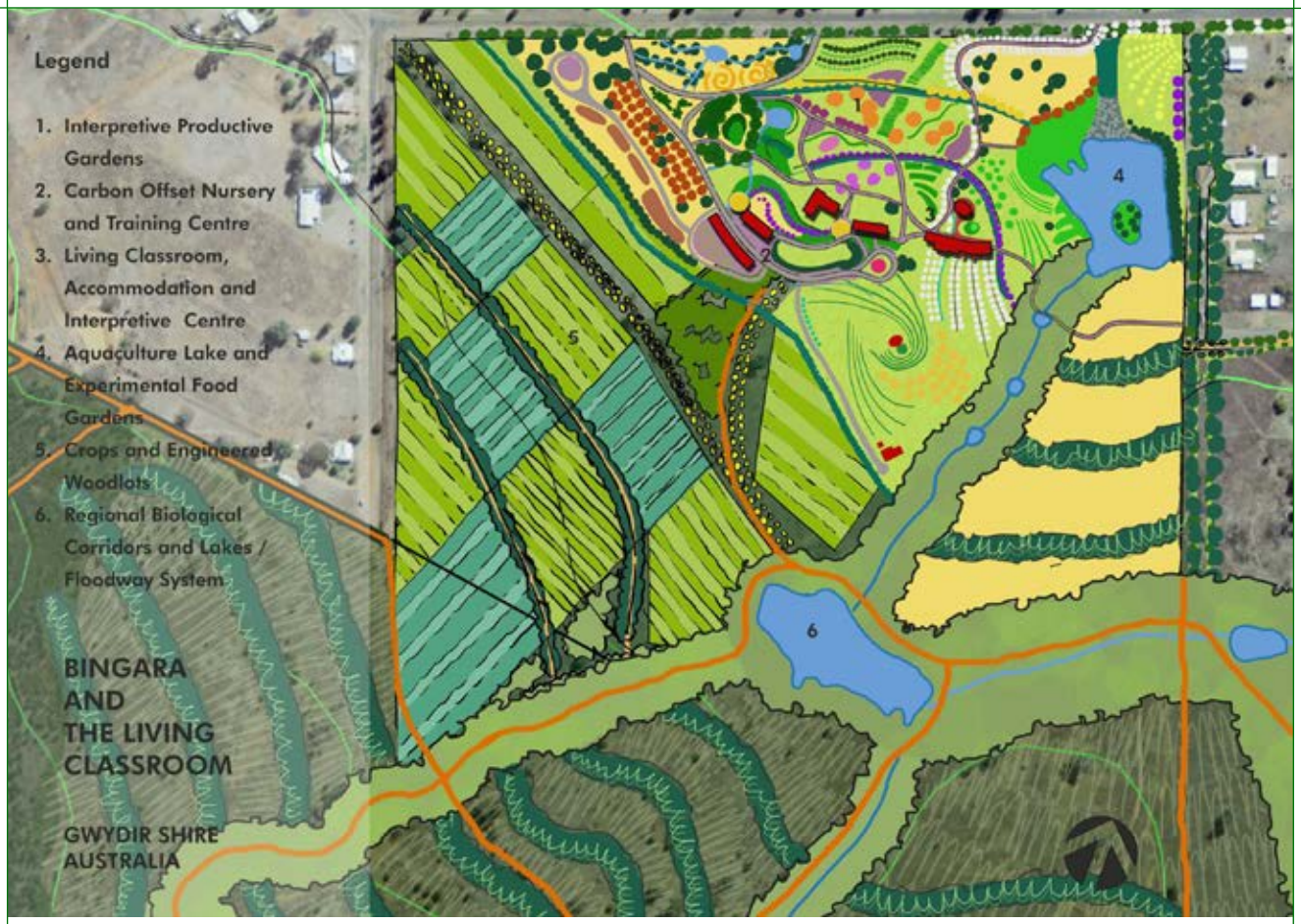

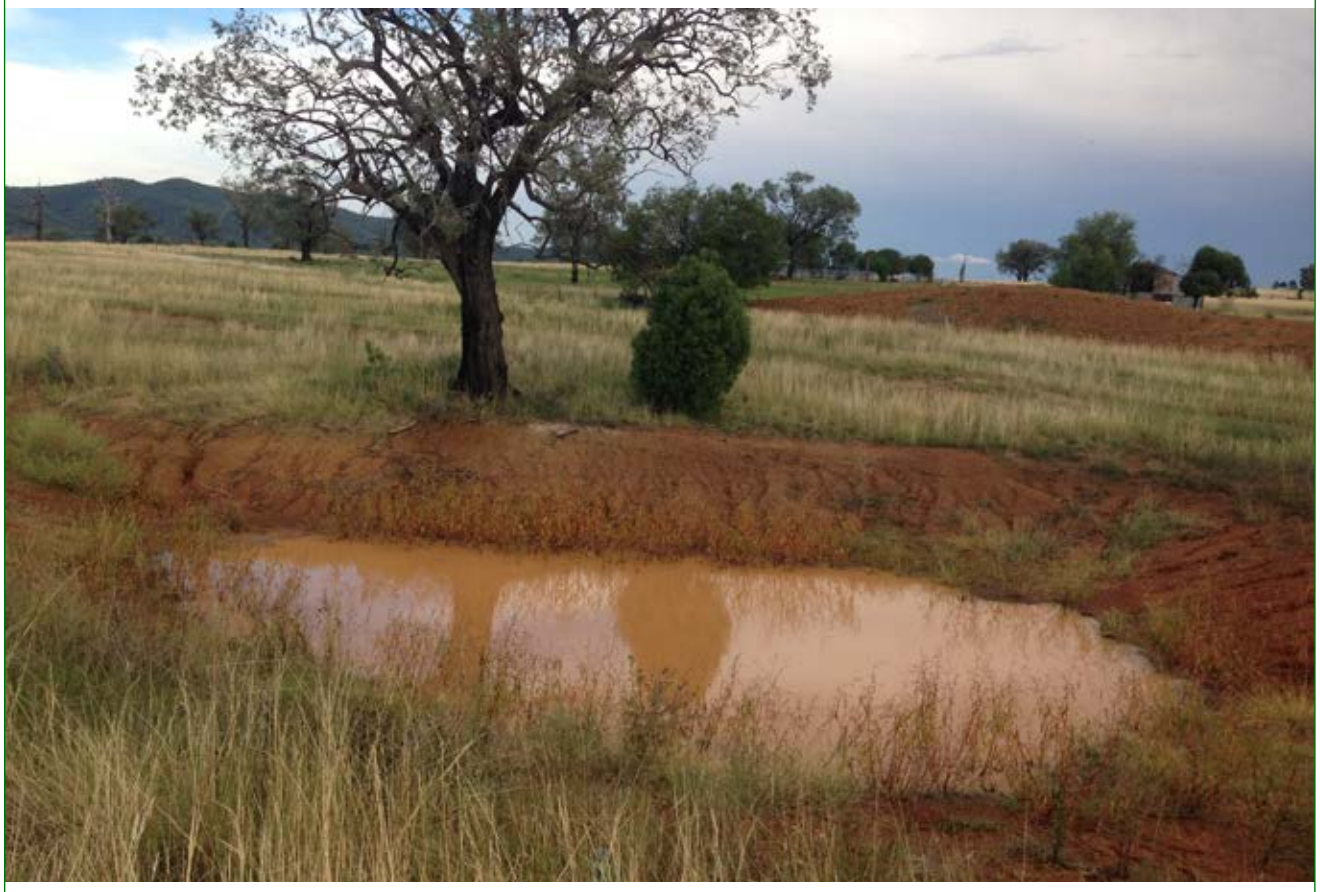

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The Necklace Of Lakes

The great contour connects a series of ponds, lakes, dams and waterways which are the spine of The Living Classroom.

Two existing dams were retrofitted and enlarged to become lakes: vegetated ecosystems with fish and wildlife. Two new billabongs hold water along the great contour and provide refuge and points of interest. A great lake was built at the front of The Living Classroom as the visual landmark and terminus to the whole water system. It is fed by a chain of ponds along a regenerated gully/waterway. Fronting the buildings, smaller billabongs trap water directed from new revegetated waterways, a micro version of the bigger necklace of lakes.

The swales and lakes were designed by JMLA and built by Soilcon for Gwydir Shire Council over a period of a year. The contour was extended by Gwydir Shire Council to All Nations Hill.

The necklace of lakes is being progressively revegetated to become ecosystem corridors which connect regional vegetation wildlife systems and ecologies.

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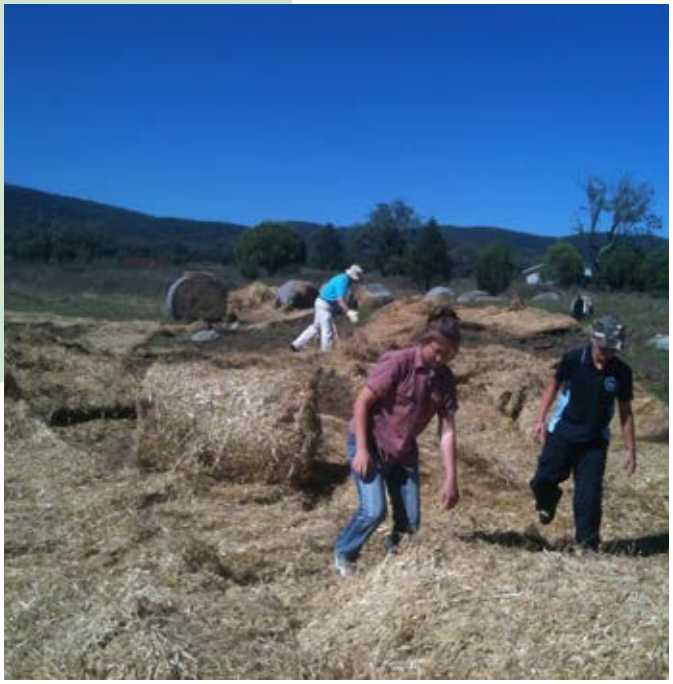
An active learning place

The great lake and its waterway were planted and revegetated by University of NSW students in 2011 assisted by JMLA and Gwydir Shire Council Parks and Gardens staff. The lake was then supermulched with lucern to create a humus layer. This was laid by Bingara primary school students and Vision 2020 members in 2012.



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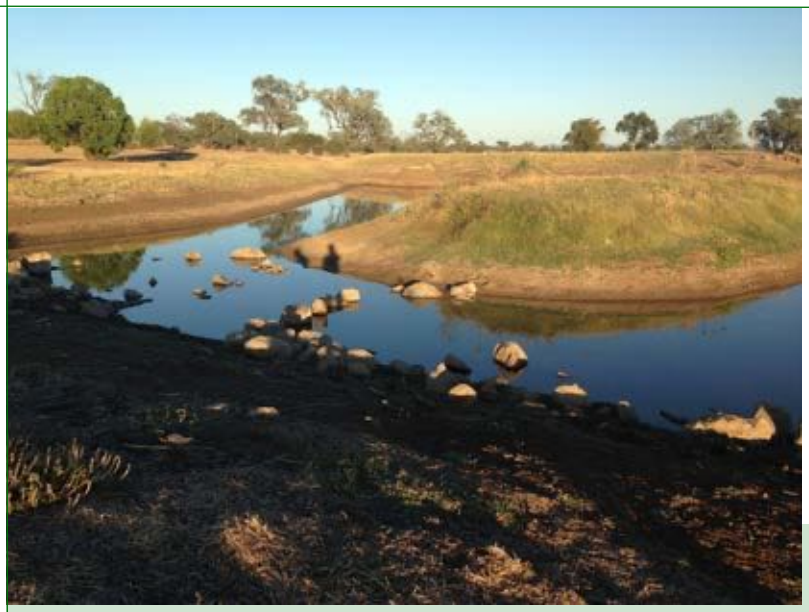

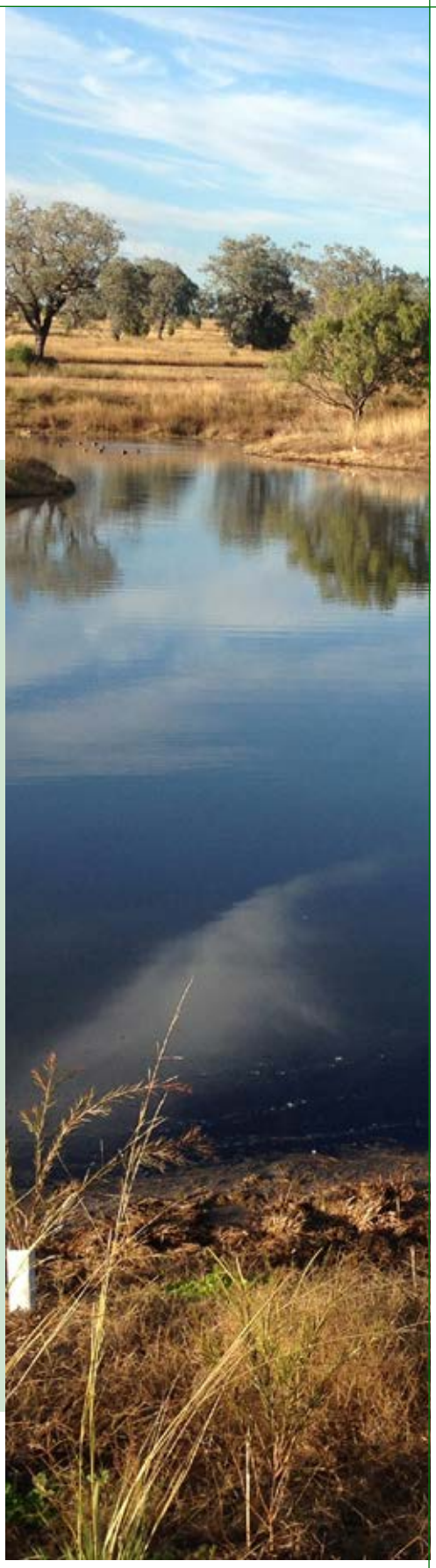

The Great Lake perimeter and waterway was regenerated with the following local and Australian riverine plants:

Callistemon mt mistake
Callistemon viminalis
Eucalytptus sideroxylon
Acacia salicina
Acacia pendula
Casuarina cunninghamiana
Eucalyptus crebra
Eucalyptus melliodora
Eucalyptus moluccana
Eucalyptus tereticornis

The waterway incorporates local timber use trees such as Eucalyptus blakelyi (Blakelys Red Gum) and Eucalyptus camaldulensis (River Red Gum).

The Great Lake

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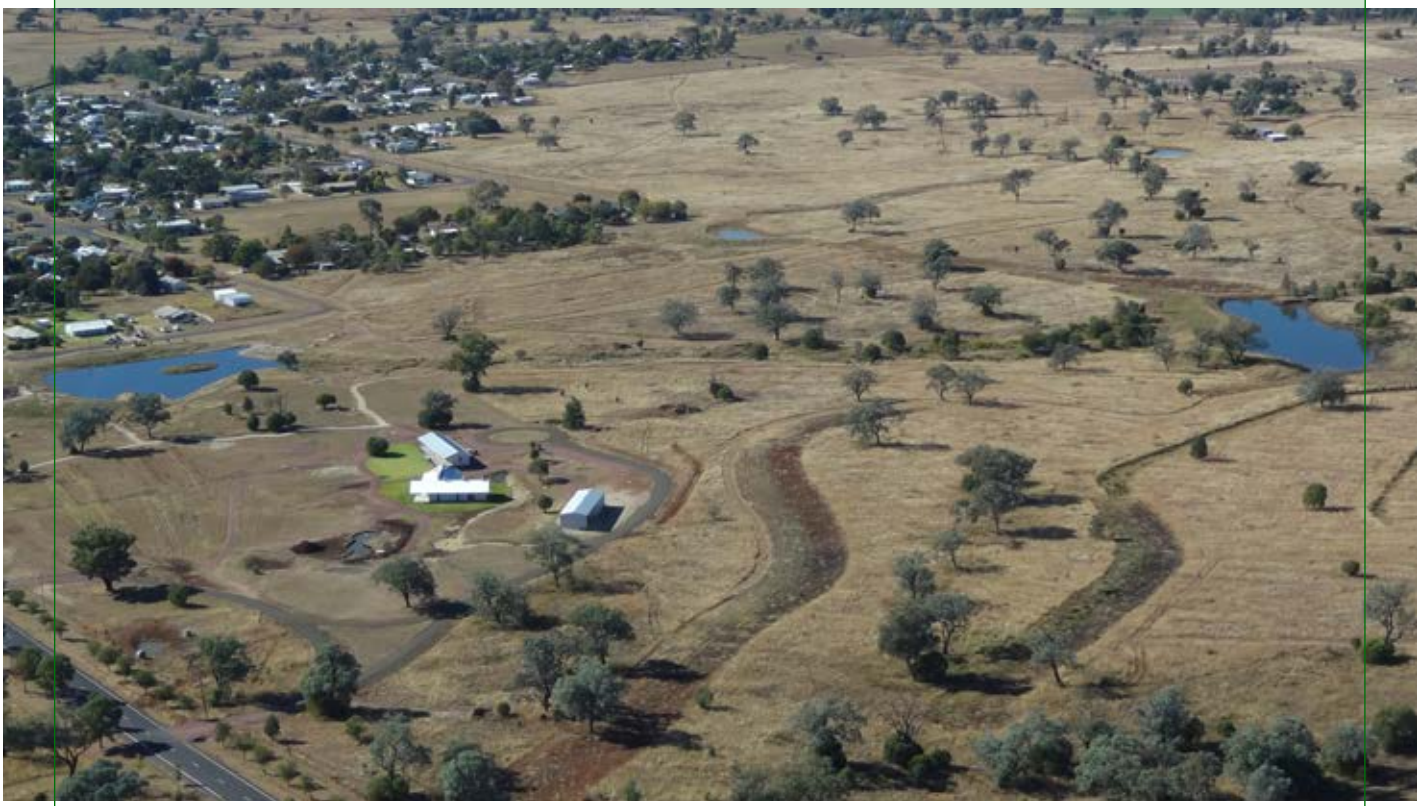
The contoured gardens

The contoured gardens extend a series of older agricultural contour swales built by an unknown farmer on the Bingara town common. These landforms form a ‘rib-cage’ like pattern of water holding channels to the west of the site. These ‘ribs’ have been extended throughout the site forming a system of waterholding vessels comprising ponds, lakes and contour swales.

The great contour swale is a curving swale of numerous kilometers in length which links All Nations Hill to The Living Classroom, trapping and holding water that would, in prior times, flood parts of the town. These meandering shapes look like elements of an Aboriginal painting from the air.



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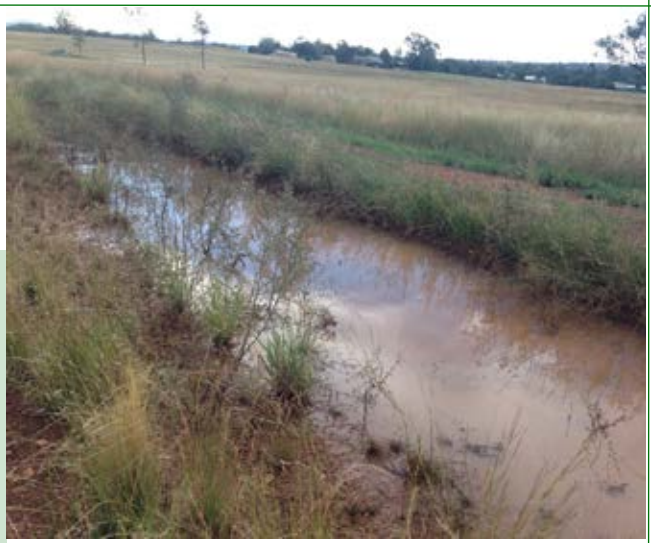
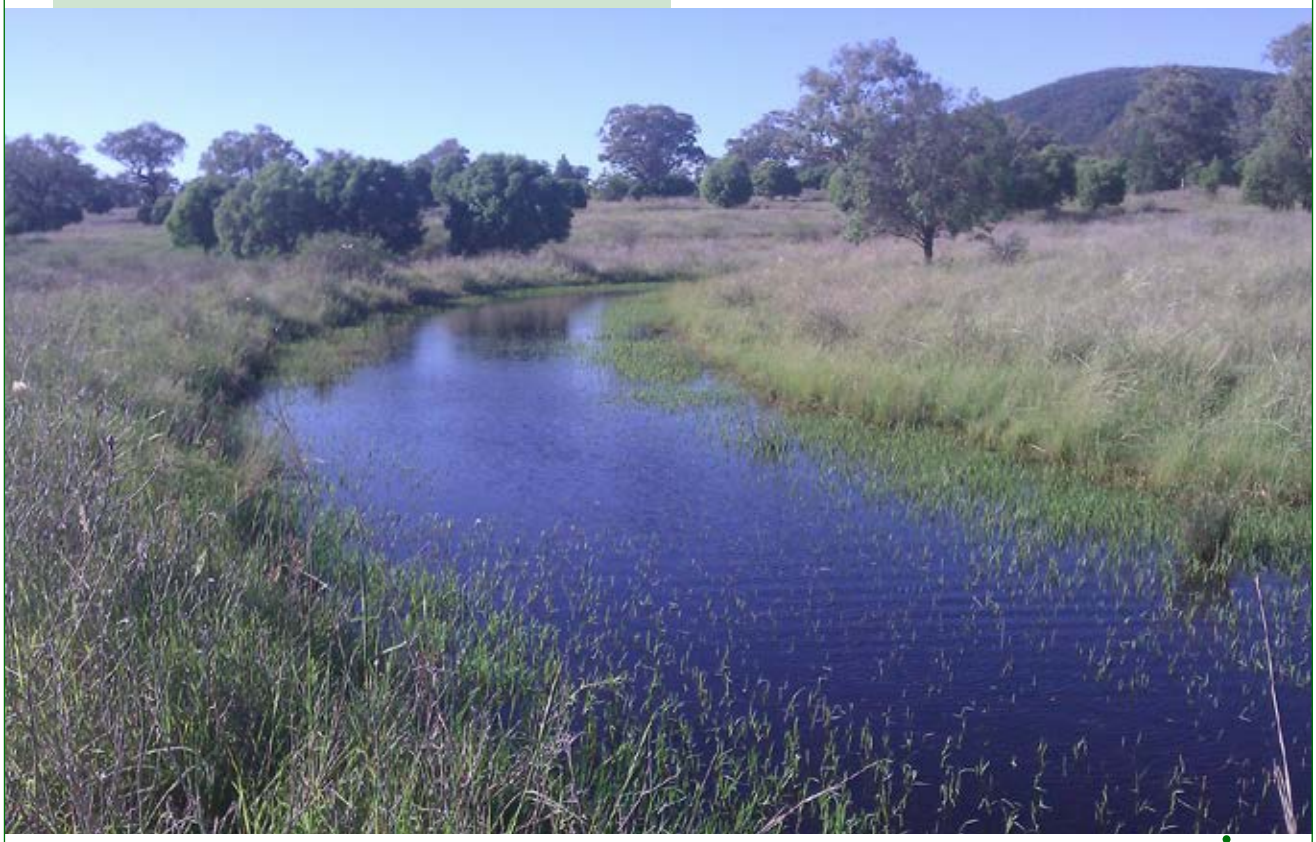
Keyline swale system

The contoured gardens create a spine through The Living Classroom for walking and for wildlife.





When regenerated, the contour swales become perennial wetlands, with reeds that clean water and support frogs and other wildlife. The front gardens feature a contour swale which filters the towns wastewater in reed beds before providing clean water into the great lake. An Australian family called Yeoman invented the concept of keyline swales for agriculture. The idea was to create level landforms which held water and allowed it to percolate slowly into the soil rather than to flow away.

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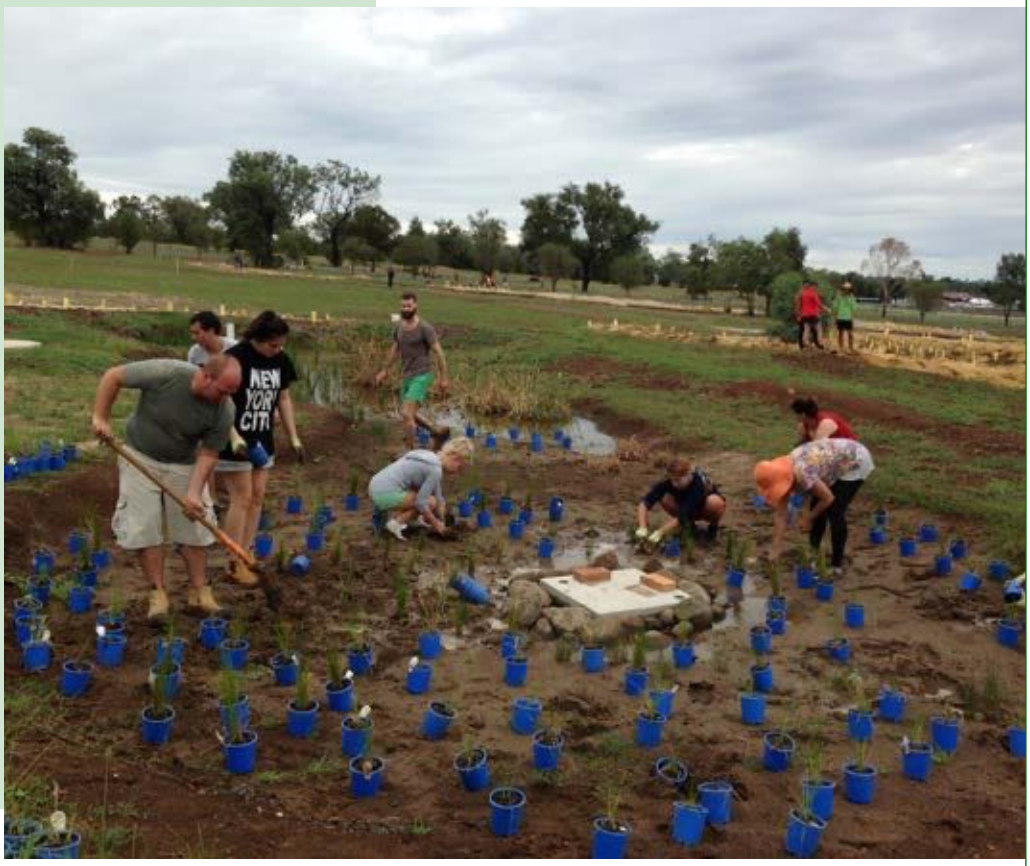
The reedbed filter gardens

The reedbed garden filters and treats water from the septic system. As The Living Classroom grows the reedbed and treatment gardens will extend, with treated water feeding native plants.



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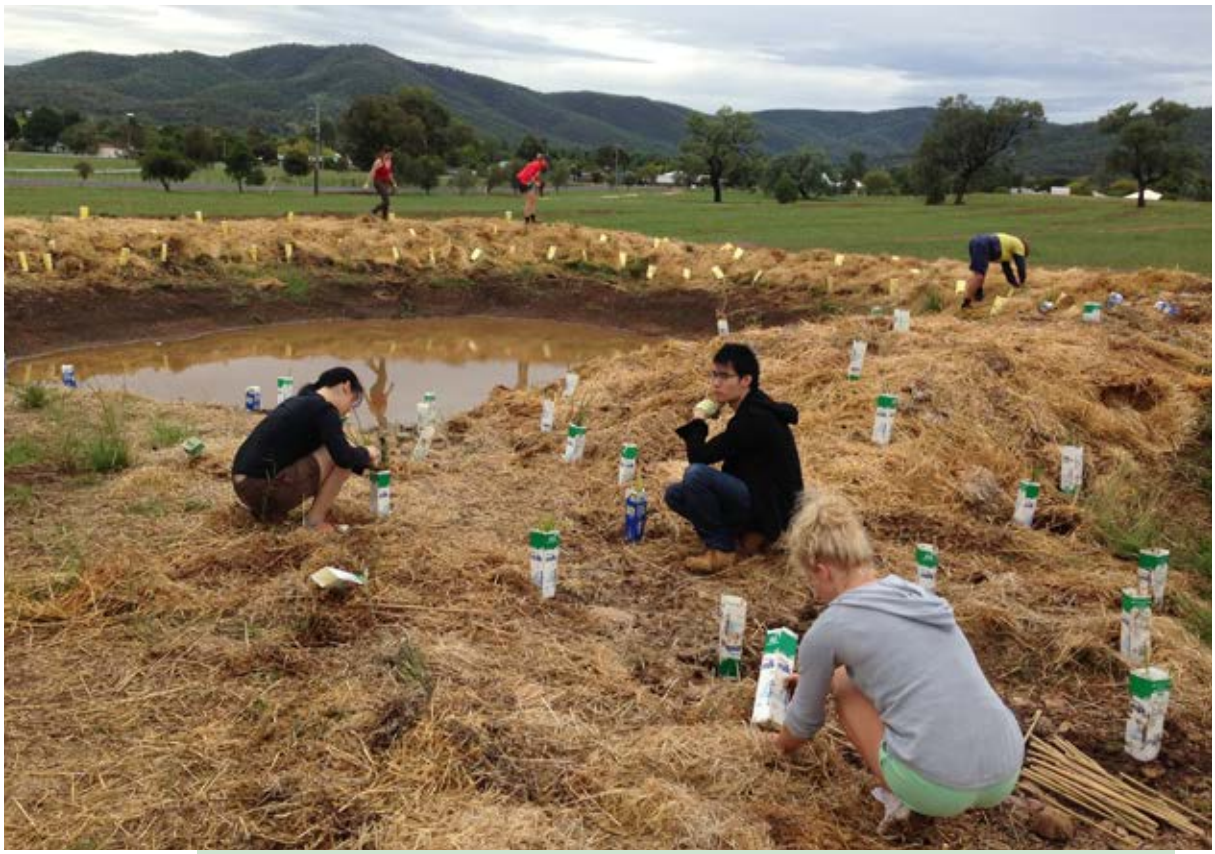

The waterway gardens were planted by thirty QUT students undertaking 3rd year landscape architecture studies. Students spent three days developing ideas for The Living Classroom as part of their semester studies based around The Living Classroom. The garden was planted in March 2014.

The waterways attract birdlife and provide refuge for wildlife. The plants all have different uses and functions and are as follows:

The waterway gardens

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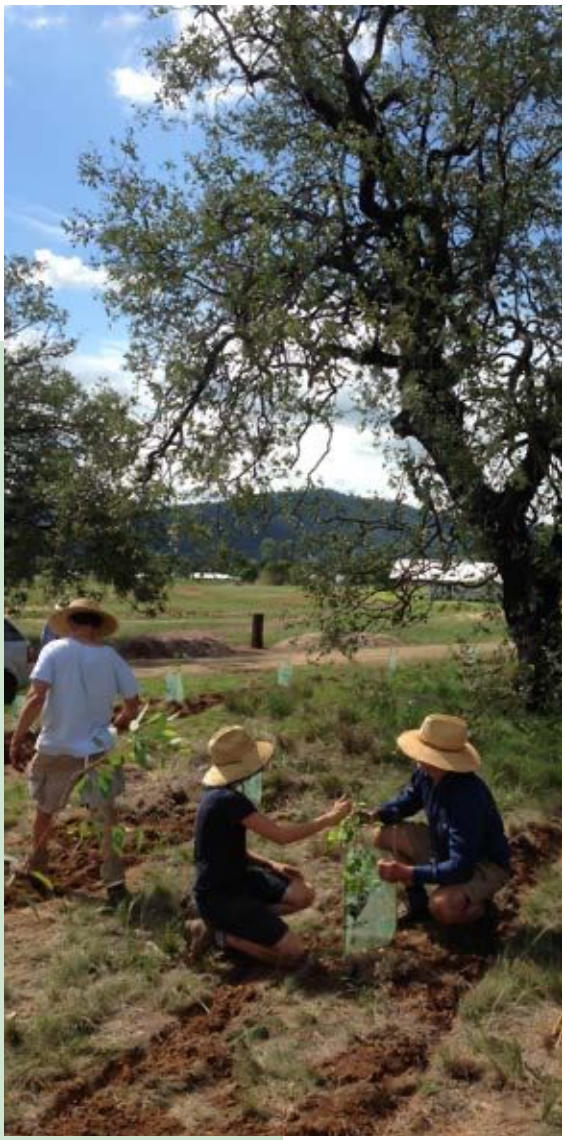
The first woodlot



A woodlot is a structured woodland with productive timber trees. The first woodlot is at the western entry and is interspersed with screening shrubs. The woodlot will shelter productive gardens from predominant winds. The spacing of these trees encourages upright trunks and allows for future harvesting. The front row is river red gum which is a signature large tree in the Gwydir River.

The woodlot was planted in April 2014 by Bingara High School students. They were assisted by Vision 2020 members, Council parks and gardens staff and John Mongard Landscape Architects.

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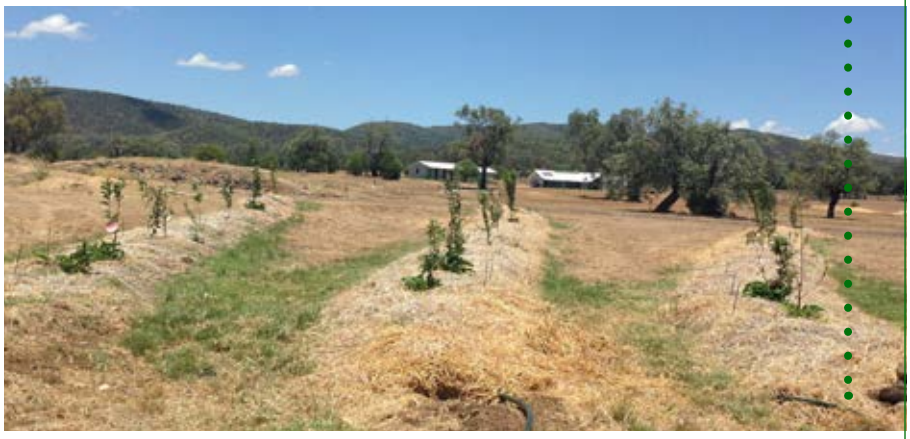
Native woodlots

Common Name	Botanic Name	Uses
Weeping Myall	Acacia pendula	Food, medicine, tools, habitat
Willow Acacia	Acacia salicina	Food, medicine, tools, habitat
Bottlebrush	Callistemon mt mistake	Habitat
Weeping Bottlebrush	Callistemon viminalis	Habitat
River Oak	Casuarina cunninghamiana	Timber, tools, medicines, food, dyes, toys, habitat
Blakelys Red Gum	Eucalyptus blakelyi	Timber,
River Red Gum	Eucalyptus camaldulensis	Timber, tools, medicines, food, canoe, habitat
Narrow-leaved Ironbark	Eucalyptus crebra	Timber
Yellow Box	Eucalyptus melliodora	Tools, honey, medicines, food, habitat
Grey Box, Gum-topped Box	Eucalyptus moluccana	Timber, tools, medicines, food, habitat
Red Ironbark	Eucalyptus sideroxylon	Timber, habitat
Forest Red Gum	Eucalyptus tereticornis	Timber, habitat

The woodlot features productive trees that are local to the area, as well as well known hardwoods native to Australia such as River Red Gum. Woodlots provide wildlife corridors and refuge and can provide timber useful for building various crafts. Forest trees provide a carbon sink and woodlots in The Living Classroom will be integrated throughout the site as a progressive carbon offset project integrated into the grazing and wildlife corridors.



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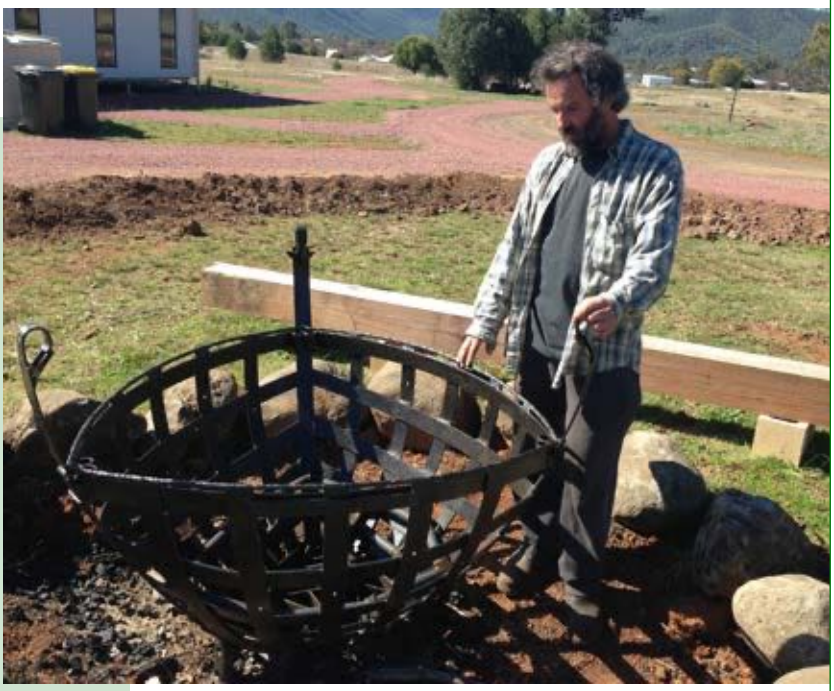
The fire place



The fireplace is circled by seats of locally milled spotted gum and iron bark. It features a fire brazier designed by local craftsman Tony Gomez. The brazier is made of recycled truck and car parts found at the local waste treatment depot. The triangular brazier is inscribed with poetry and the fireplace is framed by mounded gardens which provide refuge and wind shelter. The gardens feature melaleuca shrubs which were traditionally used by indigenous people to treat coughs and colds.

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The fireplace gardens extend to provide screening for the bunkhouses and to enclose a lawn for multiple activities such as play, kitchen gardening and trade displays.

Students plant and learn

The fireplace gardens were planted by Bingara High School students in 2014 assisted by Vision 2020 members, Gwydir Shire parks and gardens staff and John Mongard Landscape Architects.

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