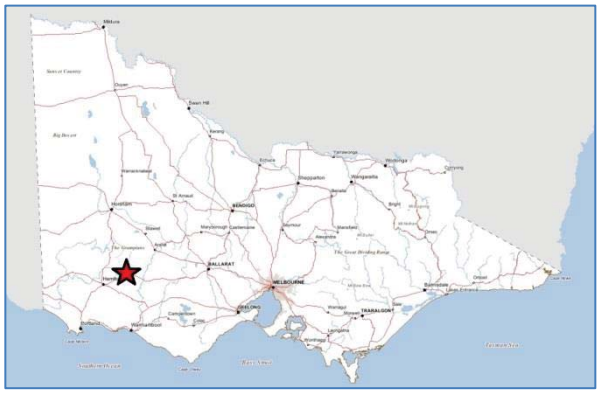
WALKER SWAMP INFORMATION DAY – Saturday 23rd June 2018

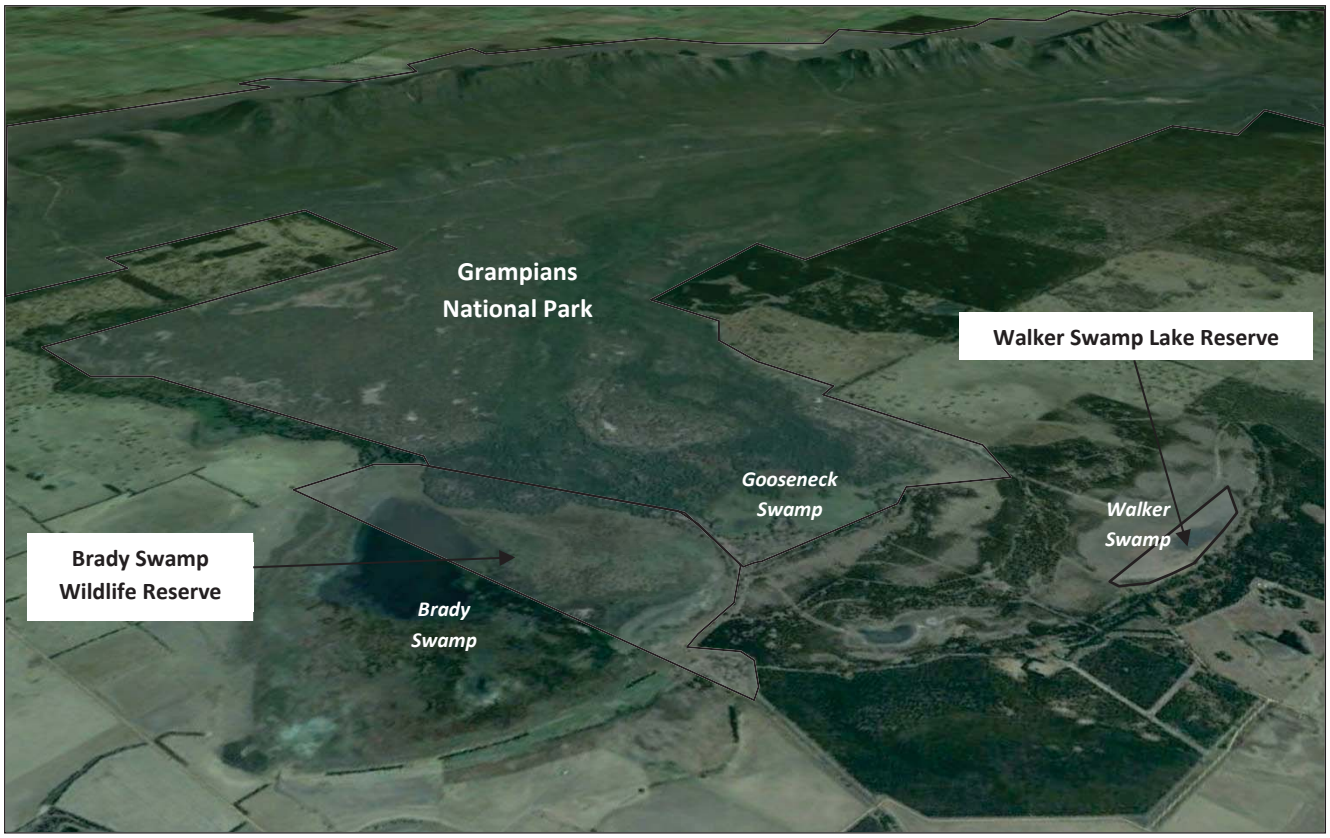
Introduction to the Upper Wannon River Floodplain wetlands and the new Walker Swamp Restoration Reserve

Mark Bachmann and Greg Kerr, Nature Glenelg Trust (NGT)



The Walker, Gooseneck and Brady Swamp complex of wetlands straddle public and private land at the far south-eastern corner of the Grampians National Park (see below), near Dunkeld in Victoria's South West. The swamps are associated with a low-gradient reach of the Wannon River, after it exits the valley between the Serra and Mt William Ranges within the Grampians.

The construction of artificial drains in what is now known as the Bunnugal Rural Drainage Area, from around 1900, created an additional catchment for these swamps (see image over page). While this was initially limited to the extensive Heifer Swamp system to the east, with time additional private drains were connected into this catchment from as far away as Glenthompson (linked to the Bunnugal drain inflow into Brady Swamp) and from further afield to the north-east (linked to the second drain inflow via Walker Swamp).



Oblique image looking over the project area towards the Grampians, with Parks Victoria Reserves marked and named as indicated. Gooseneck Swamp falls within the Grampians National Park, and the northern portion of Brady Swamp is a Wildlife Reserve.

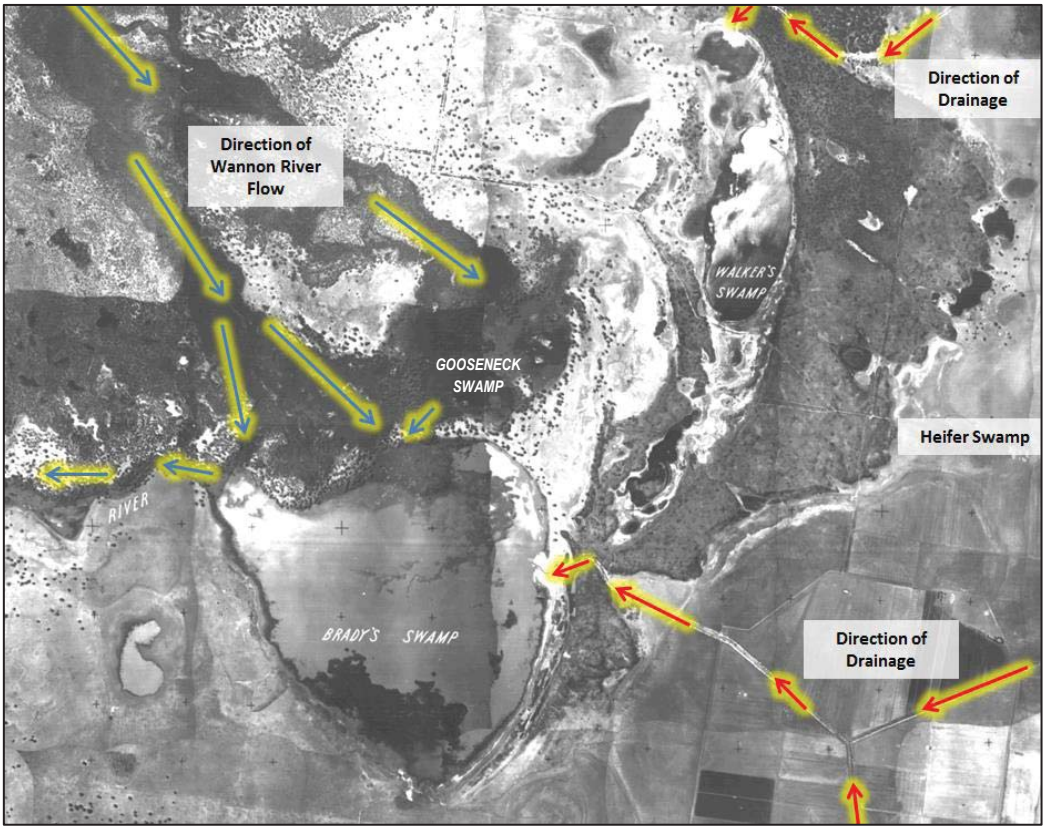


Image from the late 1940s: showing Wannon River flows (blue arrows) and Heifer Swamp drainage inflows (red arrows) into Walker Swamp and Brady Swamp from 1900 – 1950s

After a 50 year period of increased inflows due to discharges from the new Bunnugal Drainage Area catchment, the comprehensive drainage of Walker, Gooseneck and Brady Swamps was attempted in the 1950s. At that time all three swamps were privately owned and managed as grazing enterprises, during a period when private wetland drainage was occurring across the region at an increased rate.

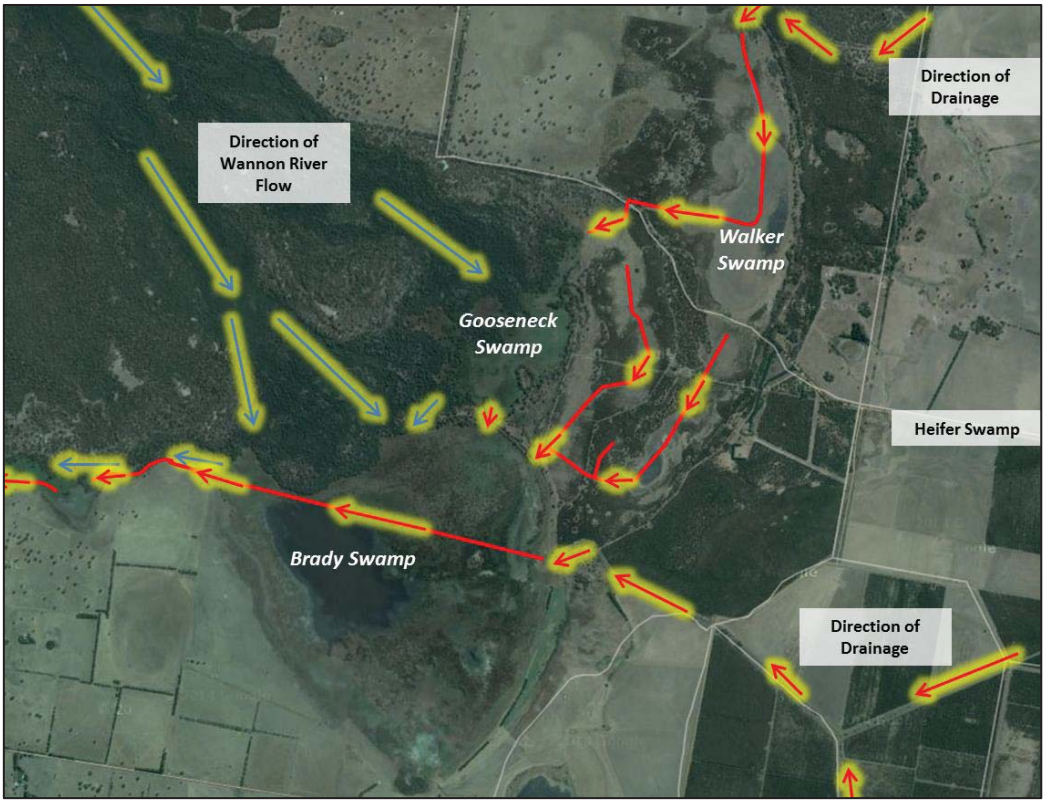


Image from the present day: showing the additional drains (red lines and additional arrows) constructed to more comprehensively drain Walker, Gooseneck and Brady Swamps, as it operated from the 1950s – 2013

However, due to the size and reliability of the catchments that feed these swamps and the low-gradient in this section of the Wannon River, they all continued to effectively function as wetlands during periods with sufficient inflow. In fact, because of the environmental values they retained, and thanks to the efforts of people like Gavin Cerini (an officer with the Department of Fisheries and Wildlife at the time), all of Gooseneck Swamp and the northern portion of Brady Swamp were purchased by the government in the mid-1980s, for inclusion in Parks Victoria reserves (Grampians National Park and Brady Swamp Wildlife Reserve respectively).

However it remained the case that, in all but the wettest periods, drainage had altered the depth and duration of inundation, with the sill level (natural retention height) of all three wetlands having been breached. In each case, the drains were cut to the bed level of the swamp, meaning that as soon as inflows ceased (or downstream constrictions in Wannon River flow eased), these wetlands could freely and more rapidly drain to near empty than would occur under natural conditions.

Local interest in restoring Gooseneck Swamp and Brady Swamp has been maintained by landholders and the local community since the land was purchased by the government in the 1980s.

Eventually in 2013, after many years of work, modelling studies and biological investigations by a range of organisations, Nature Glenelg Trust began working towards a staged process of restoration at the site in partnership with the Glenelg Hopkins CMA, Parks Victoria and local landholders – starting with a proposal to construct a low cost and low risk trial sandbag weir structure in the Gooseneck Swamp artificial outlet drain (August 2013 – top right). The initial restoration trial was funded by a Victorian Government (DELWP), Communities for Nature Grant.

The success of the first trial in 2013 was the subject of an information day held on the 14th December 2013, and led to the construction of a further two trial structures on private land in 2014, at Brady Swamp (March 2014 – middle right) and Walker Swamp (August 2014 – bottom right). These subsequent restoration trials were funded by Nature Glenelg Trust's *Wetland Restoration Program on Private Land*, with grant funding provided by the Australian Government.

IMAGES: The Volunteer Sandbagging Crews

Top – Gooseneck Swamp (August 2013)
Middle – Brady Swamp (March 2014)
Bottom – Walker Swamp (August 2014)

With the three trial structures in place, the 2014 winter and spring provided the range of observational data required by NGT, to progress planning for permanent restoration works at Goooseneck and Brady Swamp. After seeing the results of the trials first hand in 2014, our project partners and neighbouring landholders were keen for the project to immediately progress – and thanks to the support of a Victorian Government, Living Victoria Fund Grant, rapid progress was to follow.

Hence over the 2014/15 summer, after 25 years of uncertainty, the drain cuttings from both Goooseneck and Brady Swamp were entirely backfilled by NGT, reinstating not only the natural banks of these wetlands, but also permanently restoring wetland sill elevations (water retention heights) and the natural flowpath of the Wannon River for the first time since the 1950s – as shown below and over the page.

Looking upstream towards Gooseneck Swamp, before and after the artificial drain was completely backfilled


December 2014 *February 2015*

Gooseneck Swamp drain – looking downstream towards Brady Swamp.


November 2014 *April 2015*

Brady Swamp drain – looking from the trial structure towards the swamp.


November 2014 *April 2015*

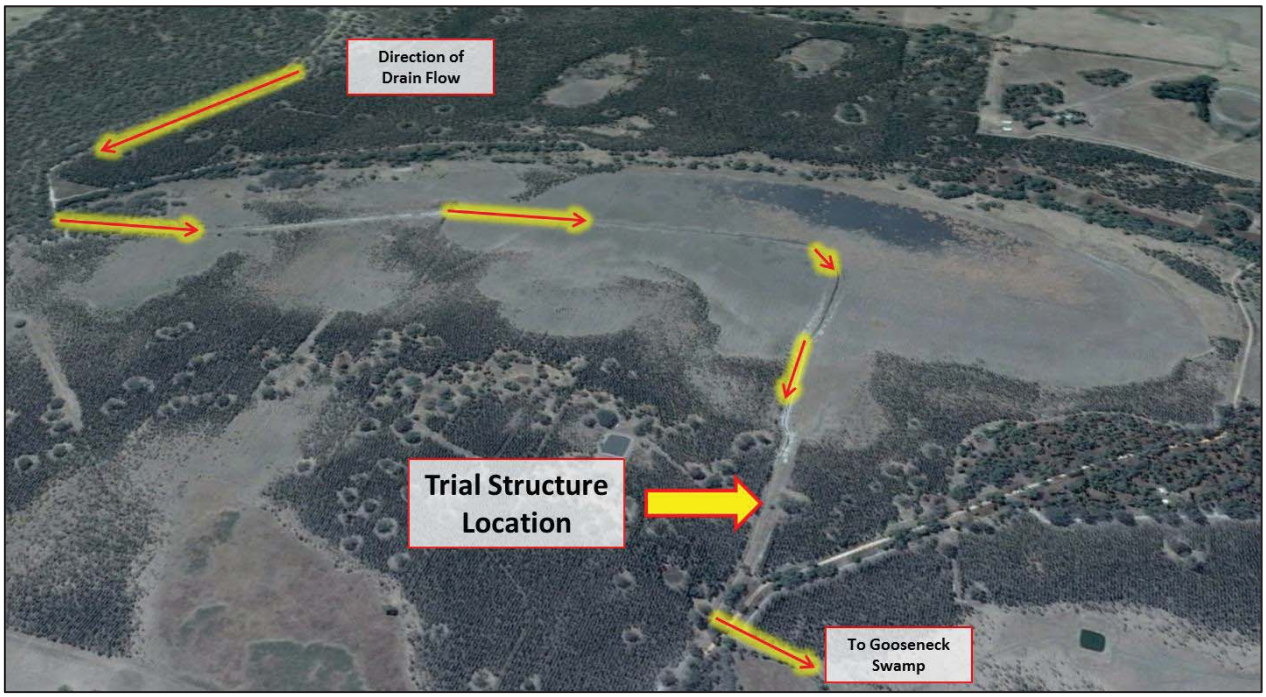
Brady Swamp drain – looking downstream.

The potential for a wetland restoration project at Walker Swamp emerges in 2014

Over the course of delivering the projects at Gooseneck and Brady Swamp, NGT also formed a positive working relationship with Macquarie Plantations, the owners of Walker Swamp at the time, via their plantation forestry manager Darren Shelden. Thanks to their support, a restoration trial consisting of a low-level temporary sandbag weir was completed by NGT with community volunteer help on the 8th of August 2014. That first year, we managed to retain the tail end of a pulse of inflows that resulted from the rains in late July 2014, during an otherwise below average rainfall year.

Before (left) and after (right) the construction of the trial structure in 2014 - looking upstream towards Walker Swamp

Over the four seasons since the trial began, the structure has done a highly effective job of retaining water in the swamp, when in previous years it would have rapidly emptied (draining to bed level) once inflows ceased.



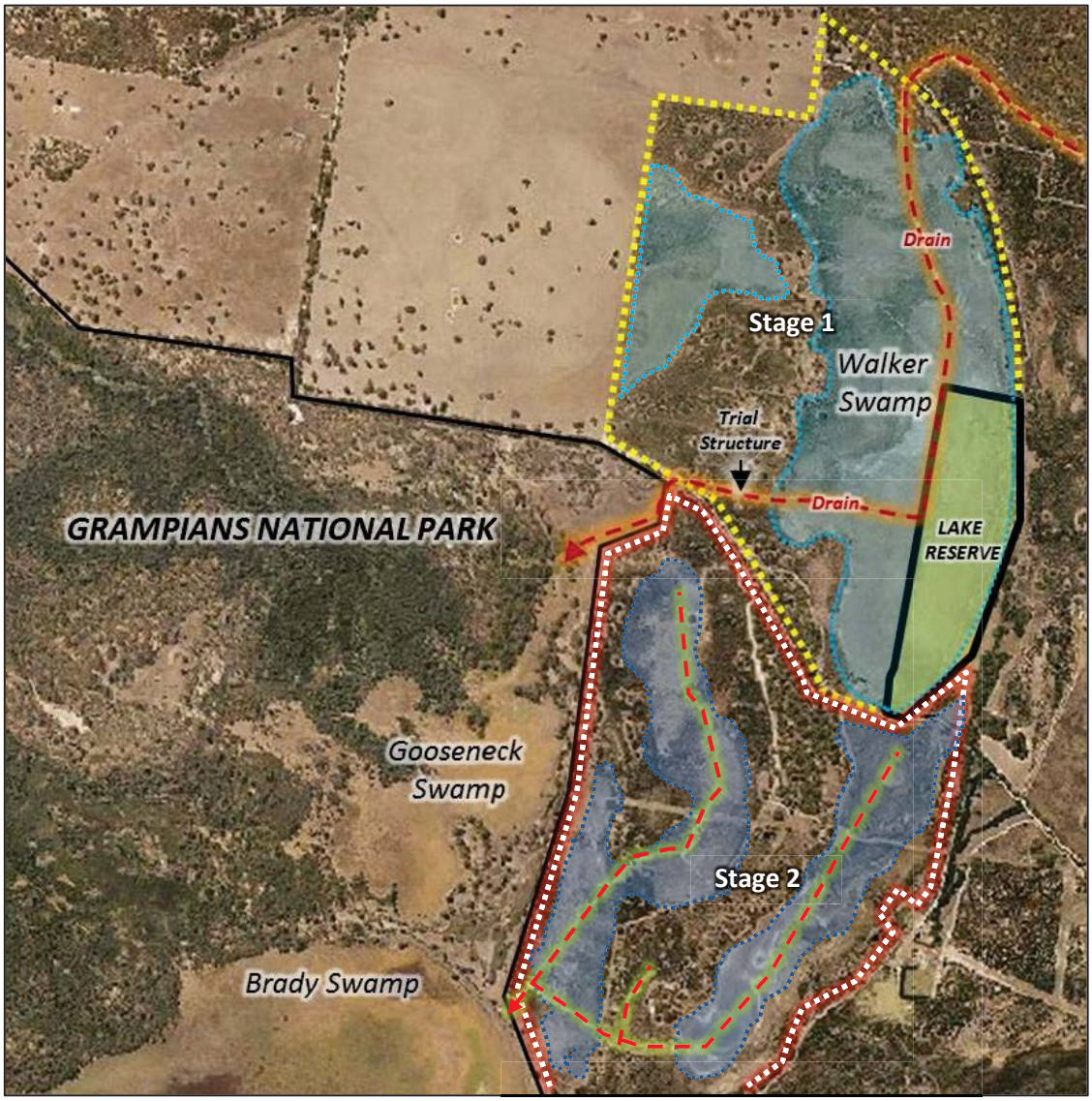
Oblique image showing the direction of flow through Walker Swamp, and the location of the restoration trial structure

It is also worth pointing out that the Walker Swamp structure has been designed to allow water to continue to pass through the site down the existing drainage channel, spilling over the structure at the conservatively set trial height, which was necessary to protect against unwanted inundation impacts on the surrounding plantation (blue gum) forest growing at the time on the site. Despite only achieving partial restoration, the results were dramatic and extremely positive for wetland ecology, as shown below.

Looking across Walker Swamp to the Grampians, with the restoration trial structure operational and set at the initially conservative spillway height

The outcomes of the trial, and the fact that NGT soon also became aware that the property would be sold at the end of the forestry investment scheme in 2017, led NGT to attempt the difficult task of seeking sufficient finance to enable the property to be purchased for environmental restoration and permanent protection as a private, covenanted nature reserve.

That process eventually resulted in a new partnership between Nature Glenelg Trust, the Glenelg Hopkins CMA and the Hamilton Field Naturalists Club. In the first instance, this enabled NGT to secure 200 hectares (500 acres) of the property surrounding the drained and isolated Walker Swamp Lake Reserve (Parks Victoria managed crown land), as shown below. The purchase of this area settled in March 2018.



Stage 1 (northern - yellow outline) and Stage 2 (southern - white outline) of the new Walker Swamp Restoration Reserve. The minimum area of drained wetlands on the floodplain to be restored are shaded blue, and artificial drains are marked red. The total project area, including the Lake Reserve, is approximately 440 hectares or 1100 acres.

However during negotiations, NGT was also able to seize the rare opportunity to secure the rest of the Walker Swamp floodplain under contract – a further 200 hectares (500 acres) – with this Stage 2 area due to settle later in 2018. As shown above, this will enable full restoration of the presently drained floodplain to occur and physically connect the Stage 1 area with the now restored wetlands in the Grampians National Park. To enable NGT to proceed with the project and not have to carry a debt on the initial land purchase costs, a campaign is currently underway, seeking to raise the remaining $150,000 required before the end of August 2018. Further information on the public fundraising campaign can be found in the brochure attached to this pamphlet or at our website (www.ngt.org.au).

Early Works and Future Plans at Walker Swamp Restoration Reserve

Beyond the minor shortfall on land purchase costs, the project is well placed to proceed with all the required on-ground works to establish it as a private nature reserve over the next few years and set it on a lasting trajectory of long-term ecological recovery.

The steps that are fully funded and have either commenced or will soon be underway include:

1. **Reserve establishment works**, dealing with the legacy of the previous land use, including new fencing of unfenced sections, blue gum spraying and/or removal, initial mapping tasks and site planning. *Funded in 2018 by a Victorian Government (DELWP) Biodiversity and On-ground Action (BOA) Grant.*
2. **On-ground restoration works, planning and community engagement**, including blue-gum furrow removal in wetland beds, additional fencing repair, cultural engagement with traditional owners, community engagement via citizen science, and preparation of a draft management plan. *Funded from 2018-2020 by the Glenelg Hopkins CMA, (through their funding agreements with the Victorian Government (DELWP) Our Catchments Our Communities Program and AGL Energy).*
3. **Hydrological restoration assessment and planning, permits and approvals,** which will enable the options for the reversal of artificial drainage to be assessed and designed, and permits obtained for the preferred option prior to major earthworks occurring in autumn 2019. *Funded in 2018-2019 by the Glenelg Hopkins CMA, through the Victorian Government (DELWP) Our Catchments Our Communities Program.*
4. **Implementation of major earthworks** to reverse artificial drainage, restore natural river and floodplain processes and monitor eco-hydrological response to the works. Monitoring will commence in 2018 and continue throughout, while all major works will take place in autumn 2019. *Funded in 2018-2020 by a Victorian Government (DELWP) Climate Change Innovation Grant.*

Dr Greg Kerr, Senior Ecologist with NGT, is based in Dunkeld and will oversee these projects as our newly appointed property manager. A major focus for us as the concept progresses will be meaningfully engaging the community in the project, turning the site into a local educational resource, a drawcard for visitors and researchers interested in floodplain restoration and sustainable catchment management, and creating a major, lasting ecological asset that is appreciated and becomes a source of local community pride. These topics and the projects outlined above, will be explored further while on site during the field visit.

For more information about the project, or to donate and help cover the shortfall in land purchase costs, please visit the NGT website: www.natureglenelg.org.au, or contact us by emailing info@natureglenelg.org.au.

Nature Glenelg Trust

Wishes to especially thank the following individuals:

Roger & Todd Burger, Doug Craig, Vanne (dec.) & Judy Trompf, Darren Shelden, Rod Bird and Gavin Cerini

and partner organisations from 2013 - present:

Glenelg Hopkins CMA · Parks Victoria · Hamilton Field Naturalists Club Since 1958 · Our Catchments Our Communities · Victoria State Government