

CSGS21045

Connecting and Protecting the Kent-Frankland
Subregion

Final Report

2022 - 2023



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Introduction

The Kent-Frankland sub-region is situated within one of the world's 36 recognised biodiversity hot spots, which appears to be a badge of honour, however, to be classified as a biodiversity hotspot means this region has lost over 70% of its primary vegetation.

This project aims to contribute to the protection of the Balicup Wetland system, through improving landscape connectivity of over 290ha of vegetation, collaboration with Green Skills to continue long-term fauna monitoring for conservation management, improve environmental connection through two citizen-science events, protect 47 ha of priority remnant vegetation through fencing, and revegetate 20ha for biodiversity and ecosystem function.

This project has not only strengthened vegetation corridors and connections in the region, but has also enhanced connections between Gillamii and groups such as Green Skills and Greening Australia, Landholders and the greater community.



Site 1

Property 1

11 Hectares



Property 2

3.5 Hectares



Planting Details

Preparation

Soil type varies across the site from loam to clay with patches of salinity and waterlogging issues. A site visit was conducted on January 13th with revegetation consultants Wendy Bradshaw, Jack Mercer, project officer Ashley Marjoram and the landholder. The site was knocked down with Glyphosphate and Hammer and ripper mounded in a herringbone design where suitable in 3 metre spacing. Burnleigh Downs is currently too wet to prepare and will be reassessed at the end of August.



Species Selection

- *Juncus kraussii*
- *Ficinia nodosa*
- *Atriplex semibaccata*
- *Disphyma crassifolium*
- *Enchylaena tomentosa*
- *Melaleuca ordinifolia*
- *Melaleuca thyoides*
- *Melaleuca hamulosa*
- *Melaleuca hamata*
- *Melaleuca brophyi*
- *Kunzea recurva*
- *Callistemon phoeniceus*
- *Acacia redolens*
- *Melaleuca brevifolia*
- *Billardiera fusiformis*
- *Callitris pyramidalis*
- *Eucalyptus sargentii*
- *Eucalyptus salicoli*
- *Eucalyptus spathulata*
- *Eucalyptus astringens*
- *Casuarina obesa*
- *Melaleuca cuticularis*
- *E. occidentalis*
- *Melaleuca raphiophylla*
- *Melaleuca strobophylla*

Establishment

Site one was planted throughout the week of the 25th of July. This site was revegetated through direct seeding and planting of seedlings utilising the Chatfield Tree Planter where possible, and hand planting where conditions were not suitable. Seed was established at 1.2 kg / hectare (approximately 3000 seedlings) and seedlings planted at 2.5 meter spacing with a total of 11,000 seedlings being planted. Seedlings were supplied by Form Forest and the Seed was supplied by Formosa Flora.

Photo Point Monitoring

P1 12-08-2022



P2 12-08-2022



P3 12-08-2022



P4 12-08-2022



Establishment

Photo Point Monitoring

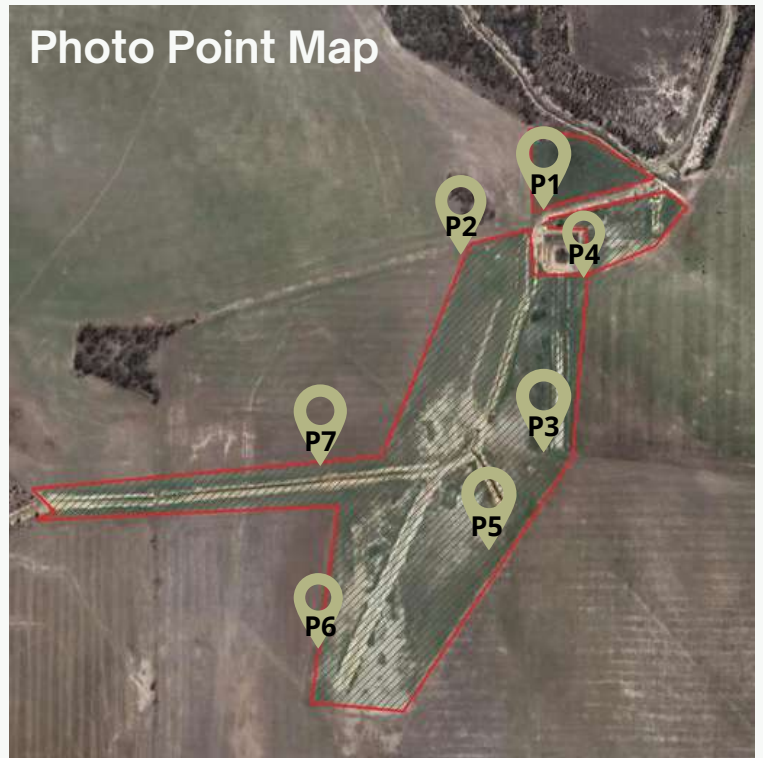
P5 12-08-2022



P6 12-08-2022



P7 12-08-2022

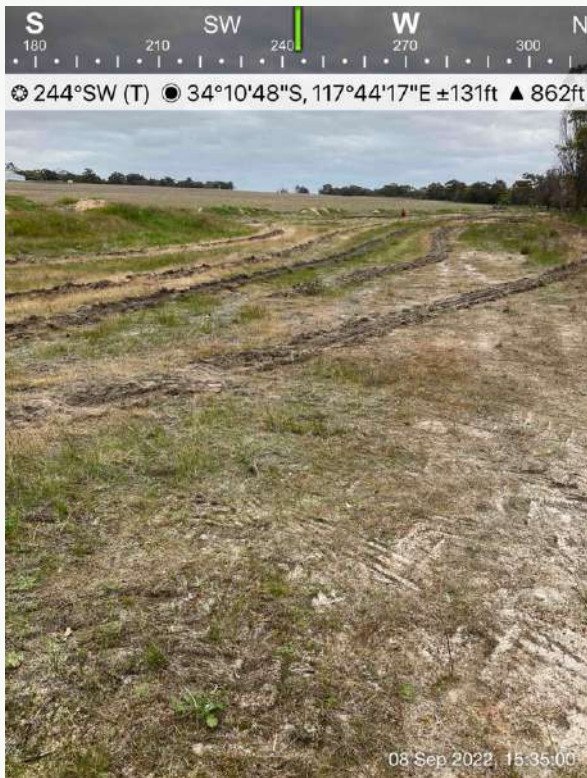


Establishment

The second property was planted throughout the week of the 8th of September. This site was revegetated through direct seeding and planting of seedlings utilising a modified Tree Planter towed by a tractor where possible, and hand planting where conditions were not suitable. Seed was hand broadcast at approximately 1kg/ha and seedlings planted at 2.5 meter spacing with a total of 2500 seedlings being planted. Seedlings were supplied by Form Forest and the Seed was supplied by Formosa Flora.

Photo Point Monitoring

P1 08-11-2022



P2 08-11-2022



P3 08-11-2022



P4 08-11-2022



Establishment

Photo Point Monitoring

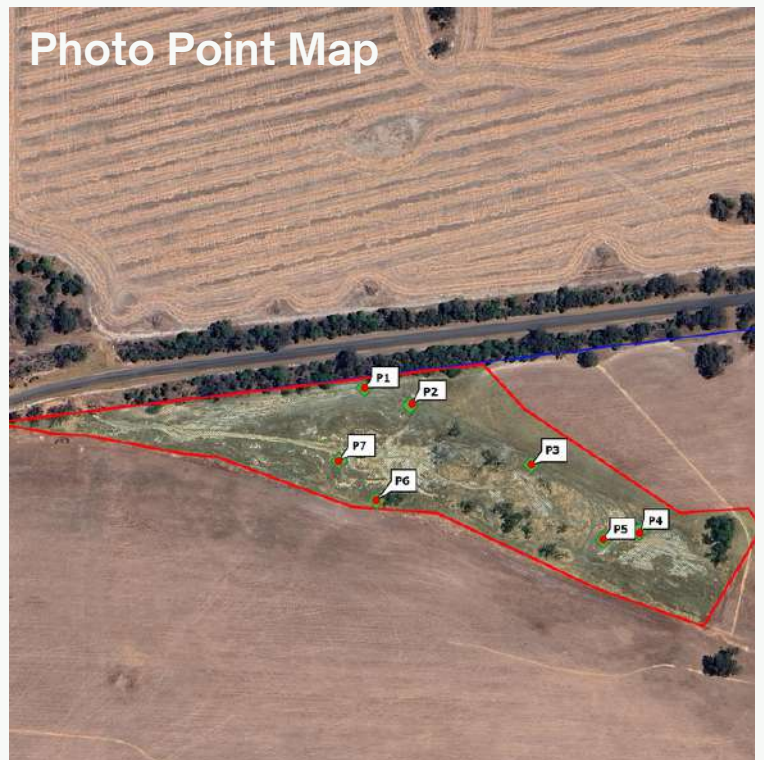
P5 08-11-2022



P6 08-11-2022



P7 08-11-2022



Site 2

47 Hectares



Collaboration

After discussions with the landholder and Greening Australia's on-ground officer Glen Stevens, an opportunity presented itself to collaborate together and maximise the outcome of this beautiful 47 hectare site. Collaboratively Greening Australia and Gillamii have worked to restore this site which is blighted by salinity and waterlogging issues. Through the State NRM Community Stewardship Grants, Gillamii has funds to fence off the 47 hectares with 3km of fencing and contributed to the eco restoration of the site. Greening Australia has obtained stems to revegetate the site seeing a greater portion of the original 5 hectares covered through this project being revegetated. Glen's experience in direct seeding and revegetation has also been invaluable in assisting Gillamii's Project Officers with the establishment of this site.

Planting Details

Preparation

Soil type varies across the site from sandy loams to clay with areas affected by salinity and waterlogging. A site visit was conducted on January 13th with revegetation consultant Wendy Bradshaw, from there it was ascertained that the site could greatly benefit from added support from Greening Australia.

Site preparation begun during the week of May 23rd with a knock down spray. The site was mounded at 2.5 meter spacing. This work was conducted by a contractor on behalf of Greening Australia.



Species Selection

- *Acacia acuminata*
- *Acacia saligna*
- *Acacia cyclops*
- *Acacia redolens*
- *Acacia myrtifolia*
- *Acacia pulchella*
- *Acacia harveyi*
- *Acacia glaucoptera*
- *Eucalyptus occidentalis*
- *Eucalyptus decipiens*
- *Eucalyptus uncinata*
- *Eucalyptus rudis*
- *Eucalyptus platypus*
- *Eucalyptus vegrandis* -
recondita
- *Eucalyptus wandoo*
- *Melaleuca thyoides*
- *Melaleuca acuminata*
- *Melaleuca cuticularis*
- *Melaleuca viminea*
- *Melaleuca lateriflora*
- *Melaleuca brophyi*
- *Leptospermum erebescens*
- *Kunzea recurva*
- *Kunzea ericifolia*
- *Callistemon phoenicis*
- *Allocas huegeliana*
- *Hakea lissocarpha*
- *Hakea undulata*
- *Hakea prostrata*

Establishment

Site 2 was direct seeded on the 15th of June. Seeding rate varied from 300g/km on the better soils through to 600g/km on the saline and waterlogging areas. A site visit was conducted on the 28th of July, we saw germination across the majority of areas however with the colder temperatures and high amounts of rainfall to date, a slower germination rate is to be expected. It was also determined that a pesticide spray may need to be conducted to ensure greater seedling survival. Areas will be assessed for follow up handplanting this season and next season.

Photo Point Monitoring

P1 12-08-2022



P2 12-08-2022



P3 12-08-2022



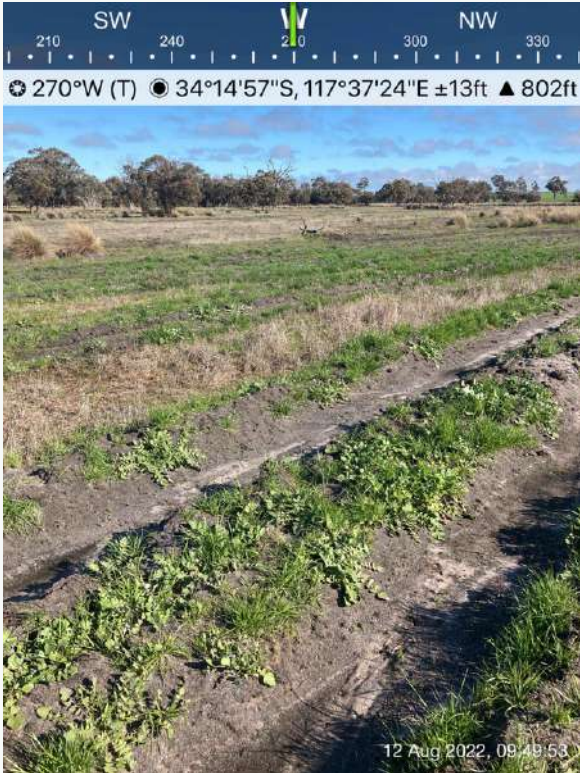
P4 12-08-2022



Establishment

Photo Point Monitoring

P5 12-08-2022



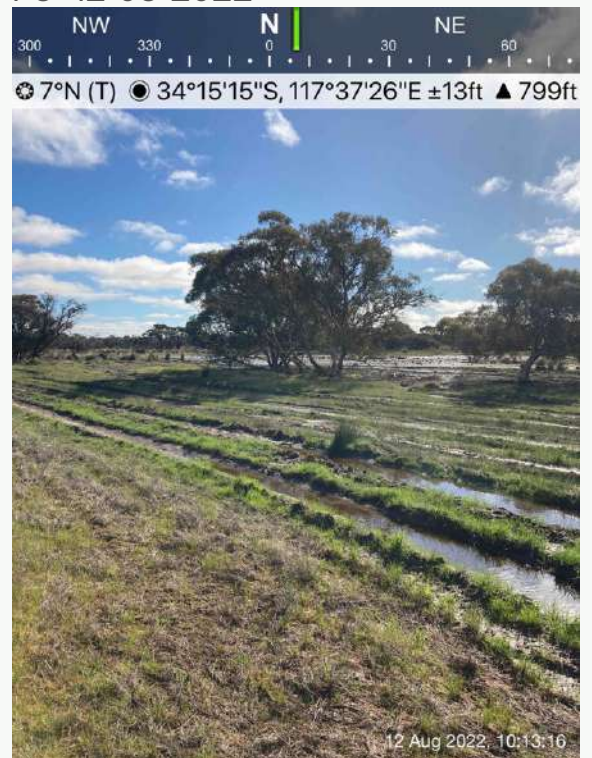
P6 12-08-2022



P7 12-08-2022



P8 12-08-2022



Establishment

Photo Point Monitoring

P9 12-08-2022



P10 12-08-2022



P11 12-08-2022



P12 12-08-2022



Monitoring

Monitoring in 2023 has been conducted in-kind to the funding provided by the State Natural Resource Management program. During conducting monitoring, we have assessed for plant establishment and pest and weed burden.



Site 1 Summary

Establishment was monitored in December 2022 and May 2023. Property 1 experience waterlogging, competition from ryegrass, and some impact from kangaroos that impacted some areas of establishment. A further 3000 seedlings were infilled in August 2023.

Site 2 Summary

Establishment of the site has been monitored closely by Greening Australia and Giilamii including seedling establishment accounts, which determined the need for further seedling infill in the salt affected areas. Additional seedlings were planted at this site in mid August, and further infill was conducted in the areas prone to waterlogging and salinity in August 2023. Overall establishment has been successful across the loam and gravel areas of the site, with slower establishment in areas prone to waterlogging and salinity.





BALIJUP SANCTUARY CITIZEN SCIENCE



EVENT SUMMARY

Gillamii and Green Skills collaborated to deliver two brilliant citizen science events within the feral proof fenced Balijup Sanctuary. The first event hosted over a 4 day camp (January 13th - 17th) saw volunteers and Wildlife Biologists gathered together at the Hordacre's property in Tenterden, where 110 hectares of feral proof fenced remnant vegetation is a haven to species including Quenda, Brushtail Phascogales and Brushtail Possums.

Participants enjoyed the rare opportunity to get up close and personal with our local marsupials, as well as the diverse birdlife our region supports. Participants assisted Wildlife Biologists set traps, process fauna and manage data, conducted bird surveying and had the option to visit other brilliant conservation properties in the region, as well as camp at Lake Nunijup. The sanctuary was established to address critical threats to small native marsupials, particularly from the insult of feral foxes and cats in the region.

As a by-product of protecting biodiversity within the sanctuary, citizen science and educative programs have prevailed within the it's walls. Event two was hosted on the 17th of March with Green Skills engaging Great Southern Tafe students to participate in various monitoring activities at the sanctuary. Students who are studying environment and conservation at TAFE had the opportunity to learn how to look for fauna tracks and make moulds, bird surveying, Phascogale and Mardo box monitoring and checking of the Cockatoo Tubes.

It was great to support Green Skills to continue these established citizen science events. Balijup is a shining example of what can come from collaborative conservation, from the top end government initiatives and funding through to industry organisations, community groups, and landholders.



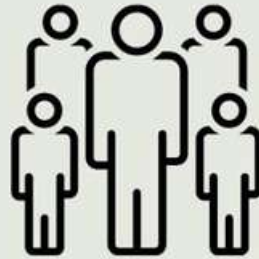
Balijup Eco-Monitoring Camp

13th -17th of January

Number of Evaluation Forms Completed = 10

Attendance

21 People



Overall Rating

All attendees rated their enjoyment of the event as
"Very Much"

5/5



How useful was the event?

4.75/5

Would you participate in a similar event
in the future? (1 = not likely 5 = likely)

5/5

"The best part of this event was being able to meet and talk to likeminded people and get out into the field to experience a huge range of conservation in action"

-Angus Dempster (event participant)



ECO-MONITORING CAMP

Wildlife Biologists: Amelia Catterick-Stoll and Alisia Lampropoulos

Organisers:

Basil Schur (Green Skills)

Ashley Marjoram (Gillamii)



CITIZEN SCIENCE ECOLOGICAL MONITORING AT BALIJUP SANCTUARY

Don't miss this unique opportunity to be a part of conservation in action.

13th of January to Monday 17th of January
2022

Participants will work with licensed Wildlife Ecologists, Green Skills Denmark, and Gillamii over four days on a range of citizen science monitoring activities including trapping, nest box monitoring and bird surveying.



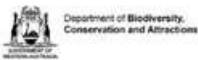
Balijup Sanctuary is a 111ha fenced fauna conservation sanctuary located in Tenterden (near 704 Nunijup Road) in the Great Southern.

The Wandoo/Jarrah Sanctuary is host to many incredible species including Quenda (Bandicoots), Brushtail Possum, Brushtail Phascogale, and an array of reptile and avian species.

This opportunity is Free to participants, however you will need to supply your own food and camping equipment. Come for all or part of the event.

Camp is located at Lake Nunijup camp ground (Stockyard Road, Tenterden, 19.7km from Albany Highway). There are toilets and camp kitchen facilities available.

Contact Basil Schur on 0429 481 019 or bschur@greenskills.org.au to Register (Essential)



Green Skills Inc



CITIZEN SCIENCE WITH GREAT SOUTHERN TAFE



natural resource management program



Green Skills Inc



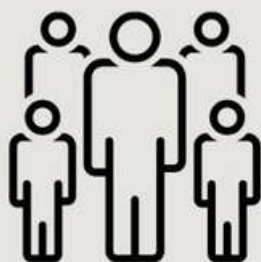
Citizen Science with Great Southern TAFE

17th of March

Number of Evaluation Forms Completed = 9

Attendance

16 People



Overall Rating

rated from 1 = not at all to 5 = very much

4.44/5



How useful was the event?

4.88/5

Would you participate in a similar event in the future? (1 = not likely 5 = likely)

4.1/5

"It was all very informative. I found the phascogale sand nesting boxes very interesting"

-Event participant



Summary

This project has achieved the outputs and objectives that it set out to complete. By revegetating and protecting 67 hectares of land, the ecological value of these areas have improved. The scale of this project was small, however when combined with the efforts contributed over decades from landholders, organisations, and the government these areas begin to add up and dot the degraded landscape with valuable areas of biodiversity.

To achieve eco-restoration across two sites, 3 km of stock exclusion fencing was erected to protect a 47 ha area of sparse but valuable remnant vegetation. Gillamii collaborated with Greening Australia to revegetate within the 47 hectare area through direct seeding and handplanting of seedlings. Additionally, 15 hectares of previously agricultural land was revegetated through direct seed and planting of seedlings at two sites. The revegetation of this site links approximately 290 hectares of the landscape with other areas of revegetation or remnant vegetation, leading to the increase in biodiversity, ecosystem function, and connectivity within the fragile landscape.

In the Kent-Frankland sub region, up to 90% of the original landscape has been cleared for agricultural purposes. Clearing and land use change has not only lead to degradation issues including salinity, wind, and water erosion, but has contributed to the disconnection of humans from the environment, impeded dispersal of flora genetics and the disrupted movement and survival of fauna.

These factors mean the protection and restoration of remnant vegetation is vital for the future stability of the ecosystem. Patches of remnant bush hold significant ecological value however, the benefit of these patches reduce significantly when impacted by stock, and their ecological value diminishes greatly the more isolated they are from connected patches of bush. Through collaboratively revegetating, fencing, and hosting citizen science events, this project has aided connection and protection of the environment within the Kent-Frankland region.





natural resource
management program



Acknowledgements

Thank you to the West Australian Government and the State Natural Resource Management Grant for making the Connecting and Protecting the Kent-Frankland Subregion possible. We also thank the generous co-contributions and collaborative effort for this project by Greening Australia and Green Skills Inc, and last but not least the landholders who see the value and benefit in restoring areas of their agricultural land for conservation.

