# Habitat

North-West Conservation Park -Rehabilitation Monitoring

information and the state of th

Lot 1 RP48903

North-West Conservation Park Gainsborough Greens

Cnr Yawalpah Road and Kerkin Road North, Pimpama, Queensland

i n t e g r a t i o n

March 2020

in novation



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#### CERTIFICATE OF APPROVAL FOR ISSUE OF DOCUMENTS

Document No	6300SB_Gainsborough Greens NW Conservation Park
Title	North-West Conservation Park - Rehabilitation Monitoring
Client	Mirvac QLD Pty Ltd
Date of Issue	March 2020

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#### DOCUMENT STATUS:

Version	Author	Reviewer	Date
0 (Draft)	Ben Pascoe	Matt Keys	02/2016
1	Ben Pascoe	Matt Keys	05/2016
2	Claire Arthur	Matt Keys	12/2016
3	Claire Arthur	Matt Keys	03/2017
4	Claire Arthur	Matt Keys	06/2017
5	Claire Arthur	Matt Keys	09/2017
6	Claire Arthur	Matt Keys	03/2018
7	Claire Arthur	Matt Keys	06/2018
8	Claire Arthur	Matt Keys	09/2018
9	Claire Arthur	Matt Keys	12/2018
10	Claire Arthur	Matt Keys	03/2019
11	Claire Arthur	Matt Keys	06/2019
12	Claire Arthur	Matt Keys	09/2019
13	Claire Arthur	Matt Keys	03/2020



#### **EXECUTIVE SUMMARY**

Rehabilitation monitoring is required in accordance with the approved North-West Conservation Park Rehabilitation Management Plan (April 2014) for Lot 1 on RP48903, Gainsborough Greens, North-West Conservation Park. Two areas, A1 and A2, were direct seeded. Initially, heavy rain and a high groundwater table prevented seed germination within the modified receiving environment, however after 9 months the seedlings emerged. Monthly monitoring commenced in September 2015 following successful germination of native plants and will continue monthly for a period of 5 years.

Fourteen monitoring stations have been established throughout the seeded area of A1. Photographs were taken at each monitoring station on a monthly basis, and compared at 6 month intervals. Monthly field survey results including comments, native species, weed species, damage by fire/rubbish/pests, native dominance, and percentage vegetation cover are presented. Finally the progress towards the Desired Environmental Outcomes is assessed for the site as a whole.

Rehabilitation monitoring of the North-West Conservation Park will generally adhere to the following key dates:

- Works Completed December 2014;
- On-Establishment Inspection August 2015;
- CoGC Formal Inspection November 2015;
- CoGC Formal Inspection May 2016;
- CoGC Formal Inspection May 2017;
- CoGC Formal Inspection May 2018;
- CoGC Formal Inspection May 2019;
- CoGC Formal Inspection May 2020; and
- Off-Establishment Inspection August 2020.



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		98: Quadrat 5 - Month 54 (February 2020)	
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## 1.0 INTRODUCTION

Habitat Environment Management Trading Pty Ltd ('Habitat') was engaged by Mirvac Qld Pty Ltd ('the Client') to undertake Rehabilitation Monitoring in accordance with the approved North West Conservation Park Rehabilitation Management Plan (April 2014) for Lot 1 on RP48903, Gainsborough Greens, North West Conservation Park, Yawalpah Road, Pimpama, Queensland (the site). The intent of the monitoring is to ensure rehabilitation works meet the objectives of the Rehabilitation Management Plan.

#### 1.1 Location and Site Description

Gainsborough Greens is located approximately 2 km east of the Pacific Highway on Yawalpah Road, Pimpama, in the northern Gold Coast region. With reference to **Figure 1**, the North West Conservation Park is located within Lot 1 on RP48903, and is accessed by Swan Road to the south. It is bounded by the Pimpama River to the north and west and by rural properties of the Gainsborough Greens development to the east and south.

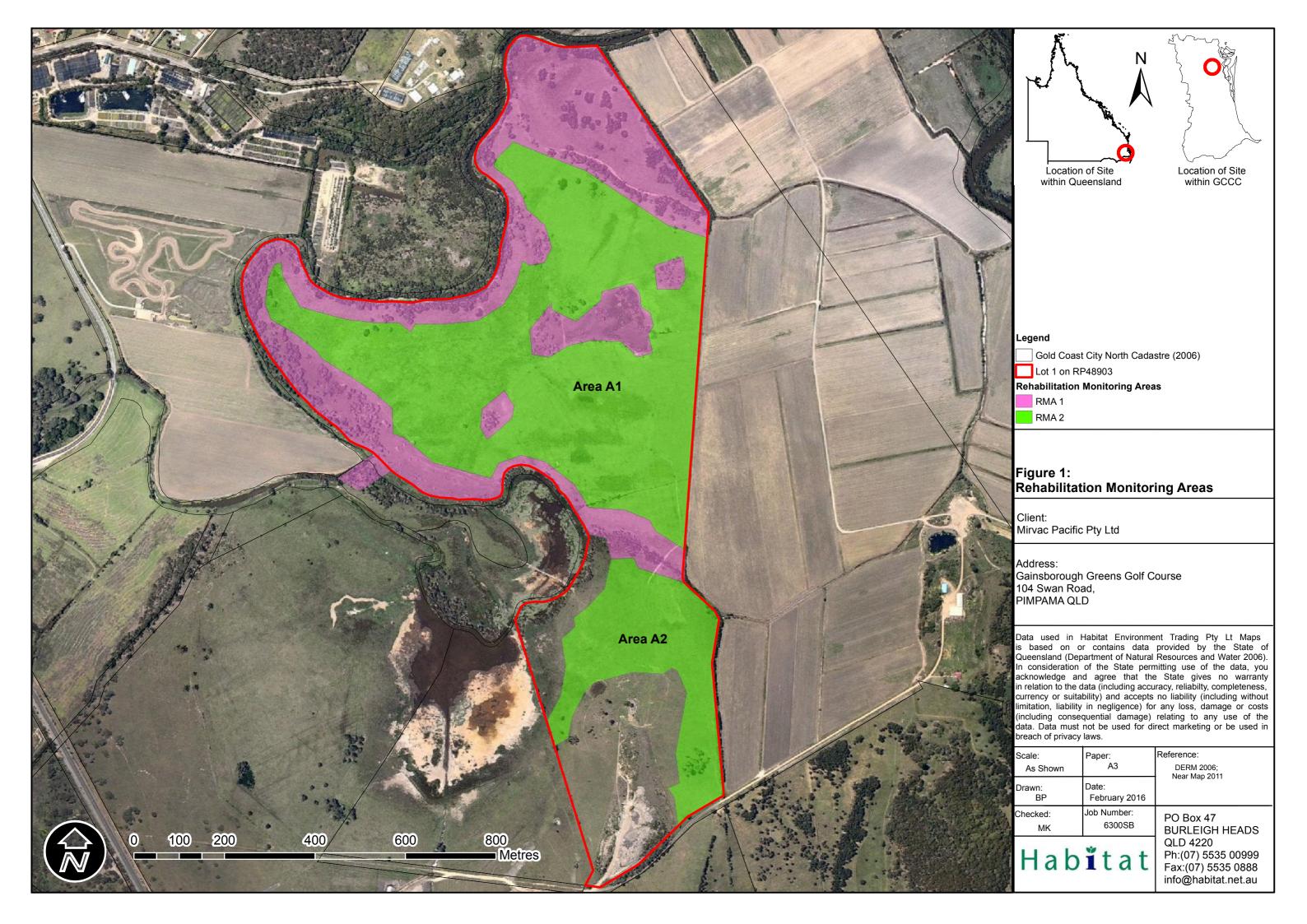
The topography of the site can be described as undulating hills with 5-10% slope and a large, flat area of grazing paddock. Remnant vegetation communities are generally absent within the lot with the exception of a riparian strip adjacent to the Pimpama River and a number of small patches of vegetation. Vegetation communities have structural integrity and a species diversity of predominantly low to moderate conservation values.

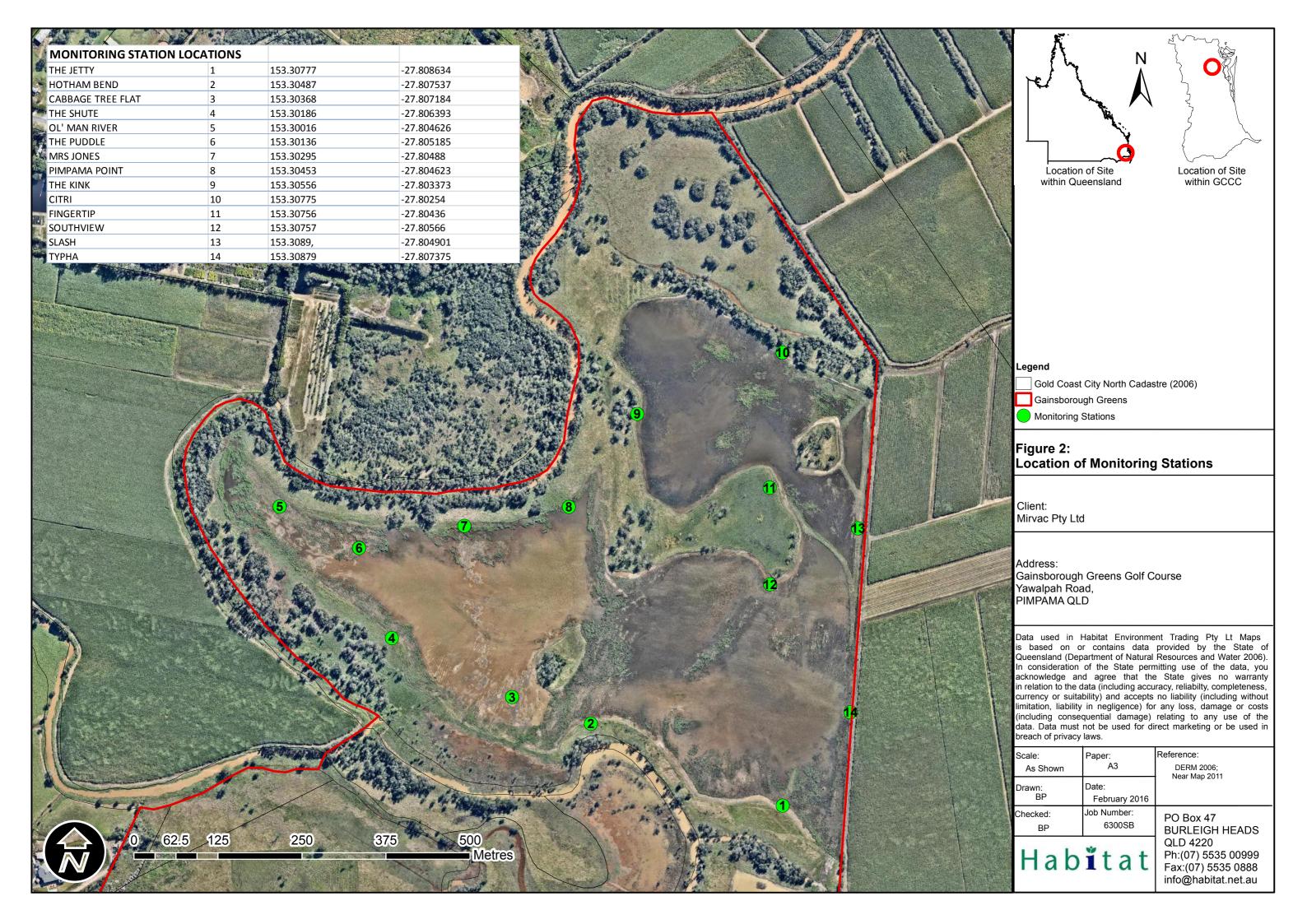
#### 1.2 Rehabilitation & Monitoring

Rehabilitation Management Area 2 (RMA 2) of the North West Conservation Park Rehabilitation Management Plan involved direct seeding and monitoring in two areas being Area A1 (North) and Area A2 (South) (**Figure 1**). Area A1 of the Gainsborough Greens Rehabilitation project was direct seeded in December 2014 with a mix of 54 species. Immediately following the seeding works, the site received well above average rainfall, and consequently was inundated with water over much of the site for many months before plants began to emerge. Due to this rain event and time lag for approval, Area A2 of the Gainsborough Greens Rehabilitation project was direct seeded in October 2015.

In order to monitor the progress of rehabilitation, fourteen permanent 4m x 4m quadrats were established (**Figure 2**). Monthly monitoring commenced in September 2015 (once sign-off was received by CoGC for the commencement of the On Establishment Period) and will continue for a period of 5 years as per the approved North-West Conservation Park Rehabilitation Management Plan, prepared by Habitat (April 2014). This monitoring report provides information on the monitoring conducted over the A1 rehabilitation area on a monthly basis, and includes comparisons on a six monthly basis. An additional two monitoring points are included within the six month comparison. Monitoring included collecting data on species present, percentage of native species and percentage overall vegetation cover.







## 1.3 Desired Environmental Outcomes

Key Performance Indicators (KPIs) have been set to achieve the desired environmental outcomes for the ongoing rehabilitation of the A1 areas of the North-West Conservation Park. The following KPIs will be utilised to determine successful completion of rehabilitation after 5 years;

- **KPI 1** Complete eradication of the 6 weed species identified for eradication (*Baccharis halimifolia*, *Ipomea cairica*, *Lantana camara*, *Mimosa pudica*, *Solanum chrysotrichum* and *Solanum mauritianum*).
- KPI 2 Ongoing management and control of other weeds listed (predominately pasture weeds).
- KPI 3 Minimum 90% site coverage of seeded areas with native vegetation.
- KPI 4 No individual bare areas greater than 50m<sup>2</sup> within seeded works.
- KPI 5 Minimum 250 Koala Resource Trees per hectare.
- KPI 6 General canopy height 3 metres.
- KPI 7 Satisfactory delivery of all Monitoring Reports throughout Establishment Period.



#### 2.0 REVIEW OF DESIRED ENVIRONMENTAL OUTCOMES

# 2.1 The Big Picture - Rehabilitation Comparison from Start to Current Quadrat 1



Photo Plate 1: Quadrat 1 - Month 1 (September 2015)



Photo Plate 2: Quadrat 1 - Month 54 (February 2020)

Comparison Summary
This quadrat began the
five year monitoring
period with complete
weed dominance, a
minor native grass
presence, and a
prediction that tree
species will be unlikely
to appear.

Now, the quadrat marker stakes are difficult to locate due to the density, height and overall biomass of Casuarina glauca. An obvious decline in weed growth and presence has been noted within this quadrat over the past number of years as Casuarina glauca became dominant. This is due to weed species being outcompeted and shaded out. This quadrat is continually shifting towards a native woodland with a grassy understorey of Capillipedium.





Photo Plate 3: Quadrat 2 - Month 1 (September 2015)



Photo Plate 4: Quadrat 2 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with a low vegetative cover of mostly native sedge and grass species.
Native dominance did initially decline due to the invasion of weedy grass species.

Now, this quadrat has established a canopy of *Casuarina glauca* with an understorey dominated by *Bolboschoenus* cardwellii.

This quadrat is subjected to periods of standing water post large rain events. This has allowed for the ongoing dominance of natives species, with the natural control of weeds through increased water levels and shading from native canopy trees.





Photo Plate 5: Quadrat 3 - Month 1 (September 2015)



Photo Plate 6: Quadrat 3 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with little vegetative cover. The majority of vegetation consisted of weed species.

Now, the quadrat marker stakes are not visible due to the density and prolific growth of *Casuarina glauca*. As a continuous canopy now exists, weed species growth is limited.



Photo Plate 7: Quadrat 4 - Month 1 (September 2015)



Photo Plate 8: Quadrat 4 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with little vegetative cover. The majority of vegetation consisted of weed species.

Now, a strong canopy of Casuarina glauca has formed with a structurally sound native understorey of moderate diversity. The canopy continues to shade out invasive weed species with native understorey biomass continuing to increase. The numbers of Eucalyptus tereticornis individuals are becoming more evident in the surrounding areas.

Contour banding of plant community assemblages are also becoming more predominant as wet conditions prevail.





Photo Plate 9: Quadrat 5 - Month 1 (September 2015)

Comparison Summary
This quadrat began the
five year monitoring
period with little native
vegetative cover.

A canopy of Casuarina glauca and Melaleuca quinquenervia is now well formed and continuing to increase in biomass. Native groundcovers continue to surpass weed growth, with assistance from the canopy via shading.



Photo Plate 10: Quadrat 5 - Month 54 (February 2020)





Photo Plate 11: Quadrat 6 - Month 1 (September 2015)



Photo Plate 12: Quadrat 6 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with no vegetative cover. It was predicted that due to the location of this quadrat, that is unlikely that any canopy species will emerge.

This quadrat has morphed into a perfect representation of a wetland community, dominated by sedges, rushes and cyperus species. This is a dynamic quadrat that shows significant changes between the wet and dry months as a direct result of the seasonal shifts in the hydrological regime of the area.





Photo Plate 13: Quadrat 7 - Month 1 (September 2015)



Photo Plate 14: Quadrat 7 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period dominated by ground cover weed species, with no canopy vegetation. The initial 6 month review predicted that the quadrat would be unrecognisable in 2 years due to the growth of native canopy trees.

This prediction has been proven accurate, with a strong canopy of casuarina forming in the surrounding area, obscuring the quadrat location.

Native species diversity and abundance has continually increased, with this quadrat demonstrating the dynamic nature of the NWCP on the whole.





Photo Plate 15: Quadrat 8 - Month 1 (September 2015)



Photo Plate 16: Quadrat 8 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with minimal vegetation cover. Due to the periodic water inundation of this quadrat, vegetation is diverse, ranging from native sedges and rushes to rapidly establishing Casuarina glauca.

With the increasing canopy cover and presence of *Casuarina glauca*, species diversity is decreasing however native dominance is increasing due to the reduction of weed species.

This quadrat is another example of the dynamic nature of the NWCP on the whole.





Photo Plate 17: Quadrat 9 - Month 1 (September 2015)



Photo Plate 18: Quadrat 9 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with significant vegetation cover, including native groundcovers. This quadrat experiences frequent and prolonged periods of inundation. It was predicted that vegetation will consist predominately of native sedges, rushes and cyperus species.

Despite this prediction, a thicket of casuarina and melaleucas have continued to develop around and within this quadrat. This continuing vegetative development continues to displace weed species. This vegetation community will continue to mature and diversify over the years to come.





Photo Plate 19: Quadrat 10 - Month 1 (September 2015)



Photo Plate 20: Quadrat 10 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with canopy vegetation cover over the higher elevation portion, reaching approximately 1.5m in height. Now, canopy vegetation extends over most of the quadrat.

This quadrat, and the similar surrounding areas, has the highest diversity of canopy vegetation, including a number of eucalypts. This quadrat is the only one at a higher elevation therefore data is skewed to the moister communities.

As this quadrat is at a higher elevation, it does suffer the most from dry weather. This quadrat is progressively transitioning towards a grassy woodland structure with dominance of native grasses in the understorey.





Photo Plate 21: Quadrat 11 - Month 1 (September 2015)



Photo Plate 22: Quadrat 11 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with a complete coverage with introduced grasses. This quadrat is highly susceptible to invasion by annual herbaceous weed species. Depending on the volume of rain and season this can alternate between aster and thistle species. These annual pasture weeds are not a significant environmental concern.

This quadrat is still degraded and struggling to achieve native dominance. The surrounding areas are increasing in wetland species.

It is predicted that this quadrat and surrounding area will eventually be dominated by sedges and rushes.





Photo Plate 23: Quadrat 12 - Month 1 (September 2015)



Photo Plate 24: Quadrat 12 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with minimal vegetation coverage.

Now, a canopy of casuarina has formed and continues to grow in height and biomass. Due to the increase in shading and organic build up, weed species have shown a significant decline.

This quadrat is developing well into an open woodland community with a sparse understorey due to regular inundation. A number of wetland plants are present due to this inundation.





Photo Plate 25: Quadrat 13 - Month 1 (September 2015)



Photo Plate 26: Quadrat 13 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with a cover of native sedges, rushes and cyperus species.

Due to a period of extended drought-like conditions, this quadrat became extremely distressed, resulting in the dieback of predominantly wetland species.

This area has made a significant comeback with the change from sedges to casuarinas. A number of eucalypts are located on the fringes of this quadrat that are progressing well.

With the additional build-up of organic materials, conditions have improved greatly allowing for the rapid growth of native vegetation.





Photo Plate 27: Quadrat 14 - Month 1 (September 2015)



Photo Plate 28: Quadrat 14 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat began the five year monitoring period with a partial coverage of vegetation, dominated by Typha. This quadrat developed into a monoculture of Typha. Whilst this is a native species, it can often outcompete other wetland species. Control of typha was undertaken within the first 6 months of monitoring, however was not followed up and therefore had little effect.

This monoculture has now almost completed a transition towards a grassy understorey to a rapidly expanding casuarina canopy.



# (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Photo Plate 29: A1 Eucalypt Plantings - Month 1 (September 2015)



Photo Plate 30: A1 Eucalypt Plantings - Month 54 (February 2020)

**Comparison Summary** Approximately 7,000 koala resource trees were planted adjacent to Hotham Creek and the Pimpama River. The site was previously degraded grazing pasture. Grasses were slashed prior to planting. Tree guards were removed at 5 months, once the stock had successfully established. Pasture grasses quickly regained their original height.

Canopy vegetation within this area continues to extend the overall percentage of cover, allowing for the increase of native species recruitment.



# (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 31: A2 Eucalypt Plantings - Month 1 (September 2015)



Photo Plate 32: A2 Eucalypt Plantings - Month 54 (February 2020)

#### **Comparison Summary**

This area was seeded and consisted of approximately 9ha. Immediately subsequent to the seeding, 8,000 koala resource trees were planted. The site is inundated more frequently, which is creating significantly different hydrological conditions to that of A1. This has resulted in a different progression of rehabilitation when compared to that of A1.

Native hibiscus is still dominant in this area. Casuarina canopies are being to close in at isolated locations creating micro-niches throughout this area.



#### 2.2 Annual Review of Desired Environmental Outcomes

The following table identifies how the site is progressing with regard to achieving the Desired Environmental Outcomes over the 5 year monitoring period. Please note that the wording of KPIs have been amended to include the differentiation for terrestrial habitats. This is required as the KPIs are not practical for predominately aquatic and/or highly ephemeral areas of the North-West Conservation Park.

Table 1: Annual Review of Desired Environmental Outcomes

Year#	KPI Progress	KPI Comments		
	1 - Complete eradication of the 6 weed species identified for eradication (Baccharis halimifolia, nea cairica, Lantana camara, Mimosa pudica, Solanum chrysotrichum and Solanum mauritianum).			
1 (2016)	Satisfactory	Baccharis halimifolia and Mimosa pudica are both only identified in one quadrat and are expected to be eradicated within those areas.		
2 (2017)	Satisfactory	During this year, <i>Mimosa pudica</i> was controlled. <i>Baccharis halimifolia</i> was recorded at an unacceptable level. This weed was treated via hand removal prior to seed set to minimise seed dispersion. Broad scale removal occurred across the entire NWCP during April, with the complete removal of <i>Baccharis halimifolia</i> plants by May.		
3 (2018)	Satisfactory	There have been no signs of re-emergence of <i>Mimosa pudica</i> within the quadrats. <i>Baccharis halimifolia</i> has been identified on and off within a select number of quadrats and the wider NWCP. Whenever identified, treatment of the species was immediately undertaken via manual removal. <i>Ipomea cairica</i> is present within the wider NWCP, however not present within any of the monitoring quadrats. This species will require treatment over the next 12 months. The other three species have not been identified within any quadrats or within the wider NWCP.		
4 (2019)	Satisfactory	Ipomea cairica is present within the wider NWCP, however not present within any of the monitoring quadrats. This species will require treatment over the next 12 months. Baccharis halimifolia has been identified on and off within a select number of quadrats and the wider NWCP. Whenever identified, treatment of the species was immediately undertaken via manual removal. The other four species have not been identified throughout any area of the NWCP.		
5 (2020)				
KPI 2 - Ongoing management and control of other weeds listed (predominately pasture weeds).				
1 (2016)	Satisfactory	It is expected that the majority of weeds will fail in the ephemeral environment.		
2 (2017)	Satisfactory	Other pasture weed species are regularly treated when populations are considered to be impacting on the success of native species. Low risk annual weeds, such as Aster, Common Couch and Common Sow Thistle are assisting with soil stability in many areas, therefore are not being treated with herbicide. Natural weed suppression occurs during extended periods of inundation. It is anticipated that the next significant rain event will eradicate the majority of these populations.		
3 (2018)	Satisfactory	Ongoing treatments are occurring for any populations of pasture weed species that have been identified as significantly impacting or having the ability to significantly impact the NWCP. Species such as Aster, Common Couch and		



Year <sup>#</sup>	KPI Progress	KPI Comments
		Common Sow Thistle are still present; however these species are having little impact on the overall ecology of the area. These introduced species are still assisting with soil stability in many areas, therefore are not being treated with herbicide. In August there was a notable impact on these annual weeds due to the effects of winter combined with an increasing canopy cover.
4 (2019)	Satisfactory	With the increase in overall canopy cover, pasture weed species are significantly decreasing. Where required, ongoing treatments are occurring for any populations of pasture weed species that have been identified as significantly impacting or having the ability to significantly impact the NWCP. Species such as Aster, Common Couch and Common Sow Thistle are still present; however these species are having little impact on the overall ecology of the area. These introduced species are still assisting with soil stability in many areas, therefore are not being treated with herbicide
5 (2020)		
KPI 3 - Mi	nimum 90% site	e coverage of seeded [terrestrial] areas with native vegetation.
1 (2016)	Satisfactory	The site coverage of 90% will not be achieved due to the ephemeral nature of part of the site. This KPI will be modified to 'Minimum 90% site coverage of the terrestrial part of the site'. In this regard the progress is Satisfactory with an average of 67% site coverage and 70% native species.
2 (2017)	Satisfactory	Average native vegetation cover of all the quadrats equates to approximately 75%, resulting in an upward trend of 9% over the past 12 months. This average also incorporates the quadrats that are dominated with wetland species. Over the past 6 months, vegetation cover slowed significantly (being winter), however the overall biomass increased beyond predicted expectations. This is a great outcome for only 2 years into the monitoring period.
3 (2018)	Satisfactory	Average native vegetation cover of all the quadrats equates to approximately 85%, resulting in an upward trend of 5% over the past 12 months. This average also incorporates the quadrats that are dominated with wetland species. At this stage of maturity for the site it is expected that the diversity will plateau. Also, at this stage of monitoring, measuring the percentage of vegetation cover can result quite differently now. As vegetation develops and the shade regime to the ground increases, plant life retracts. Biomass is moving upwards due to plant height growth, often leaving soil less covered. Along with this process is an increase in leaf litter, and consequently soil organic build up; micro-organism development; humus enrichment; and the long, slow process of soil recovery, structurally, physically and chemically.
4 (2019)	Satisfactory	Native vegetation cover of all the quadrats equates to approximately 90%, resulting in an upward trend of 5% over the past 12 months. The site is at an appropriate stage where diversity often declines. This is not a down would trend in native plant dominance, but is due to the increasing shade and competition for light, space and nutrient availability. It is this trend where stability becomes assured, and the potential for decline is severely limited. Biomass is moving upwards due to plant height growth, often leaving soil less covered. Along with this process is an increase in leaf litter, and consequently soil organic build up; micro-organism development; humus enrichment; and the long, slow process of soil recovery.



Year <sup>#</sup>	KPI Progress	KPI Comments		
5 (2020)				
<b>KPI 4</b> - No individual bare areas greater than 50m <sup>2</sup> within [terrestrial] seeded works.				
1 (2016)	Satisfactory	This KPI will not be achieved due to the ephemeral nature of part of the site.  This KPI will be modified to 'No individual bare areas greater than 50m² within the terrestrial part of the site'. In this regard the progress is Satisfactory with an average vegetative cover of 67% and increasing.		
2 (2017)	Satisfactory	Overall, the portion of the seeded area covered by quadrats averages vegetation coverage of 87%, with 75% consisting of native species. Review of the current Nearmap aerial photography (August 2017) demonstrates that there are no bare terrestrial area greater than 50m <sup>2</sup> .		
3 (2018)	Satisfactory	Overall, the portion of the seeded area covered by quadrats averages vegetation coverage of 91%, with 85% consisting of native species. Review of the current Nearmap aerial photography (August 2018) demonstrates that there are no bare terrestrial area greater than 50m <sup>2</sup> .		
4 (2019)	Satisfactory	Overall, the portion of the seeded area covered by quadrats averages vegetation coverage of 96%, with 90% consisting of native species. Review of the current Nearmap aerial photography (August 2019) demonstrates that there are no bare terrestrial area greater than 50m <sup>2</sup> .		
5 (2020)				
KPI 5 - Minimum 250 Koala Resource Trees per [terrestrial] hectare.				
1 (2016)	Satisfactory	A number of koala resource trees have emerged including <i>Eucalyptus crebra</i> , <i>Corymbia intermedia and Melaleuca quinquenervia</i> . While the full extent of koala resource trees is unknown at this stage it is expected that canopy trees will be successful over the terrestrial parts of the site. For the remainder of the site it is understood that a higher quality environment has been created and this KPI will be modified to accommodate the ephemeral wetlands.		
2 (2017)	Satisfactory	An accurate count of koala resource trees has not been conducted at this stage, however estimates averaged across the monitoring quadrats and buffer plantings currently exceed this requirement. Furthermore, in areas that are marginally terrestrial, melaleucas (which are identified as a koala resource tree) are flourishing.		
3 (2018)	Satisfactory	An accurate count of koala resource trees has not been conducted at this stage, however estimates averaged across the monitoring quadrats and buffer plantings currently exceed this requirement. Furthermore, in areas that are marginally terrestrial, melaleucas (which are identified as a koala resource tree) are flourishing.		
4 (2019)	Satisfactory	An accurate count of koala resource trees has not been conducted at this stage, however estimates averaged across the monitoring quadrats and buffer plantings currently exceed this requirement. Furthermore, in areas that are marginally terrestrial, melaleucas (which are identified as a koala resource tree) are flourishing.		
5 (2020)				



Year#	KPI Progress	KPI Comments	
KPI 6 - General canopy height - 3 metres.			
1 (2016)	Satisfactory	Canopy trees have emerged with many exceeding 1m, which is considered satisfactory at this time.	
2 (2017)	Satisfactory	Canopy trees have emerged across the entire NWCP, with many casuarinas averaging 2m in height. Along the periphery of the wetland, and at higher elevations, some eucalypts are reaching 7m in height. It is anticipated that all canopy vegetation will average a general height of 3m within the next 12 months.	
3 (2018)	Satisfactory	Canopy trees are now averaging a height of 4m across the entire NWCP. Many species are now in flower and seed so a second cohort will become evident over this next period. Eucalypts at higher elevations are now exceeding 9m in height.	
4 (2019)	Satisfactory	Canopy trees are now averaging a height of 6m across the entire NWCP. Many species have flowered and set seed for a second time, resulting in yet another cohort being developed. This will become evident over this next period. The second cohort is evident and regenerating well. Eucalypts at higher elevations are now exceeding 9m in height and continue to add girth and biomass.	
5 (2020)			
KPI 7 - Satisfactory delivery of all Monitoring Reports throughout Establishment Period.			
1 (2016)	Satisfactory	This report provides details of monthly monitoring for the first 12 months of the Establishment Period.	
2 (2017)	Satisfactory	This report provides details of monthly monitoring for the first 24 months of the Establishment Period.	
3 (2018)	Satisfactory	This report provides details of monthly monitoring for the first 36 months of the Establishment Period.	
4 (2019)	Satisfactory	This report provides details of monthly monitoring for the first 48 months of the Establishment Period.	
5 (2020)			

<sup>#</sup> Annual review conducted during September of each year



### 3.0 SIX MONTHLY COMPARISONS

### 3.1 Month 1 to Month 6

The following section reviews a comparison between the monitoring photos from September 2015 (month 1) and the month six monitoring survey conducted during February 2016. In summary, the overall findings at the conclusion of the six month monitoring survey for A1 included the following;

- The average dominance of native species is 70% indicating an 18% growth in non-native species from the first month.
- The average cover over all quadrats is 67%, indicating an increase of 15% from the first month.
- 69% of native species seeded have been identified on site indicating an increase of 12% from the first month.

Even though there is a downward trend in native species dominance by 12 percent, this is due to seasonal changes in perennial weed occurrence, as many weed species were observed in their summer growth cycle. These species were not observed in winter, and considering their perennial nature, it is of no concern that this seasonal trend may be a permanent downward shift. It is viewed as nothing more than a short-term cycle of perennial weed species having a positive attribution.

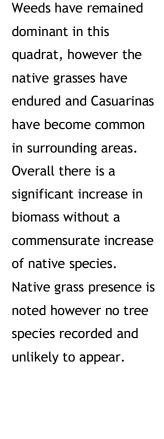
Over the first six-month period, while the site was very wet, wetland species performed really well. However, the performance of the canopy species was very poor. This has changed significantly at the six month monitoring point. In quadrat 12, 34 canopy trees were counted within the 16m<sup>2</sup> quadrat. This is representative of emerging canopy trees throughout the project area over all, even though not always obvious from the findings within the quadrats.

Other monitoring activities conducted for this 6 month comparison included a review of the koala feed trees planted within A1 along Hotham Creek. In addition, a review of A2 has been undertaken.





Photo Plate 33: Quadrat 1 - Month 1 (September 2015)



**Comparison Summary** 



Photo Plate 34: Quadrat 1 - Month 6 (February 2016)





Photo Plate 35: Quadrat 2 - Month 1 (September 2015)

Comparison Summary
Native species have
continued to dominate
this quadrat and canopy
trees have become
common in surrounding
areas up to 1.5m.
Steady expansion of
natives and setting of
new seed has
strengthened the
ecological resilience of
this quadrat, a solid
result these past six
months.



Photo Plate 36: Quadrat 2 - Month 6 (February 2016)





Photo Plate 37: Quadrat 3 - Month 1 (September 2015)



Photo Plate 38: Quadrat 3 - Month 6 (February 2016)

**Comparison Summary** Four new weed species have colonised this quadrat, however canopy trees have become common in the surrounding areas although still in seedling form. These weeds are providing competition for the native seedlings. The author is confident that over time the native trees will outperform and out shade weed species present at this time. Hundreds of tree seedlings are within a 20m radius of this quadrat.





Photo Plate 39: Quadrat 4 - Month 1 (September 2015)



Photo Plate 40: Quadrat 4 - Month 6 (February 2016)

## Comparison Summary A number of new weeds have emerged however canopy trees occur within the quadrat and surrounding areas, although still in seedling form. Aster is also predominant in this quadrat. As found elsewhere, the aster is

serving a useful function for competition and protection. Beyond this

quadrat couch grass is encroaching toward the quadrat. Careful monitoring will continue to be required to determine what effect this will have in the future.





Comparison Summary
A number of new weeds
have emerged, however
canopy trees occur
within the quadrat and
surrounding areas up to
1.7m. An impressive
increase in biomass is
also noted in this
quadrat.

Photo Plate 41: Quadrat 5 - Month 1 (September 2015)



Photo Plate 42: Quadrat 5 - Month 6 (February 2016)





Photo Plate 43: Quadrat 6 - Month 1 (September 2015)

**Comparison Summary** Vegetative cover has increased from 1% to 80%. A number of weed species have emerged, however a significant number of canopy trees occur in the surrounding areas. As per quadrat 5 it's expected that Melaleuca spp. will become more prevalent in the coming months. The physical change of this quadrat in six months is quite remarkable.



Photo Plate 44: Quadrat 6 - Month 6 (February 2016)





Photo Plate 45: Quadrat 7 - Month 1 (September 2015)

**Comparison Summary** The number of canopy trees within this quadrat has increased from 1 to 6, and native species continue to dominate. It's likely that within 2 years this quadrat will be unrecognisable due to the presence and growth of these canopy trees. The 6 month picture doesn't reflect just how much native growth is occurring within this quadrat.



Photo Plate 46: Quadrat 7 - Month 6 (February 2016)





Photo Plate 47: Quadrat 8 - Month 1 (September 2015)



Photo Plate 48: Quadrat 8 - Month 6 (February 2016)

**Comparison Summary** A number of new weed species have emerged, however a significant number of native canopy trees occur within the surrounding areas. This quadrat also represents an excellent example of how standing water can act as a weed suppressant in wetland conditions. Native dominance has been reduced by approximately one third over the past 6 months due to weed incursion. This said, it's expected that seasonal inundation will be effective in reducing the proliferation of exotic species in the future.





Photo Plate 49: Quadrat 9 - Month 1 (September 2015)

Comparison Summary
An additional canopy
species has emerged and
native species remain
dominant. This quadrat
is clearly suffering the
effects of extended
drought. Native plant
vigour has been reduced,
particularly in the last 3
months. This trend is
expected to reverse once
seasonal rainfall occurs.



Photo Plate 50: Quadrat 9 - Month 6 (February 2016)





Photo Plate 51: Quadrat 10 - Month 1 (September 2015)

### **Comparison Summary** This quadrat displays an increase in diversity and native dominance has increased from 76%-90%. Canopy trees occur within the quadrat up to 3.2m. The quadrat is the most diverse site in the entire monitoring precinct at this time. Diversity can be attributed to the differing soil profiles and inundation experienced across the quadrat.



Photo Plate 52: Quadrat 10 - Month 6 (February 2016)





Photo Plate 53: Quadrat 11 - Month 1 (September 2015)

**Comparison Summary** Additional species have emerged including both native and exotic. Native species remain dominant. Seasonal growth of exotic annuals can be witnessed in the background (Aster, Common Sow Thistle). This has also been a consequence of an extended drought where inundation has not been present and assisting with weed control.



Photo Plate 54: Quadrat 11 - Month 6 (February 2016)





Comparison Summary
The number of canopy
trees within this quadrat
has increased from 0 to
34 and native species
continue to dominate.
This quadrat is another
site that will be
unrecognisable within 24
months.

Photo Plate 55: Quadrat 12 - Month 1 (September 2015)



Photo Plate 56: Quadrat 12 - Month 6 (February 2016)





Photo Plate 57: Quadrat 13 - Month 1 (September 2015)

Comparison Summary
A number of weed
species have emerged as
a consequence of the
extended drought. The
earthworks profile will
allow for significant
inundation when
seasonal rain arrives
upon which the dry land
dependant exotics will
suffer and the wetland
natives will continue to
prosper.

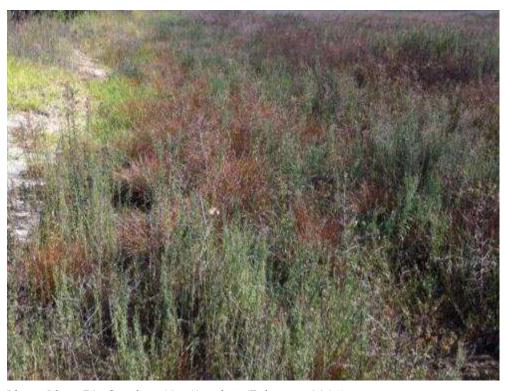


Photo Plate 58: Quadrat 13 - Month 6 (February 2016)





Photo Plate 59: Quadrat 14 - Month 1 (September 2015)



Photo Plate 60: Quadrat 14 - Month 6 (February 2016)

### **Comparison Summary** Vegetative cover has increased from 50% to 80%. A number of weed species have emerged, however native species remain dominant. The soil profile here is similar to quadrat 13. Therefore it's equally expected that dry land weed species will suffer when seasonal rainfall occurs. Native wetland species are clearly in a state of moderate distress at this time due to extended drought

conditions.



### (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Photo Plate 61: A1 Eucalypt Plantings - Month 1 (September 2015)



Photo Plate 62: A1 Eucalypt Plantings - Month 6 (February 2016)

**Comparison Summary** Approximately 7,000 koala resource trees were planted adjacent to Hotham Creek and the Pimpama River. The site was previously degraded grazing pasture. Grasses were slashed prior to planting. Tree guards were removed at 5 months after approval from Habitat that the stock had succesfully established. Pasture grasses quickly regained their original height. At this time the tubestock is starting to grow above the pasture grasses. Average height of tubestock throughout is 600-800mm and all stock is now hardened and performing well. It's expected these plantings will have an avergae height of 2 metres within the next 18-24 months.



### (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 63: A2 Eucalypt Plantings - Month 1 (September 2015)



Photo Plate 64: A2 Eucalypt Plantings - Month 6 (February 2016)

### This area was seeded in September/October 2015 and consisted of approximately 9ha. Immediately subsequent to the seeding, 8,000 eucalypt koala resource tubes were planted. After 5 months the results are very positive. All tubstock is performing well (average height 1 mtr) and 69% of native seed species have succesfully germinated. The site is periodically inundated,

refelected by standing water observed in the

lower photo.

**Comparison Summary** 



### 3.2 Month 6 to Month 12

The following section reviews a comparison between the monitoring photos from February 2016 (month 6) and the month 12 monitoring survey conducted during August 2016. Minimal change has occurred during this six month period as the majority of this period was throughout winter. In addition, as the site ages it becomes less dynamic. There was a lack of dominance from the summer annual weed *Aster subulatus*. With this degrease in dominance, direct sunlight energy is more readily available to the understory plants. The two major canopy species *Casuarina glauca* and *Melaleuca quinquinervia* have taken great advantage of this, both now very obvious through most of the project area, including the poorer eastern side. This observation was very significant.

In summary, the overall findings at the conclusion of this six month monitoring survey included the following;

- 37 species were observed either flowering or having set seed. This will strengthen the soil seed bank
  and have a positive influence on the ecological resilience of the site should there be any future
  disturbance.
- Due to the increase of canopy trees found within the quadrants, it is obvious this critical part of development is still occurring.
- The two main canopy trees were becoming prolific in abundance, with impressive growth rates of up to 2.2 metres at times, and many tens of hundreds in number.
- An overall improvement in vegetative cover by 7%
- Myrtle Rust on Melaleuca quinquinervia noticeable, but not excessive enough to negatively impact.
- Kangaroo grazing was evident.
- Large areas of pure stands of sedges we common over much of the area.
- Wattles, Casuarinas, native grasses, Eucalypts and Corymbia are common on the surrounding contours and developing well. Some even within the wetter zones, the tallest reaching at least 5m.
- The seasonally dominant weed Aster is currently dormant, affording positive growth from canopy trees.

Monitoring in A2 also occurred in month 12. Within this area there was a drop in species diversity by 9 species in comparison to assessment at month 1. The species noted to be absent, are clearly species that require good drainage, such as Acacias and Eucalypts. As the area was in draught during month 1, it afforded germination and survival from these 9 species. It is not surprising to see them become absent over winter where diseases causing plant death are common. This trend is a normal part of seedling development, where site specifics influence survival, diversity and abundance. The absence of these species was only in the higher contour zones. Again this highlights the influence of poor drainage from one season to another. The majority of the A2 project area is performing well, and relatively free of weeds.





Comparison Summary
This is the most
degraded quadrant.
Having said that, the
native grass
Capillipedium
spicigerum is common
within the quadrant.
There is a native
dominance of 37%,
which is an upward
trend of 33% since
month 6.

Photo Plate 65: Quadrat 1 - Month 6 (February 2016)



Photo Plate 66: Quadrat 1 - Month 12 (August 2016)





Photo Plate 67: Quadrat 2 - Month 6 (February 2016)



Photo Plate 68: Quadrat 2 - Month 12 (August 2016)

### **Comparison Summary**

The Aster has died off over winter and reveals a dormant Bolboschoenus cardwellii. Casuarina glauca is also viable in the foreground.

Both Melaleuca quinquenervia, some measuring 1.5m in height, and Casuarina glauca surround this quadrat in the hundreds. The entire surrounds are very weed free.





Photo Plate 69: Quadrat 3 - Month 6 (February 2016)

### Comparison Summary The evidence of dormancy and wintering is obvious. The *Livistona*palm within the quad is still alive but struggling,

this can be common with

Livistona's.

Lomandra longifolia is becoming common in the surrounds; however, they are struggling with lack of oxygen to the root zone.



Photo Plate 70: Quadrat 3 - Month 12 (August 2016)





Comparison Summary
Canopy trees that were
in seedling form in this
quadrant are now over
1m high. There has been
no change in native
dominance, however
vegetation cover has
increased by 10%.

Photo Plate 71: Quadrat 4 - Month 6 (February 2016)



Photo Plate 72: Quadrat 4 - Month 12 (August 2016)





Comparison Summary
Melaleuca and Casuarina
are forming impressive
thickets in areas
between quadrants 4, 5,
6 and 7. Despite the
changes surrounding the
quadrants, no significant
change is noted within
this quadrat.

Photo Plate 73: Quadrat 5 - Month 6 (February 2016)



Photo Plate 74: Quadrat 5 - Month 12 (August 2016)





Photo Plate 75: Quadrat 6 - Month 6 (February 2016)



Photo Plate 76: Quadrat 6 - Month 12 (August 2016)

**Comparison Summary** This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges in the area. There are significant numbers of canopy trees in the surrounding area to this quadrant. Parsonsia straminea is seeding abundantly in the surrounding trees abutting the project area.





Photo Plate 77: Quadrat 7 - Month 6 (February 2016)

Comparison Summary
Native canopy vegetation
continues to increase in
diversity within this
quadrat. During month 1,
6 individuals were
identified, now there are
significant numbers
present. This is also
representative of the
surrounding area, and an
overall upwards trend
common over much of
the site.



Photo Plate 78: Quadrat 7 - Month 12 (August 2016)





Comparison Summary
This quadrat still
remains relatively weed
free. The first canopy
tree within the quadrat
was recorded in month
12, indicating canopy
trees are still emerging.

Photo Plate 79: Quadrat 8 - Month 6 (February 2016)



Photo Plate 80: Quadrat 8 - Month 12 (August 2016)





Comparison Summary
There has been an
increase in canopy
species in this quadrat
from one, to two
species. This area will
benefit well from the
next inundation event.

Photo Plate 81: Quadrat 9 - Month 6 (February 2016)



Photo Plate 82: Quadrat 9 - Month 12 (August 2016)





Photo Plate 83: Quadrat 10 - Month 6 (February 2016)



Photo Plate 84: Quadrat 10 - Month 12 (August 2016)

**Comparison Summary** This is one of two dry and sloping quadrats where the contour highlights the impact of improved drainage on terrestrial plant success. This is evident both in diversity and structure, where 5 canopy species are present. Capillipedium spicigerum is still a dominant grass in the background even though dormant over this

The growth within this quadrant is quite representative of the broader site, with some Eucalyptus reaching 5m or more.

period.





Photo Plate 85: Quadrat 11 - Month 6 (February 2016)



Photo Plate 86: Quadrat 11 - Month 12 (August 2016)

### **Comparison Summary**

This is a very stable quadrat. Comparing this winter photo (month 12) to the last summer photo (month 6), it is very interesting, and highlights the change in abundance and dominance of the different species. This time (month 12), Persicaria attenuata located in the surrounding area can be seen taking advantage of the lack of competition, spreading rapidly.





Photo Plate 87: Quadrat 12 - Month 6 (February 2016)

# Comparison Summary This quadrat is abundant with canopy tree species, which is also representative of the surrounding areas. The native grass Capillipedium spicigerum is dormant in the surrounding area. Baumea articulata was also observed in the surrounds, a sedge species not identified before within the area.



Photo Plate 88: Quadrat 12 - Month 12 (August 2016)



**Comparison Summary** Summer temperatures will see *Eleocharis* 

recover its dominance in

this area. There is a significant increase in canopy trees along this

### Quadrat 13



entire eastern edge
adjacent to this quadrat.
This has been the most
concerning area due to
exposure to winds, and
lack of recruitment trees
within windfall. This is
the most vital aspect of
change in these past 6

months.

Photo Plate 89: Quadrat 13 - Month 6 (February 2016)



Photo Plate 90: Quadrat 13 - Month 12 (August 2016)





Comparison Summary
Typha is becoming
dominant in the area.
The positive aspect to
this would be its nesting
habitat value for water
birds over the wet
season.

Photo Plate 91: Quadrat 14 - Month 6 (February 2016)



Photo Plate 92: Quadrat 14 - Month 12 (August 2016)



### (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Photo Plate 93: A1 Eucalypt Plantings - Month 6 (February 2016)



Photo Plate 94: A1 Eucalypt Plantings - Month 12 (August 2016)

**Comparison Summary** Pasture grasses quickly regained their original height at the month 6 monitoring point. The average height of tubestock at that time was approximately 600-800mm, sun hardened and performing well. At the month 12 monitoring time, pasture grasses had continued to grow in height, however seedlings were clearly visiable above the height of the grass. Stock avereaged approximatly 1200-1600mm in height.



### (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Comparison Summary
The site is still
periodically inundated,
limiting the growth of a
number of the seeded
species. Nonetheless,
tubes are groing well
with an average height
of 1600mm. Seedlings of
seeded species are also
emmerging and growing

well.

Photo Plate 95: A2 Eucalypt Plantings - Month 6 (February 2016)



Photo Plate 96: A2 Eucalypt Plantings - Month 12 (August 2016)



### 3.3 Month 12 to Month 18

The following section reviews a comparison between the monitoring photos from August 2016 (month 12) and the month 18 monitoring survey conducted during February 2017. Direct seeding within A1 is now over two years old. An abundance of fauna tracks, scats and nests are regularly being observed within this area. In addition, a mob of kangaroos have also reinhabited this area. Over this six month period, canopy development and growth is impressive, with literally thousands of emerging trees becoming evident above the senescing weeds. Native seedlings are also being recorded in new areas of the rehabilitation area.

In summary, the overall findings for A1 included the following;

- Abundant animal tracks were common through the area, as well as nests, scats and burrows that were seen frequently;
- 37 species were observed either flowering or having set seed. This will strengthen the soil seed bank and have a positive influence on the ecological resilience of the site should there be any future disturbance;
- Two new native species were observed, Leptospermum polygalifolium subsp. cismontanum and Juncus krausii;
- The two main canopy trees (Melaleuca and Casuarina) were becoming prolific in abundance, with impressive growth rates of up to 4 metres at times, and many tens of thousands in number;
- The dominant annual weed Aster sighted in August as the most common plant has lost its competitive and seasonal edge. There will be another flush of germination and growth from this weed over the coming winter, however that will be minimum in some areas where *Casuarina glauca* has become overly abundant;
- An overall improvement in vegetative cover by 3%;
- Myrtle Rust on Melaleuca quinquinervia around quadrats 4, 5 and 6 is noticeable but not excessive enough to negatively impact the rehabilitation area; and
- Wattles, Casuarinas, native grasses, Eucalypts and Corymbia are common on the surrounding contours and developing well. Some were even within the wetter zones, with the tallest reaching at least 5 metres around quadrat 10 where diversity is at its greatest.

Monitoring in A2 also occurred in month 18. In summary, the overall findings within this area were as follows;

- Casuarina glauca has advanced significantly from the lower contour zone where it is abundant, through the middle, and lesser so into the upper contour zone;
- Many species were identified to be setting seed, or having recently seeded;
- Two new recruitment species were found, being Fimbristylis ferruginea and Parsonsia straminia;
- Weed establishment and development varied considerably between none existent, or very limited, to areas of concern;
- Casuarina glauca was observed germinating in the worst and most denuded areas; and
- The planted Eucalypt corridor surrounding the site was performing very well.





Photo Plate 97: Quadrat 1 - Month 12 (August 2016)

### **Comparison Summary** This is the most degraded quadrant. Having said that, the native grass Capillipedium spicigerum is common within the quadrant. Casuarina glauca is abundant within the quadrat and surrounding areas. Acacia falcata was also identified within the surrounding area at the month 18 monitoring event.



Photo Plate 98: Quadrat 1 - Month 18 (February 2017)





Photo Plate 99: Quadrat 2 - Month 12 (August 2016)



Photo Plate 100: Quadrat 2 - Month 18 (February 2017)

### **Comparison Summary**

The dominating weed species Aster has further died down revealing the true abundance of *Casuarina glauca* in this area

Both Melaleuca quinquenervia, some measuring 2m in height, and Casuarina glauca surround this quadrat in the hundreds. The entire surrounds are very weed free.

Traversing between quadrats 2 and 3 is becoming difficult due to the abundance of canopy trees.

Juncus usitatus has recently set abundant seed within the surrounding area.





Photo Plate 101: Quadrat 3 - Month 12 (August 2016)

Comparison Summary
The growth of Casuarina
glauca seedlings is
phenomenal over this six
month period.

Juncus krausii has become common in the surrounds, along with other species diversity. This Juncus is a new species



Photo Plate 102: Quadrat 3 - Month 18 (February 2017)





Comparison Summary
Casuarina glauca
seedlings have also
grown significantly
within this quadrat over
this six month period.

Melaleucas and Casuarinas are both thriving well within the surrounding area.

Photo Plate 103: Quadrat 4 - Month 12 (August 2016)



Photo Plate 104: Quadrat 4 - Month 18 (February 2017)





Photo Plate 105: Quadrat 5 - Month 12 (August 2016)



Photo Plate 106: Quadrat 5 - Month 18 (February 2017)

Comparison Summary Growth within this quadrat over the past six months has been significant.

Utilisation of the rehabilitation area by macropods is evident. A portion of a regular travel path currently bisects this quadrat.

Melaleuca and Casuarina are forming impressive thickets in areas between quadrats 4, 5, 6 and 7. Myrtle rust is still obvious on the Melaleucas in the surrounding area, however it has not spread over this six month period.





Comparison Summary
This quadrat has
retained native
dominance during the
entire monitoring phase
to date, and continues
to do so with many
species of sedges in the
area. There are
significant numbers of
canopy trees in the
surrounding area to this
quadrant.

Photo Plate 107: Quadrat 6 - Month 12 (August 2016)



Photo Plate 108: Quadrat 6 - Month 18 (February 2017)





Photo Plate 109: Quadrat 7 - Month 12 (August 2016)

Comparison Summary
Native canopy vegetation
continues to increase in
diversity within this
quadrat. During month 1,
6 individuals were
identified, now there are
significant numbers
present. This is also
representative of the
surrounding area, and an
overall upwards trend
common over much of
the site.



Photo Plate 110: Quadrat 7 - Month 18 (February 2017)





Comparison Summary
There are a significant
number of canopy tree
species within the
surrounding areas of this
quadrat, however are
still not generating in
great numbers within
the quadrat boundaries.
Sedges and grasses
continue to grow and
develop well.

Photo Plate 111: Quadrat 8 - Month 12 (August 2016)



Photo Plate 112: Quadrat 8 - Month 18 (February 2017)





Photo Plate 113: Quadrat 9 - Month 12 (August 2016)

## There has been an increase in canopy species abundance within this quadrat. A new sedge species was identified within the surrounding area. This is a positive sign for an increase of species diversity.

**Comparison Summary** 



Photo Plate 114: Quadrat 9 - Month 18 (February 2017)





Photo Plate 115: Quadrat 10 - Month 12 (August 2016)



Photo Plate 116: Quadrat 10 - Month 18 (February 2017)

### **Comparison Summary**

This is one of two dry and sloping quadrats where the contour highlights the impact of improved drainage on terrestrial plant success. A different species composition is recorded within this quadrat due to the differences in contour. Capillipedium spicigerum is still a dominant grass in the background even though dormant over this period.

The growth within this quadrant is quite representative of the broader site, with some Eucalypts reaching 5m or more, with a DBH of approximately 25cm.





Comparison Summary
This is a very stable
quadrat. Comparing
month 12 and month 18
photos, there has been a
significant change in
Aster abundance behind
this quadrat. This is an
annual weed, therefore
will die off.

Photo Plate 117: Quadrat 11 - Month 12 (August 2016)



Photo Plate 118: Quadrat 11 - Month 18 (February 2017)





Photo Plate 119: Quadrat 12 - Month 12 (August 2016)

# Comparison Summary This quadrat is abundant with canopy tree species, which is also representative of the surrounding areas. These individuals continue to grow well. The surrounds of this quadrat appear to be lagging compared to other areas, however have grown significantly over this six month period.



Photo Plate 120: Quadrat 12 - Month 18 (February 2017)





Comparison Summary
Canopy trees have grown
significantly within this
quadrat over the six
month period. This
growth is representative
of the general areas,
which has overall been a
little slower to take off
when compared to other
areas of the site.

Photo Plate 121: Quadrat 13 - Month 12 (August 2016)



Photo Plate 122: Quadrat 13 - Month 18 (February 2017)





Photo Plate 123: Quadrat 14 - Month 12 (August 2016)

Comparison Summary
Typha is becoming
dominant in the area.
The positive aspect to
this would be its nesting
habitat value for water
birds over the wet
season. However, this
species could, over a
long period, degrade the
diversity of the entire
site. Interestingly
enough, Typha was
sprayed here in the very
first visit.



Photo Plate 124: Quadrat 14 - Month 18 (February 2017)



### (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Photo Plate 125: A1 Eucalypt Plantings - Month 12 (August 2016)



Photo Plate 126: A1 Eucalypt Plantings - Month 18 (February 2017)

**Comparison Summary** At the month 12 monitoring time, pasture grasses were still dominant, however seedlings were becoming clearly visiable above the height of the grass. During the month 18 monitoring event, grass height was comparable, however planted stock continued to grow and prosper. Stock avereaged approximatly 3.5m in height at this monitoring event. Additional new species were identified within the NWCP during the month 18 monitoring period.



### (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Comparison Summary
The site is still
periodically inundated,
limiting the growth of a
number of the seeded
species. This area of
tube stock planting is
taking longer than the
A1 plantings. It is
anticipated that this
stock will grow slower
than other areas due to
the geology and
inundation.

Photo Plate 127: A2 Eucalypt Plantings - Month 12 (August 2016)



Photo Plate 128: A2 Eucalypt Plantings - Month 18 (February 2017)



### 3.4 Month 18 to Month 24

The following section reviews a comparison between the monitoring photos from February 2017 (month 18) and the month 24 monitoring survey conducted during August 2017. Many species of plants are flowering or seeding again. Small populations of new species identified last time have expanded significantly into small clusters, with *Juncus krausii*, *Carex appressa* and *Capillipedium spicigerum* being the most impressive.

In summary, the overall findings for A1 included the following;

- Abundant animal tracks were common, with nests, scats and burrows were seen frequently;
- One new species (Gahnia aspera) was observed and becoming common;
- The two main canopy trees are becoming prolific in abundance, with impressive growth rates of up to 5m at times, and many tens of thousands in number;
- The common weed species Aster is becoming less dominant, but continues to create a colonising
  aspect to areas not well vegetated yet. This is having a very positive effect in areas as it stabilising
  bare ground, whilst keeping the soil surface open due to its growth habit. This is allowing the soil
  surface to remain open to recruitment seed, and soil stored seed, without being vulnerable to either
  weed colonisation, or erosion;
- Myrtle Rust on *Melaleuca quinquinervia* around quadrats 4, 5 and 6 that was observed last visit, was much less obvious at this time of the year. There is minimum damage;
- Kangaroo grazing was evident;
- Large areas of pure stands of Casuarina glauca were common over much of the area;
- *Capillipedium spicigerum*, even though not easily noticed to an untrained eye, is abundant and dominant in the drier grassland areas.
- Wattles, Casuarinas, native grasses, Eucalypts and Corymbias are common on the surrounding contours and developing well. Some are even occurring within the wetter zones, the tallest reaching at least 7m around quadrat 10 where canopy diversity is at its greatest.

Monitoring in A2 also occurred in month 18. In summary, the overall findings within this area were as follows;

- No new species were identified, however the abundance and expansion of clusters of native plants is considerable. This is forming the beginning of functional areas of growth that will expand over time;
- Casuarina glauca seedlings are slowly spreading outwards through the site, and have made a significant advancement over the past 6 months;
- Aster subulatus is still common throughout the site and favouring low laying areas. As per A1, this weed species is creating favourable growing conditions for the recruitment of native species;
- Hibiscus diversifolium, being the most common plant, has flowered constantly for 6 months;
- Parsonsia straminia was becoming common as a seedling throughout most areas. This is a recruitment species, and an important butterfly host plant. It is also abundant in the adjoining bushland;
- The planted Eucalyptus and Melaleuca corridor surrounding the site is performing very well, and recent tube plantings within the site are strengthening canopy development.





Photo Plate 129: Quadrat 1 - Month 18 (February 2017)



Photo Plate 130: Quadrat 1 - Month 24 (August 2017)

### **Comparison Summary**

This quadrat was noted during Month 18 as being the most degraded quadrant. Over the past 6 months, growth of Casuarina glauca is has been exponential. This is clearly evident in the Month 24 monitoring photo. There has been no change in native plant dominance, however the biomass of native growth has significantly increased. This will greatly assist with shading out of weed species over the next 6 months.





Photo Plate 131: Quadrat 2 - Month 18 (February 2017)



Photo Plate 132: Quadrat 2 - Month 24 (August 2017)

Comparison Summary Weed growth is noted to be struggling against the growing dominance of native vegetation, especially casuarinas.

Both Melaleuca quinquenervia, some measuring 2m in height, and Casuarina glauca surround this quadrat in the hundreds. The entire surrounds are very weed free.

Traversing between quadrats 2 and 3 is difficult due to the abundance of canopy trees.





Photo Plate 133: Quadrat 3 - Month 18 (February 2017)

Comparison Summary
The growth in biomass
and height of Casuarina
glauca has been
significant over the past
6 months. Also
increasing in strength is
the coverage and density
of groundcovers. This
has increased the soil
coverage and stability
within the quadrat and
surrounds.



Photo Plate 134: Quadrat 3 - Month 24 (August 2017)





Photo Plate 135: Quadrat 4 - Month 18 (February 2017)



Photo Plate 136: Quadrat 4 - Month 24 (August 2017)

### Comparison Summary Casuarina glauca were recorded to be no more than seedlings during the Month 18 monitoring event. These seedlings are now over 2.5m in

height.

Within the surrounds of this quadrat are a number of eucalypt and Corymbia seedlings that are also growing well. A new species, *Gahnia aspera*, was also identified in good numbers surrounding this area.





Photo Plate 137: Quadrat 5 - Month 18 (February 2017)



Photo Plate 138: Quadrat 5 - Month 24 (August 2017)

Comparison Summary
Growth within this
quadrat over the past
six months has been
exponential. Casuarinas
and melaleucas have
grown 1-2m over a 6
month period, which
included the slower
growing months of

winter.

Melaleuca and Casuarina are forming impressive thickets in areas between quadrats 4, 5, 6 and 7. Myrtle rust is still present on some Melaleucas in the surrounding area, however is not spreading or degrading individuals.





Photo Plate 139: Quadrat 6 - Month 18 (February 2017)



Photo Plate 140: Quadrat 6 - Month 24 (August 2017)

### **Comparison Summary** This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges in the area. There are significant numbers of canopy trees in the surrounding area to this quadrant. This illustrates the habitat complexity and diversity within a small area of the site, with niche pockets such as this scattered throughout

the NWCP.





Photo Plate 141: Quadrat 7 - Month 18 (February 2017)



Photo Plate 142: Quadrat 7 - Month 24 (August 2017)

**Comparison Summary** Native canopy vegetation continues to increase in height and biomass within this quadrat. Dominance of canopy species within the surrounding areas is variable, and includes a number of eucalypt and corymbia species. The increase in biomass of canopy vegetation has increased shading of the understorey. This has resulting in the eradication of one pasture weed species, Conyza sumatrensis.





Photo Plate 143: Quadrat 8 - Month 18 (February 2017)

# Comparison Summary This is a stable quadrat dominated by freshwater wetland species, such as sedge, rush and cyperus species. A small number of casuarinas are scattered in and around this quadrat, however it will never be a dominant species within this area due to the hydrology.



Photo Plate 144: Quadrat 8 - Month 24 (August 2017)





Photo Plate 145: Quadrat 9 - Month 18 (February 2017)

Comparison Summary
There are no major
changes with this
quadrat over the past 6
months. It has remained
stable. Canopy
vegetation growth within
and surrounding this
quadrat has increased.
Native goundcover
biomass has also
increased slightly over
this period.



Photo Plate 146: Quadrat 9 - Month 24 (August 2017)





Photo Plate 147: Quadrat 10 - Month 18 (February 2017)



Photo Plate 148: Quadrat 10 - Month 24 (August 2017)

The growth within this quadrat is quite representative of the broader site, with some

Eucalypts reaching 6m or

**Comparison Summary** 

more, with a DBH of approximately 25cm. A notable increase in biomass is evident between Months 18 and

24.

The extent of vegetation cover within this quadrat has not increased. It is considered unlikely that this will increase due to the topography of this quadrat.





Photo Plate 149: Quadrat 11 - Month 18 (February 2017)



Photo Plate 150: Quadrat 11 - Month 24 (August 2017)

### **Comparison Summary**

This quadrat provides an example of how dynamic this area can be. During Month 18, this area was noted as being very stable. Now at Month 24, the quadrat has decreased in native dominance due to an outbreak of Common Sow Thistle. It is noted that this pasture weed is not of concern and will be naturally controlled with the next large rain event, as standing water will smother this species.





Photo Plate 151: Quadrat 12 - Month 18 (February 2017)



Photo Plate 152: Quadrat 12 - Month 24 (August 2017)

Whilst this quadrat is abundant with canopy tree species, there is still a lack in good soil coverage. Native grasses are common across the

**Comparison Summary** 

higher contours surrounding this quadrat.

This quadrat and the immediate surrounds appear to be lagging compared to other areas, however vegetation has still grown significantly over this six month period.





Photo Plate 153: Quadrat 13 - Month 18 (February 2017)

**Comparison Summary** Canopy trees have grown in height and biomass within this quadrat over the six month period. Growth within this area of the NWCP has been significant, with canopy vegetation reaching above weedy grass species within the broader area. These weedy grass species are beginning to struggle under the shading of native canopy vegetation.



Photo Plate 154: Quadrat 13 - Month 24 (August 2017)





Photo Plate 155: Quadrat 14 - Month 18 (February 2017)

### Comparison Summary Native dominance of vegetation has now reached 100% within this quadrat, with almost complete coverage. It is noted that the diversity of native species is rapidly declining due to the dominance of Typha.



Photo Plate 156: Quadrat 14 - Month 24 (August 2017)



### (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Comparison Summary
Height and biomass of
seedlings have both
increased exponentially
over this 6 month
period. As the canopy
continues to develop,
weed growth will
gradually be reduced.
Stock avereaged
approximatly 4m in
height at this
monitoring event.

Photo Plate 157: A1 Eucalypt Plantings - Month 18 (February 2017)



Photo Plate 158: A1 Eucalypt Plantings - Month 24 (August 2017)



### (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 159: A2 Eucalypt Plantings - Month 18 (February 2017)



Photo Plate 160: A2 Eucalypt Plantings - Month 24 (August 2017)

**Comparison Summary** The site is still periodically inundated, limiting the growth of a number of the seeded species. Hibiscus diversifolius, a species that requires high moisture levels, is dominant throughout this area. This area of tube stock planting is taking longer than the A1 plantings. It is anticipated that this stock will grow slower than other areas due to the geology and inundation.



### 3.5 Month 24 to Month 30

The following section reviews a comparison between the monitoring photos from August 2017 (month 24) and the month 30 monitoring survey conducted during February 2018. Over the past six months, vegetation growth has been so great that new routes between quadrats were required. This has resulted in an increase in opportunistic observations between quadrats, and has subsequently increased the recorded biodiversity of the NWCP on the whole.

In summary, the overall findings for A1 included the following;

- 30 plant species were either in flower or seed, and *Corymbia citriodora* having the first show of flowering from a canopy species. This will continue to strengthen the soil seed bank at seed fall;
- Several uncommon species were observed in higher numbers: *Juncus kraussii*, *Carex appressa*, *Allocasuarina littoralis* and *Livistona australis*;
- One new species was noted Ficus obliqua, with several individual specimens;
- Large areas of pure stands of Casuarina glauca were common over much of the area, with canopy closing rapidly;
- The reduction in weed species, both abundance and diversity was considerably noticeable;
- Myrtle Rust on *Melaleuca quinquinervia* around quadrant 4, 5 and 6 was still obvious and stunting growth of the host individual. It was not observed on every individual;
- Capillipedium spicigerum was incredibly dominant over large areas and was out competing weeds;
- Where the Camphor Laurel trees have been removed on the eastern boundary, *Imperata cylindrical* (Blady Grass) has dominated the area. This contributes towards edge sealing and biodiversity;
- Previously bare areas that are subject to frequent water inundation are now developing into a slower establishing wetland complex of sedges and aquatic plants. These areas are providing the habitat complexity for a variety of wading birds;

Monitoring in A2 also occurred in month 30. In summary, the overall findings within this area were as follows;

- Casuarina glauca seedlings are now rapidly spreading outwards through the site, and have made a significant expansion over the past 6 months. This is a key element in the creation and development of clusters, and clusters are the beginning of small functional areas of growth that inevitably move outward, and become more complex;
- A complex of grasses and sedges is rapidly developing as a stable complex ground flora;
- Some species were identified to be either flowering, or setting seed, in particular grasses such as *Capillipedium spicigerum*. This will continue to strengthen the resilience of the site;
- *Hibiscus diversifolium* being the most common plant found across all area at the previous six month monitoring period, is now being matched by the growth and abundance of *Casuarina glauca*;
- Parsonsia straminia was becoming common as a seedling throughout most areas. This is a recruitment species, and an important butterfly host plant. It's also abundant in the abutting bush land.
- The planted eucalypt and melaleuca Hotham Creek buffer is performing very well and gathering momentum.





Photo Plate 161: Quadrat 1 - Month 24 (August 2017)



Photo Plate 162: Quadrat 1 - Month 30 (February 2018)

### **Comparison Summary**

Over the past 6 months, growth of Casuarina glauca has again been exponential. This is clearly evident in the Month 30 monitoring photo. Native plant biomass has again significantly increased over this 6 month period. The diversity and abundance of weed species has been greatly reduced. This growth has assisted in reducing the weed biomass within this quadrat.





Photo Plate 163: Quadrat 2 - Month 24 (August 2017)

Comparison Summary
Over the past six
months, Casuarina
glauca and Melaleuca
quinquenervia growth
has made this quadrat
unrecognisable.

The entire surrounds are still very weed free. Traversing between quadrats 2 and 3 is difficult due to the abundance of canopy trees.



Photo Plate 164: Quadrat 2 - Month 30 (February 2018)





Photo Plate 165: Quadrat 3 - Month 24 (August 2017)



**Comparison Summary** 



Photo Plate 166: Quadrat 3 - Month 30 (February 2018)





Photo Plate 167: Quadrat 4 - Month 24 (August 2017)



Photo Plate 168: Quadrat 4 - Month 30 (February 2018)

Comparison Summary
Casuarina glauca growth
and biomass has
continued to increase.
This canopy formation
has continued to
suppress weed growth.

Vegetation growth in the surrounds also continues to gain biomass.

Alternate routes between quadrats have to be utilised due to this growth. Also identified within the surrounds of this quadrat was Melaleuca salignus, which is a new species for this area.





Photo Plate 169: Quadrat 5 - Month 24 (August 2017)

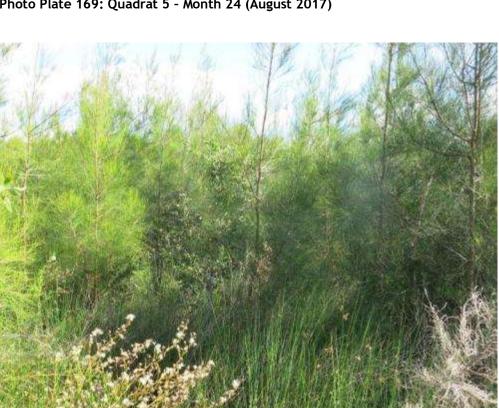


Photo Plate 170: Quadrat 5 - Month 30 (February 2018)

**Comparison Summary** Growth within this quadrat over the past six months has been exponential. There has been no increase in soil coverage, however due to the growth and development of canopy species the overall shading of the soil has

Myrtle rust is still being recorded within this area, however impacts on plant health is not significant.

increased.





Photo Plate 171: Quadrat 6 - Month 24 (August 2017)



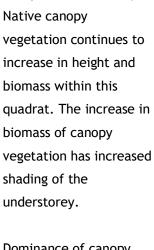
Photo Plate 172: Quadrat 6 - Month 30 (February 2018)

#### **Comparison Summary** This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges and rushes in the area. There are significant numbers of canopy trees in the surrounding area to this quadrant. This illustrates the habitat complexity and diversity within a small area of the site, with niche pockets such as this scattered throughout the NWCP.





Photo Plate 173: Quadrat 7 - Month 24 (August 2017)



Dominance of canopy species within the surrounding areas is variable. Becoming more notable within this surrounds of this quadrat is Melaleuca salignus.



Photo Plate 174: Quadrat 7 - Month 30 (February 2018)





Photo Plate 175: Quadrat 8 - Month 24 (August 2017)



Photo Plate 176: Quadrat 8 - Month 30 (February 2018)

#### **Comparison Summary**

This is a stable quadrat dominated by freshwater wetland species, such as sedge, rush and cyperus species. A small number of casuarinas are scattered in and around this quadrat, however it will never be a dominant species within this area due to the hydrology. These casuarinas have grown exponentially over this six month period. This is demonstration of how optimal growth conditions contribute to successful growth.





Photo Plate 177: Quadrat 9 - Month 24 (August 2017)



Photo Plate 178: Quadrat 9 - Month 30 (February 2018)

## Comparison Summary After remaining

After remaining relatively dormant for the last six months, the casuarina and melaleuca seedlings have grown rapidly into small canopy trees. With the increase in canopy cover, two weed species have been outcompeted from this quadrat.

Within the surrounding area, casuarinas are noted to be in seed. Once these trees set viable seed, a second cohort will commence development.





Photo Plate 179: Quadrat 10 - Month 24 (August 2017)



Photo Plate 180: Quadrat 10 - Month 30 (February 2018)

#### **Comparison Summary**

The growth within this quadrat is quite representative of the broader site. The extent of vegetation cover within this quadrat has not increased. It is considered unlikely that this will increase due to the topography of this quadrat. However, soil shading has increased due to the overall increase of biomass of the canopy. This continual increase in shading will continue to alter species composition and abundance.

The native grass

Capillipedium

spicigerum has

continued to seasonally
outcompete weed

species, with a

significant decline in

Mimosa pudica noted
during this six month
period.





Photo Plate 181: Quadrat 11 - Month 24 (August 2017)



Photo Plate 182: Quadrat 11 - Month 30 (February 2018)

#### **Comparison Summary**

This quadrat provides an example of how dynamic this area can be. During Month 18, this area was noted as being very stable. In Month 24, the quadrat decreased in native dominance due to an outbreak of Common Sow Thistle. Now the quadrat is dominated by an introduced carpet grass.

These dynamic changes are assumed to be associated with the fluctuating water table levels and levels of water inundation.





Photo Plate 183: Quadrat 12 - Month 24 (August 2017)



Photo Plate 184: Quadrat 12 - Month 30 (February 2018)

**Comparison Summary** This quadrat and the immediate surrounds appeared to be lagging compared to other areas, however vegetation grown significantly over this six month period has been exponential. With the increased shading as a direct result of the increase in biomass, the extent of growth within this quadrat will rapidly increase. A significant decline in weed abundance has been recorded over this six month period.





Photo Plate 185: Quadrat 13 - Month 24 (August 2017)

Canopy trees have grown significantly in height and biomass within this quadrat over the six month period. Growth within this area of the NWCP has been significant, with canopy vegetation having a positive impact on reducing the extent of weedy grass species due to shading.



Photo Plate 186: Quadrat 13 - Month 30 (February 2018)





Comparison Summary
A number of small
casuarina seedlings are
developing and
beginning to emerge
over the tops of the
typha. This marks the
commencement of the
diversification of this
quadrat.

Photo Plate 187: Quadrat 14 - Month 24 (August 2017)



Photo Plate 188: Quadrat 14 - Month 30 (February 2018)



#### (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Comparison Summary
Height and biomass of
seedlings have both
increased exponentially
over this 6 month
period. As the canopy
continues to develop,
weed growth will
gradually be reduced.
Stock avereaged
approximatly 5m in
height at this
monitoring event.

Photo Plate 189: A1 Eucalypt Plantings - Month 24 (August 2017)



Photo Plate 190: A1 Eucalypt Plantings - Month 30 (February 2018)



# (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 191: A2 Eucalypt Plantings - Month 24 (August 2017)



Photo Plate 192: A2 Eucalypt Plantings - Month 30 (February 2018)

**Comparison Summary** The site is still periodically inundated, limiting the growth of a number of the seeded species. Hibiscus diversifolius, a species that requires high moisture levels, is dominant throughout this area. This area of tube stock planting is taking longer than the A1 plantings. It is anticipated that this stock will grow slower than other areas due to the geology and inundation.



#### 3.6 Month 30 to Month 36

The following section reviews a comparison between the monitoring photos from February 2018 (month 30) and the month 36 monitoring survey conducted during August 2018. Of note, a significant portion of species within the entire NWCP area are seeding or flowering. This includes multiple acacia species, casuarina species, native pea trees, native grasses and eucalypts. This marks a significant milestone for maturation of this vegetation. Over the next 6 to 12 months a second cohort of seedlings will emerge as a result of self-propagation.

In summary, the overall findings for A1 included the following;

- 45 plant species were either in flower or seed, with *Eucalyptus robusta* and *Casuarina glauca* having the first show of flowering. This will continue to strengthen the soil seed bank;
- Several species uncommon within the NWCP were observed in higher numbers: *Juncus kraussii*, *Ficus oblique* and *Carex appressa* forming small clones in appropriate niches;
- Leptospermum polygalifolius ssp cismontanum was noted and in flower for the first time;
- Large areas of Casuarina glauca copses were common over much of the area, with canopy cover closing rapidly;
- The reduction in weed species, both in abundance and diversity was considerably noticeable;
- Myrtle Rust was still obvious on some Melaleuca quinquenervia individuals around quadrats 4, 5 and
   6. Growth of these individuals was visibly stunted;
- Fauna activity was significant during the month 36 monitoring inspection with bandicoot diggings around quadrats 5 and 6; multiple waterbird observations and many sightings of hunting birds of prey;
- The native grass species *Capillipedium spicigerum* was incredibly dominant over large areas and was out competing weed species considerably; and
- Many weed species are declining significantly.

Monitoring in A2 also occurred in month 36. In summary, the overall findings within this area were as follows;

- Casuarina glauca seedlings are now rapidly spreading outwards through the site, and have made a
  significant expansion over the past 6 months. This is a key element in the creation and development
  of clusters, and clusters are the beginning of small functional areas of growth that inevitably move
  outward, and become more complex;
- A complex of grasses and sedges is rapidly developing. What's impressive about this is the impact on weed elimination through the closing of any ecological niche available;
- Salt tolerant sedges like *Juncus krausii* are becoming more common in the western section where sodium soils are evident;
- Hibiscus diversifolius appearing as dead sticks is beginning its summer life cycle;
- Parsonsia straminia is becoming common as a seedling throughout most area; and.
- The planted eucalypts are very slow growers in these areas of high water table. The water table will start to stabilise as growth of other species continues, and this will have a positive effect on survival.





Photo Plate 193: Quadrat 1 - Month 30 (February 2018)



Photo Plate 194: Quadrat 1 - Month 36 (August 2018)

**Comparison Summary** Over the past 6 months, growth of Casuarina glauca has again been exponential. Native plant biomass has again significantly increased over this 6 month period. The diversity and abundance of weed species has been greatly reduced, however aster is beginning to re-emerge from winter dormancy. As Casuarina glauca growth continues to increase and add biomass, this weed will be outcompeted. The balance of the understorey in this area continues to increase in diversity.





Photo Plate 195: Quadrat 2 - Month 30 (February 2018)

Comparison Summary
Over the past six
months, Casuarina
glauca and Melaleuca
quinquenervia growth
has made this quadrat
unrecognisable.

This quadrat is rapidly establishing a canopy of *Casuarina glauca*. This is currently resulting in a short term reduction of diversity in the understory as the dynamic of this quadrat shifts.



Photo Plate 196: Quadrat 2 - Month 36 (August 2018)





Photo Plate 197: Quadrat 3 - Month 30 (February 2018)



Photo Plate 198: Quadrat 3 - Month 36 (August 2018)

#### **Comparison Summary**

The growth in biomass and height of Casuarina glauca has been significant over the past six months. This growth and formation of a continuous canopy is resulting in the reduction of ground cover species. During month 36 Casuarina glauca was recorded as flowering and seeding for the first time. This will commence the processes for the growth of the second cohort of seedlings and canopy growth.





Photo Plate 199: Quadrat 4 - Month 30 (February 2018)

Comparison Summary
Casuarina glauca growth
and biomass has
continued to increase.
This canopy formation
has continued to
suppress weed growth.

Vegetation growth in the surrounds also continues to gain biomass. Alternate routes between quadrats have to be utilised due to this growth.



Photo Plate 200: Quadrat 4 - Month 36 (August 2018)





Photo Plate 201: Quadrat 5 - Month 30 (February 2018)



Photo Plate 202: Quadrat 5 - Month 36 (August 2018)

Comparison Summary
Growth within this
quadrat over the past
six months has again
been exponential. A
canopy of Casuarina
glauca and Melaleuca
quinquenervia is now
well formed and
continuing to increase in
biomass. Native
groundcovers continue
to surpass weed growth,
with assistance from the
canopy via shading.

Myrtle rust is still being recorded within this area, with the growth of some individuals stunted; however this is not affecting all plants.





Photo Plate 203: Quadrat 6 - Month 30 (February 2018)



Photo Plate 204: Quadrat 6 - Month 36 (August 2018)

#### **Comparison Summary**

This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges and rushes in the area. There are significant numbers of canopy trees in the surrounding area to this quadrant, with a few scattered individuals within the quadrat. Despite the lack of canopy, this quadrat has morphed into a perfect representation of a wetland community, dominated by sedges, rushes and cyperus species. This illustrates the habitat complexity and diversity within a small area of the site, with niche pockets such as this scattered throughout the NWCP.





Photo Plate 205: Quadrat 7 - Month 30 (February 2018)



Photo Plate 206: Quadrat 7 - Month 36 (August 2018)

### **Comparison Summary**

Native canopy vegetation continues to increase in height and biomass within the surrounds to this quadrat. Note that the month 30 monitoring photo appears different as it shows the surrounding vegetation. The actual quadrat was inaccessible at that time due to inundation.

Casuarina glauca was recorded flowering and seeding within the surrounding areas for the first time since monitoring commenced.





Photo Plate 207: Quadrat 8 - Month 30 (February 2018)



Photo Plate 208: Quadrat 8 - Month 36 (August 2018)

#### **Comparison Summary**

This is a stable quadrat dominated by freshwater wetland species, such as sedge, rush and cyperus species. A small number of casuarinas are scattered in and around this quadrat, however it will never be a dominant species within this area due to the hydrology.

With the canopy establishment coupled with winter dormancies, this diversity of this quadrat has notably decreased between month 30 and month 36. A number of these species may re-emerge as growing conditions improve.





Photo Plate 209: Quadrat 9 - Month 30 (February 2018)

Comparison Summary
Scattered casuarina and
melaleucas have
continued to increase in
biomass. This vegetative
development continues
to displace weed
species.

Within the surrounding area, casuarinas are noted to be in seed. Once these trees set viable seed, a second cohort will commence development.



Photo Plate 210: Quadrat 9 - Month 36 (August 2018)





Photo Plate 211: Quadrat 10 - Month 30 (February 2018)



Photo Plate 212: Quadrat 10 - Month 36 (August 2018)

#### **Comparison Summary**

The growth within this quadrat is quite representative of the broader site. The extent of vegetation cover within this quadrat has not increased. It is considered unlikely that this will increase due to the topography of this quadrat. However, soil shading has increased due to the overall increase of biomass of the canopy. This continual increase in shading will continue to alter species composition and abundance.

This quadrat is progressively transitioning towards a grassy woodland structure with dominance of native grasses in the understorey.





Photo Plate 213: Quadrat 11 - Month 30 (February 2018)



Photo Plate 214: Quadrat 11 - Month 36 (August 2018)

#### **Comparison Summary**

This quadrat provides an example of how dynamic this area can be. During Month 18, this area was noted as being very stable. In Month 24, the quadrat decreased in native dominance due to an outbreak of Common Sow Thistle. Over the past six months, there has been a shift in herbaceous weed species dominance.

These dynamic changes are assumed to be associated with the fluctuating water table levels and levels of water inundation.





Photo Plate 215: Quadrat 12 - Month 30 (February 2018)



Photo Plate 216: Quadrat 12 - Month 36 (August 2018)

#### **Comparison Summary**

This quadrat and the immediate surrounds appeared to be lagging compared to other areas, however vegetation has grown significantly over the past 12 months.

Due to the increase in shading and organic build up, weed species are continuing to decline. This quadrat is developing well into an open woodland community with a sparse understorey due to inundation.





Photo Plate 217: Quadrat 13 - Month 30 (February 2018)

Comparison Summary
Canopy trees have
grown significantly in
height and biomass
within this quadrat over
the six month period.

This area has made a significant comeback with the change from sedges to casuarinas. A number of eucalypts are located on the fringes of this quadrat that are progressing well.



Photo Plate 218: Quadrat 13 - Month 36 (August 2018)





Photo Plate 219: Quadrat 14 - Month 30 (February 2018)

Comparison Summary
Typha is still quite
dominant in this
quadrat. A number of
small casuarina
seedlings are developing
and have clearly
emerged over the tops
of the typha. This marks
the commencement of
the diversification of
this quadrat.



Photo Plate 220: Quadrat 14 - Month 36 (August 2018)



#### (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Comparison Summary
Height and biomass of
seedlings have both
increased exponentially
over this 6 month
period. As the canopy
continues to develop,
weed growth will
gradually be reduced.
Stock avereaged
approximatly 7m in
height at this
monitoring event.

Photo Plate 221: A1 Eucalypt Plantings - Month 30 (February 2018)



Photo Plate 222: A1 Eucalypt Plantings - Month 36 (August 2018)



# (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 223: A2 Eucalypt Plantings - Month 30 (February 2018)



Photo Plate 224: A2 Eucalypt Plantings - Month 36 (August 2018)

**Comparison Summary** The site is still periodically inundated, limiting the growth of a number of the seeded species. Hibiscus diversifolius, a species that requires high moisture levels, is dominant throughout this area. This area of tube stock planting is taking longer than the A1 plantings. It is anticipated that this stock will grow slower than other areas due to the geology and inundation.



#### 3.7 Month 37 to Month 42

The following section reviews a comparison between the monitoring photos from August 2018 (month 36) and the month 42 monitoring survey conducted during February 2019. Of note, a significant portion of species within the entire NWCP area are seeding or flowering.

In summary, the overall findings for A1 included the following;

- Several canopy species are now commonly seeding, species like *Eucalyptus robusta*, *Casuarina glauca* with some additions like *Corymbia citriodora* and *Allocasurina littoralis*. This strengthens the ecological resilience of the site should there be fire, or some other catastrophic disturbance event;
- One new recruitment species, being Dianella brevipedunculata was sighted amongst the Blady Grass on the eastern boundary;
- Juncus kraussii and Carex appressa are developing into very common plants throughout the site. Ficus obliqua becoming more common;
- Leptospermum polygalifolium ssp. cismontanum that was sighted for the first time last visit in flower, has set abundant seed;
- Large areas of closed canopy monocultures of *Casuarina glauca* were common over much of the area;
- The reduction in weed species, both in abundance and diversity was considerably noticeable;
- Myrtle Rust on scattered individual Melaleuca quinquinervia around quadrant 4, 5 and 6 was still
  obvious and stunting growth of the host individual;
- Capillipedium spicigerum was incredibly dominant over large areas and was out competing weed species considerably, even though it in a dormant state at the time of this monitoring period;
- Cuphea, Mimosa pudica, and many other weed species are declining significantly;
- Many of the tube planted trees in the surrounding area are seeding, or flowering, such as *Eucalyptus robusta*, *E. microcorys*, and *Corymbia citriodora*.

Monitoring in A2 also occurred in month 42. In summary, the overall findings within this area were as follows;

- Large and bare areas that have been slow to cover now support vegetation cover;
- Casuarina glauca seedlings are now rapidly spreading outwards throughout the entire site, and have made a significant expansion over the past 6 months;
- Salt tolerant sedges like *Juncus krausii* and Fimbristylis are becoming more common in the western section where sodium soils are evident;
- Hibiscus diversifolius has been a consistently impressive plant, forming small clusters of cover for ground dwelling birds desiring shelter;
- Parsonsia straminia was becoming common as a seedling throughout most areas. This is a recruitment species, and an important butterfly host plant. It is also abundant in the adjoining bushland; and
- The planted Eucalyptus trees are budding for the first time, with *Eucalyptus robusta* being recorded in bud for the first time.





Photo Plate 225: Quadrat 1 - Month 36 (August 2018)



Photo Plate 226: Quadrat 1 - Month 42 (February 2019)

**Comparison Summary** Over the past 6 months, growth of Casuarina glauca has continued to increase in biomass, especially girth. The diversity and abundance of weed species has been greatly reduced. As Casuarina glauca growth continues to increase and add biomass, this weed will be outcompeted. The balance of the understorey in this area continues to trend towards a native grassy understorey.





Photo Plate 227: Quadrat 2 - Month 36 (August 2018)



Photo Plate 228: Quadrat 2 - Month 42 (February 2019)

# Comparison Summary Over the past six months, Casuarina glauca and Melaleuca quinquenervia growth has made this quadrat unrecognisable.

This quadrat is rapidly establishing a canopy of Casuarina glauca. This is currently resulting in a short term reduction of diversity in the understory as the dynamic of this quadrat shifts.





Photo Plate 229: Quadrat 3 - Month 36 (August 2018)



Photo Plate 230: Quadrat 3 - Month 42 (February 2019)

#### **Comparison Summary**

The growth in biomass and height of Casuarina glauca has again been significant over the past six months. The quadrat markers are now completely obscured from view. Juncus krausii within the surrounds of this quadrat continues to multiply, creating many small colonies throughout the area. Myrtle Rust is still present in the area and impacted on melaleucas





Photo Plate 231: Quadrat 4 - Month 36 (August 2018)

Comparison Summary
Casuarina glauca growth
and biomass has
continued to increase.
This canopy formation
has continued to
suppress weed growth.

Contour bands in the surrounding area edging onto quadrats 4, 5, 6 and 7 continue to develop with *Juncus krausii* and will fringe the small lake that will form in the wet season.



Photo Plate 232: Quadrat 4 - Month 42 (February 2019)





Photo Plate 233: Quadrat 5 - Month 36 (August 2018)



Photo Plate 234: Quadrat 5 - Month 42 (February 2019)

Comparison Summary
Growth within this
quadrat over the past
six months has been
steady. A canopy of
Casuarina glauca and
Melaleuca
quinquenervia is now
well formed and
continuing to increase in
biomass. Native
groundcovers continue
to surpass weed growth,
with assistance from the
canopy via shading.

Myrtle rust is still being recorded within this area, with the growth of some individuals stunted; however this is not affecting all plants.





Photo Plate 235: Quadrat 6 - Month 36 (August 2018)



Photo Plate 236: Quadrat 6 - Month 42 (February 2019)

#### **Comparison Summary**

This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges and rushes in the area.

This is a dynamic quadrat that shows significant changes between the wet and dry months as a direct result of the seasonal shifts in the hydrological regime of the area. This illustrates the habitat complexity and diversity within a small area of the site, with niche pockets such as this scattered throughout the NWCP.





Photo Plate 237: Quadrat 7 - Month 36 (August 2018)



Photo Plate 238: Quadrat 7 - Month 42 (February 2019)

Comparison Summary
Native canopy
vegetation continues to
increase in height and
biomass within the
surrounds to this
quadrat. Note that the
month 42 monitoring
photo appears different
as it shows the
surrounding vegetation.
The actual quadrat was
again inaccessible at
that time due to
inundation.

Casuarina glauca within this area continues to grow exponentially. Wetland species diversity within this area of the NWCP continues to increase.





Photo Plate 239: Quadrat 8 - Month 36 (August 2018)



Photo Plate 240: Quadrat 8 - Month 42 (February 2019)

#### **Comparison Summary**

This is a stable quadrat dominated by freshwater wetland species, such as sedge, rush and cyperus species. A small number of casuarinas are scattered in and around this quadrat, however it will never be a dominant species within this area due to the hydrology.

Species diversity was previously recorded as declining due to the increase in shading from the rapidly establishing canopy. Diversity has stabilised and is predicted to increase again over the next 12 months as the ecotone shift becomes more settled.





Photo Plate 241: Quadrat 9 - Month 36 (August 2018)



Photo Plate 242: Quadrat 9 - Month 42 (February 2019)

#### **Comparison Summary**

Scattered casuarina and melaleucas have continued to increase in biomass. This vegetative development continues to displace weed species.

Kangaroo activity is noted to be high within the surrounding area with multiple sunning/loafing pads sighted.
There is also evidence of stunted casuarinas between this quadrat and quadrat 10 due to grazing.





Photo Plate 243: Quadrat 10 - Month 36 (August 2018)



Photo Plate 244: Quadrat 10 - Month 42 (February 2019)

#### **Comparison Summary**

The growth within this quadrat is quite representative of the broader site. The extent of vegetation cover within this quadrat has not increased. It is considered unlikely that this will increase due to the topography of this quadrat. However, soil shading has increased due to the overall increase of biomass of the canopy. This continual increase in shading will continue to alter species composition and abundance.

This quadrat is progressively transitioning towards a grassy woodland structure with dominance of native grasses in the understorey.





Photo Plate 245: Quadrat 11 - Month 36 (August 2018)



Photo Plate 246: Quadrat 11 - Month 42 (February 2019)

#### **Comparison Summary**

This quadrat provides an example of how dynamic this area can be. These dynamic changes are assumed to be associated with the fluctuating water table levels and levels of water inundation.

Native dominance has decreased between months 36 and 42 due to the annual summer growth of Aster. As the season transitions, native grasses such as Capillipedium spicigerum should increase in dominance.





Photo Plate 247: Quadrat 12 - Month 36 (August 2018)



Photo Plate 248: Quadrat 12 - Month 42 (February 2019)

Comparison Summary
In previous six monthly
comparisons this
quadrat and the
immediate surrounds
appeared to be lagging
compared to other
areas, however
vegetation has grown
significantly over the
past 12 months.

Due to the increase in shading and organic build up, weed species are continuing to decline. This quadrat is developing well into an open woodland community with a sparse understorey due to inundation.





Photo Plate 249: Quadrat 13 - Month 36 (August 2018)



Photo Plate 250: Quadrat 13 - Month 42 (February 2019)

Comparison Summary
Canopy trees have
grown significantly in
height and biomass
within this quadrat over
the six month period.

This area has made a significant comeback with the change from sedges to casuarinas. A number of eucalypts are located on the fringes of this quadrat that are progressing well.

With the additional build-up of organic materials over the past six months, conditions have improved greatly allowing for the rapid growth of species such as Lomandra longifolia.





Comparison Summary
Typha is still quite
dominant in this
quadrat. A number of
small casuarina
seedlings are developing
well and continue to
add biomass. This is a
positive trend for the
diversification of this
quadrat.

Photo Plate 251: Quadrat 14 - Month 36 (August 2018)



Photo Plate 252: Quadrat 14 - Month 42 (February 2019)



# (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Comparison Summary
Height and biomass of
seedlings have both
increased exponentially
over this 6 month
period. Canopy
vegetation within this
area continues to
extend the overall
percentage of cover,
allowing for the
increase of native
species recruitment.

Photo Plate 253: A1 Eucalypt Plantings - Month 36 (August 2018)



Photo Plate 254: A1 Eucalypt Plantings - Month 42 (February 2019)



# (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 255: A2 Eucalypt Plantings - Month 36 (August 2018)



Photo Plate 256: A2 Eucalypt Plantings - Month 42 (February 2019)

Comparison Summary

The site is still periodically inundated, limiting the growth of a number of the seeded species. This area of tube stock planting is taking longer than the A1 plantings. It is anticipated that this stock will grow slower than other areas due to the geology and inundation.

Hibiscus diversifolius, a species that requires high moisture levels, is dominant throughout this area. Then spread of casuarina has been significant over the past six months with many small copses now linked together.



#### 3.8 Month 42 to Month 48

The following section reviews a comparison between the monitoring photos from February 2019 (month 42) and the month 48 monitoring survey conducted during August 2019. Of note, there are no signs of stress or reduction in development of this wetland system, despite being subjected to an extended drought over the past three years.

In summary, the overall findings for A1 included the following;

- Some species that are low in numbers, such as *Livistona australis*, *Ficus rubiginosa* and *Dianella brevipedunculata*, are developing well;
- Eucalyptus teriticornis and Eucalyptus robusta were observed in higher numbers than any time before, particularly in very low lying areas;
- The planted Eucalypt forest in surrounding areas are not only seeding (*E. robusta*), but developing with such vigour that understory dominance by sun loving *Cynodon dactylon* and *Axonopus sp.*, are losing dominance to native shade loving species such as *Carex appressa*, and *Microleana stipoides*;
- Melaleuca quinquenervia was in seed for the first time;
- The maturing Casuarina trees are having their second round of flowering and seed set;
- *Imperata cylindrica* along the eastern edge, where the *Cinnamomum camphora* were removed, is developing into an edge buffer zone of considerable vigour;
- Many species are forming small colonies in suitable micro-niches, such as Juncus krausii in saline
  hollows. The distribution of these plants, such as Juncus krausii, continue to expand;
- The site is at an appropriate stage where diversity often declines. This is not a downward trend in native plant dominance, but is due to the increasing shade and competition for light, space and nutrient availability. It is this trend where stability becomes assured, and the potential for decline is severely limited; and
- Weed species are becoming less obvious, both in diversity and population densities. This is due to the increased development of shade, and other factors limiting any available ecological niche for anything other than highly adaptable or specialised weeds.

Monitoring in A2 also occurred in month 48. In summary, the overall findings within this area were as follows;

- Casuarina glauca seedlings are now rapidly spreading outwards throughout the entire site. This is a
  key element in the development of copses; small functional areas of growth that inevitably move
  outward, and become more complex;
- A strong native ground layer is supressing weed species, however *Ipomea cairica* is becoming a concern and requires treatment;
- Hibiscus diversifolius has been a consistently impressive and currently setting considerable seed;
- *Parsonsia straminia* is becoming common as a seedling throughout the area, which is an important butterfly host plant; and
- Heavily budded Eucalyptus robusta trees seen and identified as being the first eucalypt in this area to set flower.





Photo Plate 257: Quadrat 1 - Month 42 (February 2019)



Photo Plate 258: Quadrat 1 - Month 48 (August 2019)

# **Comparison Summary** Over the past 6

months, growth of Casuarina glauca has continued to increase in biomass, especially girth. The diversity and abundance of weed species has been greatly reduced. As Casuarina glauca growth continues to increase and add biomass, this weed will be outcompeted. The balance of the understorey in this area continues to trend towards a native grassy understorey.

Note that the Month 48 photo is taken from a different angle due to lack of visibility through casuarina forest.





Photo Plate 259: Quadrat 2 - Month 42 (February 2019)



Photo Plate 260: Quadrat 2 - Month 48 (August 2019)

# Comparison Summary Over the past six months, Casuarina glauca and Melaleuca quinquenervia growth has made this quadrat

unrecognisable.

This quadrat is rapidly establishing a canopy of *Casuarina glauca*. This is currently resulting in a short term reduction of diversity in the understory as the dynamic of this quadrat shifts. The quadrat and surrounds remain relatively weed free.





Photo Plate 261: Quadrat 3 - Month 42 (February 2019)



Photo Plate 262: Quadrat 3 - Month 48 (August 2019)

#### **Comparison Summary**

The growth in biomass and height of Casuarina glauca has again been significant over the past six months. The quadrat markers are now completely obscured from view. Juncus krausii within the surrounds of this quadrat continues to multiply, creating many small colonies throughout the area. Eucalyptus robusta is setting seed in the surrounding area.





Photo Plate 263: Quadrat 4 - Month 42 (February 2019)



Photo Plate 264: Quadrat 4 - Month 48 (August 2019)

Comparison Summary
Casuarina glauca growth
and biomass has
continued to increase.
This canopy formation
has continued to
suppress weed growth.

As the height of vegetation continues to increase, the physical height of the canopy is being lifted. This is slowly allowing for the opening up of the understorey. This opening up of the understorey is allowing more breathing room for the diversification of this quadrat.





Photo Plate 265: Quadrat 5 - Month 42 (February 2019)



Photo Plate 266: Quadrat 5 - Month 48 (August 2019)

Comparison Summary
Growth within this
quadrat over the past
six months has been
steady. A canopy of
Casuarina glauca and
Melaleuca
quinquenervia is now
well formed and
continuing to increase in
biomass. Native
groundcovers continue
to surpass weed growth,
with assistance from the
canopy via shading.

A build-up of leaf litter is occurring in this quadrat and the surrounds that support a similar canopy. These needles have a strong allelopathic effect on other plant species, inhibiting successful establishment of other plant species.





Photo Plate 267: Quadrat 6 - Month 42 (February 2019)



Photo Plate 268: Quadrat 6 - Month 48 (August 2019)

#### **Comparison Summary**

This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges and rushes in the area.

This is a dynamic quadrat that shows significant changes between the wet and dry months as a direct result of the seasonal shifts in the hydrological regime of the area.

This comparison provides a great representation of casuarina biomass and girth growth representative across the NWCP.





Photo Plate 269: Quadrat 7 - Month 42 (February 2019)



Photo Plate 270: Quadrat 7 - Month 48 (August 2019)

# **Comparison Summary**Native canopy vegetation

continues to increase in height and biomass within the surrounds to this quadrat.

Casuarina glauca within this area continues to grow exponentially. Wetland species diversity within this area of the NWCP continues to increase.

Note that both monitoring photos are from the surrounding areas as quadrat location is physically inaccessible.





Photo Plate 271: Quadrat 8 - Month 42 (February 2019)



Photo Plate 272: Quadrat 8 - Month 48 (August 2019)

#### **Comparison Summary**

This is a stable quadrat dominated by freshwater wetland species, such as sedge, rush and cyperus species. A small number of casuarinas are scattered in and around this quadrat, however it will never be a dominant species within this area due to the hydrology.

Species diversity was previously recorded as declining due to the increase in shading from the rapidly establishing canopy. Diversity has stabilised and continues to show signs of maturation.





Photo Plate 273: Quadrat 9 - Month 42 (February 2019)



Photo Plate 274: Quadrat 9 - Month 48 (August 2019)

#### **Comparison Summary**

Scattered casuarina and melaleucas have continued to increase in biomass. This vegetative development continues to displace weed species.

Canopy biomass continues to increase significantly.
Understorey biodiversity is also becoming more prevalent throughout this quadrat and surrounding area.





Photo Plate 275: Quadrat 10 - Month 42 (February 2019)



Photo Plate 276: Quadrat 10 - Month 48 (August 2019)

#### **Comparison Summary**

The growth within this quadrat is quite representative of the broader site. The extent of vegetation cover within this quadrat has not increased. It is considered unlikely that this will increase due to the topography of this quadrat. However, soil shading has increased due to the overall increase of biomass of the canopy.

This quadrat is progressively transitioning towards a grassy woodland structure with dominance of native grasses in the understorey.

During the Month 48 monitoring assessment, *Corymbia citriodora* was identified with mature seed.





Photo Plate 277: Quadrat 11 - Month 42 (February 2019)



Photo Plate 278: Quadrat 11 - Month 48 (August 2019)

This quadrat provides an example of how dynamic this area can be. These dynamic changes are assumed to

**Comparison Summary** 

fluctuating water table levels and levels of

water inundation.

be associated with the

Native dominance of this quadrat fluctuates dramatically and frequently due to the variable nature of the annual pasture weeds.





Photo Plate 279: Quadrat 12 - Month 42 (February 2019)



Photo Plate 280: Quadrat 12 - Month 48 (August 2019)

Comparison Summary
In previous six monthly
comparisons this
quadrat and the
immediate surrounds
appeared to be lagging
compared to other
areas, however
vegetation has grown
significantly over the
past 6 months.

Due to the increase in shading and organic build up, weed species are continuing to decline. This quadrat is developing well into an open woodland community with a sparse understorey due to inundation. A number of wetland plants are present due to this inundation.





Photo Plate 281: Quadrat 13 - Month 42 (February 2019)



Photo Plate 282: Quadrat 13 - Month 48 (August 2019)

Comparison Summary
Canopy trees have
grown significantly in
height and biomass
within this quadrat over
the six month period.

This area has made a significant comeback with the change from sedges to casuarinas. A number of eucalypts are located on the fringes of this quadrat that are progressing well.

With the additional build-up of organic materials over the past six months, conditions have improved greatly allowing for the rapid growth of species such as *Lomandra longifolia*. Native grasses are forming positive buffer zones along this area.





Photo Plate 283: Quadrat 14 - Month 42 (February 2019)



Photo Plate 284: Quadrat 14 - Month 48 (August 2019)

#### **Comparison Summary**

Typha is still quite dominant in this quadrat. A number of small casuarina seedlings are developing well and continue to add biomass. This is a positive trend for the diversification of this quadrat.

Imperata cylindrica is developing well along the the interface of this quadrat and the adjoining farmland.



# (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Height and biomass of seedlings have both increased exponentially over this 6 month period. Canopy vegetation within this area continues to extend the overall percentage of cover, allowing for the increase of native species recruitment.

**Comparison Summary** 

Photo Plate 285: A1 Eucalypt Plantings - Month 42 (February 2019)



Photo Plate 286: A1 Eucalypt Plantings - Month 48 (August 2019)



# (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 287: A2 Eucalypt Plantings - Month 42 (February 2019)



Photo Plate 288: A2 Eucalypt Plantings - Month 48 (August 2019)

#### **Comparison Summary**

The site is still periodically inundated, limiting the growth of a number of the seeded species. This area of tube stock planting is taking longer than the A1 plantings. It is anticipated that this stock will grow slower than other areas due to the geology and inundation.

Casuarina copses are beginning to close together, assisting with the strengthening of micro-niches within the rehabilitation area.



#### 3.9 Month 48 to Month 54

The following section reviews a comparison between the monitoring photos from August 2019 (month 48) and the month 54 monitoring survey conducted during February 2020. Generally speaking, maturation is evident across the site. As leaf litter increases, soil maturation characteristics become more evident by way of ground flora emergence, diversification and expansion. This has been quite noticeable under trees planted along the upper contour zones surrounding the wetter areas.

In summary, the overall findings for A1 included the following;

- Many canopy species are now commonly seeding, including species such as Eucalyptus robusta,
  Casuarina glauca, Corymbia citriodora, Allocasurina littoralis, and now Melaleuca quinquenervia.
  This of course strengthens the ecological resilience of the site should there be fire, or some other
  catastrophic disturbance;
- Juncus kraussii and Carex appressa have developing into very common plants throughout the site;
- Leptospermum polygalifolium continues to hold seed;
- Large areas of pure stands of *Casuarina glauca* are common over much of the area, with a closed canopy in most areas. Trunk diameter measuring up to 180mm in areas;
- The reduction in weed species, both in abundance and diversity, was considerably noticeable again;
- Myrtle Rust on *Melaleuca quinquenervia* was lessening, and it's unknown if this is an annual cyclic process, or plants are developing resistance;
- Signs of fauna utilisation, such as significant bandicoot diggings and shed snake skins, were noted;
- Capillipedium spicigerum was incredibly dominant over large areas and was out competing weed species considerably even though seriously drought stressed;
- Cuphea, Mimosa pudica, and many other weed species are declining significantly; and
- Many of the tube planted trees in the surrounding area are seeding, or flowering, such as *Eucalyptus* robusta, E. microcorys, and Corymbia citriodora, with a complex native grass understory developing.

Monitoring in A2 also occurred in month 54. In summary, the overall findings within this area were as follows;

- Eucalyptus robusta trees are continuing to establish well;
- Casuarina glauca seedlings are now rapidly spreading outwards throughout the entire site. This is a
  key element in the development of copses; small functional areas of growth that inevitably move
  outward, and become more complex;
- A strong native ground layer is supressing weed species;
- Hibiscus diversifolius has been a consistently impressive and currently setting considerable seed; and
- Parsonsia straminia is becoming common as a seedling throughout the area, which is an important butterfly host plant.





Photo Plate 289: Quadrat 1 - Month 48 (August 2019)



Photo Plate 290: Quadrat 1 - Month 54 (February 2020)

**Comparison Summary** Over the past 6 months, growth of Casuarina glauca has continued to increase in biomass, especially girth. The recent heavy rainfall has assisted in reducing the signs of drought stress common throughout the entire NWCP area. The diversity and abundance of weed species has been greatly reduced. The balance of the understorey in this area continues to trend towards a native grassy

Note that the Month 48 photo is taken from a different angle due to lack of visibility through casuarina forest.

understorey.





Photo Plate 291: Quadrat 2 - Month 48 (August 2019)



Photo Plate 292: Quadrat 2 - Month 54 (February 2020)

#### **Comparison Summary**

Over the past six months, the only significant change noted was the maturation of Casuarina glauca and Melaleuca quinquenervia. This is a sign of this vegetation community strengthening into a stable ecosystem.

Heavy rainfall periods over the last half of this six month period have resulted in standing water throughout this area. This has reduced weed presence and increased the dominance of native species, such as understorey dominated by *Bolboschoenus cardwellii*, in the understorey.





Photo Plate 293: Quadrat 3 - Month 48 (August 2019)



Photo Plate 294: Quadrat 3 - Month 54 (February 2020)

#### **Comparison Summary**

Over the past six months, the only significant change noted was the maturation of *Casuarina glauca*. This is a sign of this vegetation community strengthening into a stable ecosystem.

Heavy rainfall periods over the last half of this six month period have resulted in standing water throughout this area. Surface water is currently extensive throughout this area, however this will assist in relieving drought stress.





Photo Plate 295: Quadrat 4 - Month 48 (August 2019)



Photo Plate 296: Quadrat 4 - Month 54 (February 2020)

#### **Comparison Summary**

Over the past six months, the only significant change noted was the maturation of Casuarina glauca and Melaleuca quinquenervia. This is a sign of this vegetation community strengthening into a stable ecosystem.

Contour banding of plant community assemblages are also becoming more predominant as wet conditions prevail.





Photo Plate 297: Quadrat 5 - Month 48 (August 2019)

Comparison Summary
Over the past six
months, the only
significant change noted
was the maturation of
Casuarina glauca and
Melaleuca
quinquenervia. This is a
sign of this vegetation
community
strengthening into a
stable ecosystem.



Photo Plate 298: Quadrat 5 - Month 54 (February 2020)





Photo Plate 299: Quadrat 6 - Month 48 (August 2019)



Photo Plate 300: Quadrat 6 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges and rushes in the area.

This is a dynamic quadrat that shows significant changes between the wet and dry months as a direct result of the seasonal shifts in the hydrological regime of the area. This is clearly evident comparing monitoring photos for this six month period.





Photo Plate 301: Quadrat 7 - Month 48 (August 2019)



Photo Plate 302: Quadrat 7 - Month 54 (February 2020)

#### **Comparison Summary**

Native canopy vegetation continues to increase in height and biomass within the surrounds to this quadrat.

Casuarina glauca within this area continues to grow exponentially. Wetland species diversity within this area of the NWCP continues to increase.

This is a dynamic quadrat that shows significant changes between the wet and dry months as a direct result of the seasonal shifts in the hydrological regime of the area. This is clearly evident comparing monitoring photos for this six month period.

Note that both monitoring photos are from the surrounding areas as quadrat location is physically inaccessible.





Photo Plate 303: Quadrat 8 - Month 48 (August 2019)



Photo Plate 304: Quadrat 8 - Month 54 (February 2020)

#### **Comparison Summary**

This is a stable quadrat dominated by freshwater wetland species, such as sedge, rush and cyperus species. A small number of casuarinas are also scattered in and around this quadrat.

Over the past six months, the only significant change noted was the general maturation of the quadrat and surrounding area.





Photo Plate 305: Quadrat 9 - Month 48 (August 2019)



Photo Plate 306: Quadrat 9 - Month 54 (February 2020)

#### **Comparison Summary**

Scattered casuarina and melaleucas have continued to increase in biomass. This vegetative development continues to displace weed species.

The understorey within this area held standing water during the latter half of this six month period. This has assisted with drought stress and increased dominance of wetland species, such as *Carex appressa*.





Photo Plate 307: Quadrat 10 - Month 48 (August 2019)



Photo Plate 308: Quadrat 10 - Month 54 (February 2020)

## **Comparison Summary**The growth within this

quadrat is quite representative of the broader site. Over this six month period the biomass has continued to increase significantly.

This quadrat is progressively transitioning towards a grassy woodland structure with dominance of native grasses in the understorey.

Leaf litter now covers the entire soil surface here, which is a positive sign for the maturation of this vegetation community.





Photo Plate 309: Quadrat 11 - Month 48 (August 2019)



Photo Plate 310: Quadrat 11 - Month 54 (February 2020)

#### **Comparison Summary**

This quadrat provides an example of how dynamic this area can be. These dynamic changes are assumed to be associated with the fluctuating water table levels and levels of water inundation.

Native dominance of this quadrat fluctuates dramatically and frequently due to the variable nature of the annual pasture weeds. Recent heavy rains during the latter half of this six month period have started to impact these annual weed species via natural control measures from waterlogging.





Comparison Summary
Over the past six
months, the only
significant change noted
was the maturation of
Casuarina glauca. This
is a sign of this
vegetation community
strengthening into a
stable ecosystem.

Photo Plate 311: Quadrat 12 - Month 48 (August 2019)



Photo Plate 312: Quadrat 12 - Month 54 (February 2020)





Photo Plate 313: Quadrat 13 - Month 48 (August 2019)



Photo Plate 314: Quadrat 13 - Month 54 (February 2020)

#### **Comparison Summary**

This area has made a significant comeback with the change from sedges to casuarinas. A number of eucalypts are located on the fringes of this quadrat that are progressing well.

Vegetation within this quadrat and immediate surrounds continues to mature.

With the additional build-up of organic materials over the past six months, conditions have improved greatly allowing for the rapid growth of native species.





Photo Plate 315: Quadrat 14 - Month 48 (August 2019)



Photo Plate 316: Quadrat 14 - Month 54 (February 2020)

Comparison Summary
Over this six month
period, Typha numbers
have declined
significantly. A positive
sign is the native grass,
such as Capillipedium
that is now dominating
this quadrat. This grassy
understorey is growing
well in conjunction with
the expanding casuarina

Imperata cylindrica is also developing well along the interface of this quadrat and the adjoining farmland.

canopy.



## (A1) Hotham Creek - Pimpama River Riparian Eucalypt Plantings



Comparison Summary
Height and biomass of
seedlings have both
increased exponentially
over this 6 month
period. Canopy
vegetation within this
area continues to
extend the overall
percentage of cover,
allowing for the
increase of native
species recruitment.

Photo Plate 317: A1 Eucalypt Plantings - Month 48 (August 2019)



Photo Plate 318: A1 Eucalypt Plantings - Month 54 (February 2020)



# (A2) Hotham Creek - Swan Road Open Space Precinct Eucalypt Plantings and Native Seeding



Photo Plate 319: A2 Eucalypt Plantings - Month 48 (August 2019)



Photo Plate 320: A2 Eucalypt Plantings - Month 54 (February 2020)

#### **Comparison Summary**

The site is still periodically inundated, limiting the growth of a number of the seeded species. This area of tube stock planting is taking longer than the A1 plantings. It is anticipated that this stock will grow slower than other areas due to the geology and inundation.

Casuarina copses are beginning to close together, assisting with the strengthening of micro-niches within the rehabilitation area. A number of eucalypts are also becoming more prominent, however have been slow to establish.



## 3.10 Remaining Six Monthly Comparisons

As these comparison dates come by, this section will be updated with photographs illustrating the changes from the previous six months. The following comparisons are to be completed;

• Month 54 (February 2020) to Month 60 (August 2020).



## 4.0 MONTHLY QUADRAT MONITORING SURVEYS

## 4.1 Quadrat 1

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015			
Comments:	This is the most degraded quadrat. It is not expected that this quadrat will perform well. The quadrat sits on an elevated area and was not subject to flooding. The quadrat was selected as it will serve as a good opportunity to observe whether a native seedbank can eventually overcome a significant existing exotic weed presence. This quadrat contains many more unidentified grasses and flat weeds than listed due to dormancy or immaturity.			
Native species:	Capillipedium spicigerum			
Weed species:	Gomphocarpus physocarpus, Senecio sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	5% Percentage vegetation cover: 100%			
Photo:				

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015	October 2015		
Comments:	This is the most degraded quadrat. This quadrat continues to perform poorly. Very little identifiable change has occurred with exotic species continuing to dominate. This quadrat contains more unidentified grasses and flat weeds than listed due to dormancy or immaturity.			
Native species:	Capillipedium spicigerum			
Weed species:	Gomphocarpus physocarpus, Cirseum vulgare, Cynodon dactylon			
Damage:	Nil			
Native dominance:	5%	Percentage vegetation cover:	100%	
Photo:	Nil		•	



Monitoring month:	3	Months since direct seeding:	8
Date:	November 2015		
Comments:	This is the most degraded quadrat. This quadrat continues to lack native vegetation.  Biomass of weeds appears to be fairly stable. This quadrat contains more unidentified grasses and flat weeds than listed due to dormancy or immaturity.		
Native species:	Capillipedium spicigerum, Cynodon dactylon		
Weed species:	Gomphocarpus physocarpus, Cirseum vulgare, Aster subulatus		
Damage:	Nil		
Native dominance:	5%	Percentage vegetation cover:	100%
Photo:	Nil		

Monitoring month:	4	Months since direct seeding:	9		
Date:	December 2015	December 2015			
Comments:	While this remains the most degraded quadrat, the native grass <i>Capillipedium spicigerum</i> is now common in the quadrat. A positive first sign. <i>Casuarina glauca</i> is noted in the surrounding areas and may (over time) assist with shading out exotics. No sign of tree species within the quad as yet. This quadrat contains more unidentified grasses and flat weeds than listed due to dormancy or immaturity.				
Native species:	Capillipedium spicigerum				
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cirsium vulgare, Cynodon dactylon				
Damage:	Nil				
Native dominance:	5%	Percentage vegetation cover:	100%		
Photo:	Nil				

Monitoring month:	5	Months since direct seeding:	10
Date:	January 2016		
Comments:	Capillipedium spicigerum is common though weeds continue to dominate. The surrounding area includes Casuarina glauca performing well. Isolated Melaleuca quinqinervia also recorded adjacent to this quad on lower cut areas. This quadrat contains more unidentified grasses and flat weeds than listed due to dormancy or immaturity.		
Native species:	Capillipedium spicigerum		
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	5%	Percentage vegetation cover:	100%
Photo:	Nil		



Monitoring month:	6	Months since direct seeding:	11
Date:	February 2016		
Comments:	Weed biomass has increased significantly since last month. Average height of weeds is 500mm approx. New <i>Casuarina glauca</i> have been found adjacent to the quad and one of these measured 1.3 metres in height. Native grasses continue to be outcompeted by exotics. No tree species recorded yet and hopes are fading of potential in this regard. This quadrat contains more unidentified grasses and flat weeds than listed due to dormancy or immaturity.		
Native species:	Capillipedium spicigerum		
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	5%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016	March 2016		
Comments:	Casuarina glauca are becoming very common around this area, some measured at 1.5 metres. This quadrat contains more unidentified grasses and flat weeds than listed due to dormancy or immaturity.			
Native species:	Capillipedium spicigerum			
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon			
Damage:	Nil			
Native dominance:	5%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	8	Months since direct seeding:	13
Date:	April 2016		
Comments:	The native grass <i>Capillipedium spicigerum</i> is common within the quadrat and currently setting seed. <i>Casuarina glauca</i> are very common around this area, some measured at 1.5 metres.		
Native species:	Capillipedium spicigerum		
Weed species:	Gomphocarpus fruticosus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	10%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016	May 2016		
Comments:	There has been no significant	t change in this quadrat.		
Native species:	Capillipedium spicigerum			
Weed species:		Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil			
Native dominance:	15%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016	June 2016		
Comments:	Aster die-back in the lead up to winter is becoming notable within this month's monitoring of this quadrat.			
Native species:	Capillipedium spicigerum			
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon			
Damage:	Nil			
Native dominance:	20%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	Due to the die-back of Aster, <i>Casuarina glauca</i> seedlings are becoming visible and are becoming emergent over the Aster. The native grass <i>Capillipedium spicigerum</i> is still common within the quadrant.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca	
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	35%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	12	Months since direct seeding:	17
Date:	August 2016		
Comments:	The native grass Capillipediu	ım spicigerum is common within th	e quadrant.
Native species:	Capillipedium spicigerum, Co	asuarina glauca	
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	37%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016			
Comments:		The native grass <i>Capillipedium spicigerum</i> is common within the quadrant. Casuarina seedlings are progressing steadily.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca		
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga	-	n dilatatum, Cuphea	
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	14	Months since direct seeding:	19	
Date:	October 2016	October 2016		
Comments:	Casuarina glauca seedlings co 1m in height.	Casuarina glauca seedlings continue to prosper, with some individuals reaching over 1m in height.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca		
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga	•	dilatatum, Cuphea	
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:	Native dominance continues to increase with the increased growth of Casuarinas and Capillipedium spicigerum.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca	
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga	- · · · · · · · · · · · · · · · · · · ·	n dilatatum, Cuphea
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	16	Months since direct seeding:	21
Date:	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Casuarinas continue to grow, averaging approx. 1.8m in height.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca	
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017			
Comments:		Casuarinas continue to dominant and grow, still averaging approx. 1.8m in height.  Melaleuca was recorded on the periphery of the quadrat.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca		
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga		n dilatatum, Cuphea	
Damage:	Nil			
Native dominance:	50%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	18	Months since direct seeding:	23
Date:	February 2017		
Comments:	Casuarinas continue to grow well within and surrounding this quadrat. <i>Capillipedium spicigerum</i> is still common. <i>Acacia falcata</i> was recorded on the periphery of the quadrat.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	50%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	19	Months since direct seeding:	24	
Date:	March 2017 (NB: monitoring	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged and functioning as the wetland it is designed to be. Casuarinas continue to grow well within and surrounding this quadrat, averaging 3m in height.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:		Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage			
Native dominance:	55%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Much of the area is still waterlogged and functioning as the wetland it is designed to be. Casuarinas continue to grow well within and surrounding this quadrat, averaging 3m in height.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	55%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	21	Months since direct seeding:	26	
Date:	May 2017	May 2017		
Comments:	_	Casuarinas continue to grow well within and surrounding this quadrat, averaging 4m in height. Melaleucas are becoming more notable at 1.5m		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is	
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga	s, Aster subulatus, Paspalum re, Cynodon dactylon	dilatatum, Cuphea	
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017	June 2017		
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga	s, Aster subulatus, Paspalum re, Cynodon dactylon	n dilatatum, Cuphea	
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	23	Months since direct seeding:	28	
Date:	July 2017	July 2017		
Comments:	_	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga		n dilatatum, Cuphea	
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017	August 2017		
Comments:	Vegetation health is steady. <i>Casuarina glauca</i> growth continues to increase in height and biomass.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon, Verbena bonariensis			
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	25	Months since direct seeding:	30	
Date:	September 2017			
Comments:	Casuarina glauca growth con	tinues to increase in height and bio	omass.	
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is	
Weed species:		Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon, Verbena bonariensis		
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	Casuarina glauca growth con	tinues to increase in height and bio	omass.
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is
Weed species:	Gomphocarpus physocarpu carthagenesis, Cirsium vulga	s, Aster subulatus, Paspalum re, Cynodon dactylon, Verbena bol	•
Damage:	Nil		
Native dominance:	60%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	A small amount of rain was received in the local area this month, assisting in growth of all species as the temperature rises.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is
Weed species:		s, Aster subulatus, Paspalum re, Cynodon dactylon, Verbena boi	-
Damage:	Nil		
Native dominance:	60%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017	December 2017		
Comments:	Temperatures continue to climb, resulting in significant growth of <i>Casuarina glauca</i> . A moderate level of rain was received during the latter part of this month.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is	
Weed species:	Gomphocarpus physocarpus, Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon, Verbena bonariensis			
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	29	Months since direct seeding:	34	
Date:	January 2018	January 2018		
Comments:	Canopy growth continues to progressively shade out weed species, reducing diversity and abundance of weeds.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is	
Weed species:		Gomphocarpus physocarpus, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon, Verbena bonariensis		
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	30	Months since direct seeding:	35
Date:	February 2018		
Comments:	Casuarina glauca growth con	tinues to increase in height and bio	omass.
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is
Weed species:	Gomphocarpus physocarpus, Cuphea carthagenesis, Cirsium vulgare, Cynodon dactylon		
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	31	Months since direct seeding:	36	
Date:	March 2018			
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpus, Cuphea carthagenesis, Cynodon dactylon,			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	100%	
Photo:	65% Percentage vegetation cover: 100%			



Monitoring month:	32	Months since direct seeding:	37	
Date:	April 2018			
Comments:	Casuarina glauca growth con	tinues to increase in height and bio	omass.	
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is	
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon	
Damage:	Nil	Nil		
Native dominance:	65%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	33	Months since direct seeding:	38	
Date:	May 2018			
Comments:	Canopy growth continues to and abundance of weeds.	Canopy growth continues to progressively shade out weed species, reducing diversity and abundance of weeds.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon	
Damage:	Nil	Nil		
Native dominance:	65%	Percentage vegetation cover:	100%	
Photo:	65% Percentage vegetation cover: 100%			



Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this month due to the slowing down of the growing season.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon
Damage:	Nil		
Native dominance:	60%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Native dominance increased this month with the loss of a weed species and weed biomass. An additional native species, <i>Parsonsia straminea</i> , was also recorded.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is, Parsonsia straminea
Weed species:	Gomphocarpus physocarpus,	Cynodon dactylon	
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	36	Months since direct seeding:	41	
Date:	August 2018			
Comments:		Aster is beginning to re-emerge from winter dormancy. This may be its last season as competition from native trees eliminates its ability to reproduce.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris, Parsonsia straminea	
Weed species:	Gomphocarpus physocarpus,	Cynodon dactylon		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:	Tel celitage vegetation cover. 100%			

Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	No significant changes within the quadrat this month. Understorey and canopy of the surrounding area continues to develop with many new species emerging.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	38	Months since direct seeding:	43	
Date:	October 2018			
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon	
Damage:	Nil	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	39	Months since direct seeding:	44
Date:	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	40	Months since direct seeding:	45	
Date:	December 2018	December 2018		
Comments:	Vegetation growth was stead	y this month.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon	
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	41	Months since direct seeding:	46	
Date:	January 2019	January 2019		
Comments:	Casuarinas continue to increa	ase in biomass		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is	
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon	
Damage:	Nil	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	42	Months since direct seeding:	47	
Date:	February 2019	February 2019		
Comments:	Vegetation growth was stead	y this month. Aster re-emerging fr	om winter dormancy.	
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is	
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon	
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	43	Months since direct seeding:	48	
Date:	March 2019	March 2019		
Comments:	No significant changes occur	red this month		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon	
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Gomphocarpus physocarpus,	Cuphea carthagenesis, Cynodon do	actylon
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	is
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Casuarina continues to grow	well.	
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Cuphea carthagenesis, Cynod	don dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Livistona australis is noted to	o be increasing in clusters surround	ding this quadrat.
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Diversification within the surrounding areas continues.		
Native species:	Capillipedium spicigerum, Casuarina glauca, Ludwigia octovalvis		
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019	October 2019		
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Ludwigia octovalv	ris	
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	51	Months since direct seeding:	56	
Date:	November 2019			
Comments:	Growth steady.			
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Parsonsia stramin	еа	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Capillipedium still has a very	strong presence within this quadr	at.
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Parsonsia stramin	еа
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Rainfall is assisting with incre	easing wetland species abundance.	
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Parsonsia stramin	ea
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	54	Months since direct seeding:	59	
Date:	February 2020			
Comments:	The understorey within this of	quadrat continues to increase with	vigour.	
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Parsonsia stramin	еа	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020			
Comments:	_	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.		
Native species:	Capillipedium spicigerum, Co	asuarina glauca, Parsonsia stramin	ea	
Weed species:	Cynodon dactylon			
Damage:	Periodic flooding improves overall ecosystem health			
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:		N/A		



## 4.2 Quadrat 2

Monitoring month:	1	Months since direct seeding:	6
Date:	September 2015		
Comments:	All species are setting seed. This significantly increases the rate of native establishment, but more importantly, lays down a seed bank strengthening the ecological resilience of the area. This quadrat is performing very well.		
Native species:	Bolboschoenus cardwellii, El prismatacarpa	eocharis dulcis, Ludwidgia octoval <sup>,</sup>	vis, Juncus
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:	100% Percentage vegetation cover: 80%		

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015	October 2015		
Comments:	All species are setting seed and the ecological resilience of the area is improving, however percentage cover has not greatly improved.			
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa			
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8
Date:	November 2015		
Comments:	All native species are now setting seed. This is an excellent indicator of long term native dominance and regeneration. No new species identified. No improvement on cover.		
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa		
Weed species:	Nil		
Damage:	Nil		



Native dominance:	100%	Percentage vegetation cover:	80%
Photo:	Nil		

Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015	December 2015		
Comments:	All species are continuing to set seed. One new species was identified, <i>Fimbistylis furrugina</i> , but still no improvement on cover.			
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia			
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100% Percentage vegetation cover: 80%			
Photo:	Nil			

Monitoring month:	5	Months since direct seeding:	10
Date:	January 2016		
Comments:	No new species identified and no improvement on cover. Site seems to be maintaining low diversity and stable growth patterns. However, the surrounding area is performing well with <i>Casuarina glauca</i> and <i>Melaleuca species</i> .		
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia		
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:	Nil		

Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016			
Comments:	All species have set seed. This significantly increases the rate of native establishment, but more importantly, lays down a seed bank strengthening the ecological resilience of the area. Starwort is common in the surrounding area, but so too are canopy trees, both <i>Melaleuca spp.</i> , some measuring 1.5m, and <i>Casuarina glauca</i> by the hundreds.			
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia			
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	





Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	The vigour in which the <i>Bolboschoenus cardwellii</i> is recovering and expanding in this area is impressive. Starwort is coming to the end of its life cycle. Many Melaleuca, some measuring over 1.5, and <i>Casuarina glauca</i> surround this quadrat.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval urruginia	vis, Juncus	
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:	100% Percentage vegetation cover: 80%			



Monitoring month:	8	Months since direct seeding:	13
Date:	April 2016		
Comments:	The vigour in which the <i>Bolboschoenus cardwellii</i> is recovering and expanding in this area is impressive. Starwort is coming to the end of its life cycle. Native dominance continues to remain solid. Many Melaleuca and Casuarina surround this quadrat.		
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia	vis, Juncus
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016	May 2016		
Comments:	Aster was recorded within this quadrat for the first time this month, decreasing the overall dominance by native species.			
Native species:	Bolboschoenus cardwellii, Ele prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>,</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016			
Comments:	No significant changes were recorded for this quadrant. This can be attributed to many species moving into a dormant growth period. Aster is still present, however has not spread any further.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	11	Months since direct seeding:	16	
Date:	July 2016	July 2016		
Comments:		die off as the temperatures decrea		
		glauca surround this quadrat in th		
Native species:	Bolboschoenus cardwellii, Ele prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016	August 2016		
Comments:	The Aster has died off over winter and reveals a dormant <i>Bolboschoenus cardwellii</i> . <i>Casuarina glauca</i> is also viable in the foreground. Both <i>Melaleuca quinquenervia</i> , some measuring 1.5m in height, and <i>Casuarina glauca</i> surround this quadrat in the hundreds. The entire surrounds are very weed free.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus, Cuphea carthagenesis			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016			
Comments:	Aster die-off is still evident this month. Casuarina glauca is also viable in the foreground. Both Melaleuca quinquenervia, and Casuarina glauca surround this quadrat in the hundreds.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>,</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus, Cuphea cart	Aster subulatus, Cuphea carthagenesis		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:	75% Percentage vegetation cover: 80%			



Monitoring month:	14	Months since direct seeding:	19	
Date:	October 2016			
Comments:	Surrounding areas still remain relatively weed free. <i>Bolboschoenus cardwellii</i> still progressive in growth.			
Native species:	Bolboschoenus cardwellii, Ele prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>,</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus, Cuphea cart	thagenesis		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:	Aster growth is starting to inc	crease with the rise in temperature	es.
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>,</sup> urruginia, Casuarina glauca	vis, Juncus
Weed species:	Aster subulatus, Cuphea cart	thagenesis	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	16	Months since direct seeding:	21	
Date:	December 2016		,	
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Groundsel has been identified within this quadrat this month.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus, Cuphea cart	Aster subulatus, Cuphea carthagenesis, Baccharis halimifolia*		
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	90%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017			
Comments:	Groundsel treatment within this quadrat has been successful. No living foliage was identified this month. Casuarina continues to dominate, approximately 1m in height.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Aster subulatus, Cuphea cart	thagenesis		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	18	Months since direct seeding:	23	
Date:	February 2017	February 2017		
Comments:		s Aster has died down revealing the	e true abundance of	
	Casuarina glauca in this area			
Native species:	Bolboschoenus cardwellii, Ele prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatum		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	90%	
Photo:	Telechage regulation cover. 70%			

Monitoring month:	19	Months since direct seeding:	24	
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)			
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged and functioning as the wetland it is designed to be. Whilst not visible within the photo, the entire quadrat is covered by approximately 2cm of water. Casuarinas continue to grow well, averaging 1.8m.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Cuphea carthagenesis, Paspalum dilatum			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	20	Months since direct seeding:	25	
Date:	April 2017			
Comments:	Casuarinas continue to grow well, averaging 1.8m. Sedges continue to prosper and dominate the quadrat.			
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Paspa	Cuphea carthagenesis, Paspalum dilatum		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	21	Months since direct seeding:	26
Date:	May 2017		
Comments:	Waterlogging is still evident during this monitoring month. No change in casuarina height. Wetland sedge species continue to prosper.		
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus
Weed species:	Cuphea carthagenesis, Paspa	lum dilatum	
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	90%
Photo:	Teresitage vegetation cover. 70%		



Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017			
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.			
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Paspa	Cuphea carthagenesis, Paspalum dilatum		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	23	Months since direct seeding:	28	
Date:	July 2017			
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatum		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017	August 2017		
Comments:		ainst the ongoing growth and domi	nance of native	
	species, such as casuarina.			
Native species:	Bolboschoenus cardwellii, Ele prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatum		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation health is steady.		
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatum	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	Vegetation health is steady.		
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Paspo	lum dilatum	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	Casuarina glauca continues t	o emerge, slowly increasing in don	ninance.
Native species:	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatum	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017			
Comments:	A moderate level of rain was received at the end of last month and the end of this month. Coupled with the increasing temperatures, <i>Casuarina glauca</i> biomass has significantly increased.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Cuphea carthagenesis, Paspa	lum dilatum		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	29	Months since direct seeding:	34	
Date:	January 2018	January 2018		
Comments:	Canopy growth continues to progressively shade out weed species, reducing diversity and abundance of weeds.			
Native species:	-	Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia, Casuarina glauca		
Weed species:	Paspalum dilatum			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	30	Months since direct seeding:	35
Date:	February 2018		
Comments:	Casuarina glauca growth con	tinues to increase in height and bio	omass.
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus
Weed species:	Paspalum dilatum		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	31	Months since direct seeding:	36	
Date:	March 2018	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth.			
Native species:	Bolboschoenus cardwellii, Ele prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Nil	Nil		
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	32	Months since direct seeding:	37	
Date:	April 2018	April 2018		
Comments:	Canopy growth continues to progressively shade out weed species, reducing diversity and abundance of weeds.			
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus	
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	33	Months since direct seeding:	38	
Date:	May 2018	May 2018		
Comments:	Casuarina glauca growth con	tinues to increase in height and bio	omass.	
Native species:		Bolboschoenus cardwellii, Eleocharis dulcis, Ludwidgia octovalvis, Juncus prismatacarpa, Fimbistylis furruginia, Casuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of t	he growing season.
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Fimbistylis fu	eocharis dulcis, Ludwidgia octoval <sup>.</sup> urruginia, Casuarina glauca	vis, Juncus
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Species diversity is declining	due to the allelopathic properties	of Casuarina glauca.
Native species:	Bolboschoenus cardwellii, El prismatacarpa, Casuarina gla	eocharis dulcis, Ludwidgia octoval <sup>,</sup> auca	vis, Juncus
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	A drop in diversity was notable this month as the canopy continues to develop. Native dominance remains unchanged as biomass has continued to increase.		
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	eocharis dulcis, Leersia hexandra,	Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	No significant changes this m	onth. Myrtle rust still evident in th	ne surrounding area.
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	eocharis dulcis, Leersia hexandra,	Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	38	Months since direct seeding:	43
Date:	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	eocharis dulcis, Leersia hexandra,	Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	39	Months since direct seeding:	44
Date:	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.		
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	eocharis dulcis, Leersia hexandra,	Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	40	Months since direct seeding:	45	
Date:	December 2018	December 2018		
Comments:	Vegetation growth was stead	y this month.		
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	Bolboschoenus cardwellii, Eleocharis dulcis, Leersia hexandra, Juncus usitatus, Casuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	No significant changes this m	onth.	
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	eocharis dulcis, Leersia hexandra,	Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	There is no change in vegetation cover or native dominance; however there has been		
	a decrease in native diversity		lumana naitatua
Native species:	Casuarina glauca	eocharis dulcis, Leersia hexandra,	Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	43	Months since direct seeding:	48	
Date:	March 2019			
Comments:	Vegetation growth was stead	y this month.		
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	Bolboschoenus cardwellii, Eleocharis dulcis, Leersia hexandra, Juncus usitatus, Casuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.		
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	eocharis dulcis, Leersia hexandra,	Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	45	Months since direct seeding:	50	
Date:	May 2019			
Comments:	Casuarina glauca continues t	o add biomass.		
Native species:	Bolboschoenus cardwellii, El Casuarina glauca	Bolboschoenus cardwellii, Eleocharis dulcis, Leersia hexandra, Juncus usitatus, Casuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few m	onths has increased plant growth a	nd vigour.
Native species:	Bolboschoenus cardwellii, El	eocharis dulcis, Juncus usitatus, C	asuarina glauca
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Casuarina growth steady. On	e native species not identified dur	ing this assessment.
Native species:	Bolboschoenus cardwellii, Ju	ıncus usitatus, Casuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	48	Months since direct seeding:	53	
Date:	August 2019			
Comments:	Species diversity continues to decline as the depth of casuarina leaf litter increases and prevents the establishment of groundcovers. Whilst diversity has declined, dominance has remained unchanged.			
Native species:	Bolboschoenus cardwellii, Co	nsuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Allelopathic properties of the	e casuarina leaf litter is still supres	ssing species diversity.
Native species:	Bolboschoenus cardwellii, Ca	nsuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	50	Months since direct seeding:	55
Date:	October 2019		
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.		
Native species:	Bolboschoenus cardwellii, Co	asuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	51	Months since direct seeding:	56
Date:	November 2019		
Comments:	Growth steady.		
Native species:	Bolboschoenus cardwellii, Ca	nsuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Biomass of casuarina and melaleuca within and surrounding this quadrat continue to increase.		
Native species:	Bolboschoenus cardwellii, Co	asuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Vegetation community struct	cure continues to strengthen.	
Native species:	Bolboschoenus cardwellii, Ca	nsuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	54	Months since direct seeding:	59
Date:	February 2020		
Comments:	Bolboschoenus cardwellii has	s increased in biomass due to rainfa	all during this month.
Native species:	Bolboschoenus cardwellii, Co	nsuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020			
Comments:		High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.		
Native species:	Bolboschoenus cardwellii, Ca	asuarina glauca		
Weed species:	Nil			
Damage:	Periodic flooding improves overall ecosystem health			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:		N/A		



## 4.3 Quadrat 3

Monitoring month:	1	Months since direct seeding:	6
Date:	September 2015		
Comments:	There are literally hundreds of tree seedlings (predominately <i>Casuraina glauca</i> ) surrounding this quadrat. The one exotic species is rye grass, not of concern. A <i>Livistona</i> seedling exists in the centre of the quadrat.		
Native species:	Microleana stipoides, Ludwid	dgia octovalvis, Livistona australis	
Weed species:	Lolium multiflorum, Cynodo	n dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	3%
Photo:			

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015	October 2015		
Comments:	Many tree seedlings surround this quadrat. A number of exotic species are noted in the surrounding areas however these are not of concern. Casuarina seedlings have increased significantly in the past month.			
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis			
Weed species:	Baccharis halimifolia*, Lolium multiflorum, Cynodon dactylon			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	5%	
Photo:	Nil			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	3	Months since direct seeding:	8
Date:	November 2015		
Comments:	There are literally hundreds of tree seedlings surrounding this quadrat. A number of new weed species are present including <i>Aster subulatus</i> , which visually dominates, however natives continue to appear and prosper. I suspect they will outcompete the Aster within 3 years.		
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis		
Weed species:	Baccharis halimifolia*, Lolium multiflorum, Aster subulatus, Cynodon dactylon		
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	15%



Photo:	Nil

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015			
Comments:	-	A number of new weed species are present including Groundsel however natives continue to dominate. Groundsel in this area is being hand pulled for control.		
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Lolium multiflora, Persicaria sp.			
Weed species:	Baccharis halimifolia*, Aster subulatus, Cynodon dactylon			
Damage:	Nil			
Native dominance:	63%	Percentage vegetation cover:	15%	
Photo:	Nil			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016	January 2016		
Comments:	Tree seedlings continue to appear in abundance surrounding this quadrat. Casuarina's now at an average height of 200mm. A number of new weed species are present however natives continue to dominate. Several new native species are present in the surrounding areas.			
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Lolium multiflora, Persicaria sp.			
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cynodon dactylon			
Damage:	Nil			
Native dominance:	55%	Percentage vegetation cover:	15%	
Photo:	Nil			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016	February 2016		
Comments:	There are literally hundreds of tree seedlings surrounding this quadrat. In surrounding areas several new species were observed germinating, small clusters of Eucalyptus, also <i>Canavalia rosea</i> , <i>Acacia concurrens</i> , <i>Hibiscus diversifolium</i> , <i>Corymbia intermedia</i> . These may be vulnerable if the area is inundated for long periods. This increase in eucalypts and the like can be attributed to over-seeding works undertaken in October. Conditions since then have been dry and this has allowed for the eucalypt seed to prosper.			
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp.			
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cynodon dactylon			
Damage:	Nil			
Native dominance:	50%	Percentage vegetation cover:	18%	





<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016	March 2016		
Comments:	There are literally hundreds of tree seedlings surrounding this quadrat. 11 <i>Casuarina glauca</i> seedlings exist within the quadrat, where there were none 6 weeks ago. <i>Lomandra longifolia</i> is becoming common in the surrounds, and small Groundsel ( <i>Baccharis halimifolia</i> ) plants were seen that had not been noticed before. The small <i>Livistona australis</i> seedlings in this area, a native canopy tree, seem to be struggling and lacking vigour.			
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp., Casuarina glauca			
Weed species:	<b>Baccharis halimifolia*</b> , Aster subulatus. Centella asiatica, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	44%	Percentage vegetation cover:	18%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	8	Months since direct seeding:	13	
Date:	April 2016	April 2016		
Comments:	There are literally hundreds of tree seedlings surrounding this quadrat. 11 <i>Casuarina glauca</i> seedlings exist within the quadrat. <i>Lomandra longifolia</i> is becoming common in the surrounds, and small Groundsel plants, <i>Baccharis halimifolia</i> . The small <i>Livistona australis</i> seedlings in this area, a native canopy tree, continue to progress slowly.			
Native species:	Microleana stipoides, Ludwid Casuarina glauca	dgia octovalvis, Livistona australis,	Persicaria sp.,	
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	44%	Percentage vegetation cover:	18%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016			
Comments:		t change within this quadrat. Many vithin the quadrat and surrounds	Casuarina glauca	
Native species:	Microleana stipoides, Ludwic Casuarina glauca, Cynodon d	dgia octovalvis, Livistona australis, actylon	Persicaria sp.,	
Weed species:	Baccharis halimifolia*, Aste	er subulatus, Centella asiatica, Cup	ohea carthagenesis	
Damage:	Nil	Nil		
Native dominance:	44%	Percentage vegetation cover:	25%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	10	Months since direct seeding:	15
Date:	June 2016		
Comments:	Aster within this quadrat is showing signs of die-off due to the change in temperature.		
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp., Casuarina glauca		
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	44%	Percentage vegetation cover:	20%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	11	Months since direct seeding:	16	
Date:	July 2016			
Comments:	Signs of winter are becoming more prevalent within this quadrat this month.  Groundsel is still present within this quadrat, however is not spreading.			
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp., Casuarina glauca			
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	44%	Percentage vegetation cover:	20%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	12	Months since direct seeding:	17
Date:	August 2016		
Comments:	The evidence of dormancy and wintering is obvious. The <i>Livistona</i> palm within the quad is still alive but struggling, this can be common with <i>Livistona</i> 's. <i>Lomandra longifolia</i> is becoming common in the surrounds; however, they are struggling with lack of oxygen to the root zone.		
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp., Casuarina glauca		
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	44%	Percentage vegetation cover:	25%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016			
Comments:	There is no significant change within this quadrat. It is anticipated that plant growth will increase within the coming months, especially if temperatures continue to rise.			
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp., Casuarina glauca			
Weed species:	<b>Baccharis halimifolia*</b> , Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	44%	Percentage vegetation cover:	25%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	14	Months since direct seeding:	19
Date:	October 2016		
Comments:	_	is increasing this month with the ri ng, with the area suffering from a l	-
Native species:	Microleana stipoides, Ludwic Casuarina glauca	dgia octovalvis, Livistona australis,	Persicaria sp.,
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	44%	Percentage vegetation cover:	25%
Photo:	Tercentage vegetation cover. 25%		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:	Casuarina seedlings continue to prosper and grow this month, and remain the dominant native species.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	dgia octovalvis, Livistona australis,	, Persicaria sp.,
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	25%
Photo:	reflecting vegetation cover. Z5%		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	16	Months since direct seeding:	21
Date:	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Casuarina seedlings continue to prosper and grow this month, and remain the dominant native species.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	dgia octovalvis, Livistona australis,	Persicaria sp.,
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	25%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017			
Comments:	approximately 2.5m in heigh	Casuarina seedlings continue to prosper and grow this month with individuals up to approximately 2.5m in height. Casuarinas remain the dominant native species.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	dgia octovalvis, Livistona australis,	, Persicaria sp.,	
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	50%	Percentage vegetation cover:	30%	
Photo:	Terentage Vegetation cover. 30%			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	18	Months since direct seeding:	23	
Date:	February 2017			
Comments:		Casuarina seedlings continue to prosper and grow this month. <i>Juncus krausii</i> (a new species for A1) has become common in the surrounds.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	dgia octovalvis, Livistona australis,	, Persicaria sp.,	
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	50%	Percentage vegetation cover:	35%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	19	Months since direct seeding:	24	
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)			
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged (approximately 2cm of water across quadrat) and functioning as the wetland it is designed to be. Casuarina seedlings continue to prosper and grow this month, approximately 2-3m in height.			
Native species:	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp., Casuarina glauca			
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage			
Native dominance:	50%	Percentage vegetation cover:	35%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Casuarina seedlings continue to prosper and grow this month, approximately 3m in height. Recommend additional weed control events for Groundsel. Individual plants are beginning to flower. Treatment is required before seed disperses.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	dgia octovalvis, Livistona australis,	Persicaria sp.,
Weed species:	Baccharis halimifolia*, Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	50%	Percentage vegetation cover:	35%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	21	Months since direct seeding:	26	
Date:	May 2017	May 2017		
Comments:	Casuarina seedlings continue to prosper and grow this month, approximately 3m in height. Groundsel control has removed all seedlings from this quadrat and immediate surrounds.			
Native species:	Microleana stipoides, Ludwic Casuarina glauca	lgia octovalvis, Livistona australis,	Persicaria sp.,	
Weed species:	Aster subulatus, Centella asi	atica, Cuphea carthagenesis, Cyno	don dactylon	
Damage:	Nil			
Native dominance:	55%	Percentage vegetation cover:	35%	
Photo:				



Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017			
Comments:	_	No significant changes this month. It is anticipated growth will slow moving into the colder months. Groundsel remains under control.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	dgia octovalvis, Livistona australis,	, Persicaria sp.,	
Weed species:	Aster subulatus, Centella asi	atica, Cuphea carthagenesis, Cyno	odon dactylon	
Damage:	Nil			
Native dominance:	55%	Percentage vegetation cover:	35%	
Photo:				

Monitoring month:	23	Months since direct seeding:	28	
Date:	July 2017	July 2017		
Comments:		uit was added to the flagging pole on. Vegetation health is steady.	this month due to the	
Native species:	Microleana stipoides, Ludwic Casuarina glauca	lgia octovalvis, Livistona australis,	Persicaria sp.,	
Weed species:	Aster subulatus, Centella asi	atica, Cuphea carthagenesis, Cyno	don dactylon	
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	35%	
Photo:	Percentage vegetation cover: 35%			



Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017			
Comments:	Casuarina and grass biomass	continues to increase.		
Native species:	Microleana stipoides, Ludwid Casuarina glauca	Microleana stipoides, Ludwidgia octovalvis, Livistona australis, Persicaria sp., Casuarina glauca		
Weed species:	Aster subulatus, Centella as	iatica, Cuphea carthagenesis, Cync	don dactylon	
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	35%	
Photo:	Fercentage vegetation cover. 33%			

Monitoring month:	25	Months since direct seeding:	30	
Date:	September 2017	September 2017		
Comments:	Vegetation health and growt	h is steady.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	lgia octovalvis, Livistona australis,	Persicaria sp.,	
Weed species:	Aster subulatus, Centella asi	atica, Cuphea carthagenesis, Cyno	don dactylon	
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	35%	
Photo:				



Monitoring month:	26	Months since direct seeding:	31	
Date:	October 2017			
Comments:		Vegetation health and growth is steady. Groundsel noted again in low density within general proximity to this quadrat.		
Native species:	Microleana stipoides, Ludwic Casuarina glauca	lgia octovalvis, Livistona australis,	Persicaria sp.,	
Weed species:	Aster subulatus, Centella asiatica, Cuphea carthagenesis, Cynodon dactylon,  Baccharis halimifolia*			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	35%	
Photo:	Terentage vegetation cover. 35%			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	27	Months since direct seeding:	32	
Date:	November 2017			
Comments:	Some rain was received in the local area at the end of this month assisting in the continued growth of <i>Casuarina glauca</i> . Groundsel still present in surrounding areas, but not spreading.			
Native species:	Microleana stipoides, Ludwic Casuarina glauca	lgia octovalvis, Livistona australis,	Persicaria sp.,	
Weed species:	Aster subulatus, Centella asi	atica, Cuphea carthagenesis, Cyno	don dactylon	
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	40%	
Photo:	os// Percentage vegetation cover: 40%			



Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017			
Comments:	Consistent light rainfall across the latter part of this month, coupled with increasing temperatures, has provided good growing conditions for vegetation. Treatment of groundsel required in surrounding areas, but access difficult due to rain.			
Native species:	Microleana stipoides, Ludwid Casuarina glauca	dgia octovalvis, Livistona australis,	Persicaria sp.,	
Weed species:	Aster subulatus, Centella asi	iatica, Cuphea carthagenesis, Cyno	don dactylon	
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	60%	
Photo:				

Monitoring month:	29	Months since direct seeding:	34	
Date:	January 2018			
Comments:	Canopy growth continues to progressively shade out weed species, reducing diversity and abundance of weeds. Rainfall, temperatures and increased shading has resulted in a shift in species composition			
Native species:	Ludwidgia octovalvis, Persico	aria sp., Casuarina glauca, Leersia	hexandra	
Weed species:	Cuphea carthagenesis, Cynod	don dactylon		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	65%	
Photo:				



Monitoring month:	30	Months since direct seeding:	35		
Date:	February 2018	,			
Comments:	Casuarina glauca g	rowth continues to increase in height and bi	omass.		
Native species:	Ludwidgia octovalv	ris, Persicaria sp., Casuarina glauca, Leersia	n hexandra		
Weed species:	Cuphea carthagene	rsis, Cynodon dactylon			
Damage:	Nil	Nil			
Native dominance:	80%	Percentage vegetation cover:	65%		
Photo:					

Monitoring month:	31	Months since direct seeding:	36	
Date:	March 2018			
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth. Groundsel treatment commenced in surrounding areas.			
Native species:	Ludwidgia octovalvis, Persico	aria sp., Casuarina glauca, Leersia	hexandra	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	70%	
Photo:				



Monitoring month:	32	Months since direct seeding:	37	
Date:	April 2018			
Comments:	Canopy growth continues to progressively shade out weed species, reducing diversity and abundance of weeds			
Native species:	Ludwidgia octovalvis, Persico	aria sp., Casuarina glauca, Leersia	hexandra	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	33	Months since direct seeding:	38
Date:	May 2018		
Comments:	Casuarina glauca growth con	tinues to increase in height and bio	omass.
Native species:	Ludwidgia octovalvis, Persico	aria sp., Casuarina glauca, Leersia	hexandra
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	70%
Photo:	80% Percentage vegetation cover: 70%		



Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	nonth due to the slowing down of th	ne growing season.
Native species:	Ludwidgia octovalvis, Casuai	rina glauca, Leersia hexandra	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Species diversity is declining	due to the allelopathic properties	of Casuarina glauca.
Native species:	Ludwidgia octovalvis, Casuar	ina glauca	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	70%
Photo:			



Monitoring month:	36	Months since direct seeding:	41	
Date:	July 2018			
Comments:	A decline in diversity was notable this month due to the developing dominance of Casuarina glauca.			
Native species:	Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	No significant changes this month due. <i>Eucalyptus robusta</i> is setting seed in surrounding area.		
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%
Photo:			



Monitoring month:	38	Months since direct seeding:	43	
Date:	October 2018			
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.			
Native species:	Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	39	Months since direct seeding:	44	
Date:	November 2018			
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.			
Native species:	Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%	
Photo:				



Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	ly this month.	
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	41	Months since direct seeding:	46	
Date:	January 2019			
Comments:	No significant changes occur	red this month.		
Native species:	Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	90%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	43	Months since direct seeding:	48
Date:	March 2019		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	44	Months since direct seeding:	49		
Date:	April 2019				
Comments:	Rainfall events increased late much needed watering.	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.			
Native species:	Casuarina glauca				
Weed species:	Cynodon dactylon				
Damage:	Nil				
Native dominance:	90%	Percentage vegetation cover:	100%		
Photo:					

Monitoring month:	45	Months since direct seeding:	50	
Date:	May 2019			
Comments:	Casuarina glauca continues to add biomass. A small amount of Ipomea cairica has been identified within this quadrat and will be treated. The presence of this weed is currently not a significant threat.			
Native species:	Casuarina glauca			
Weed species:	Cynodon dactylon, Ipomea co	nirica*		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	46	Months since direct seeding:	51	
Date:	June 2019	June 2019		
Comments:	Rainfall over the past few months has increased plant growth and vigour. <i>Ipomea</i> cairica has been successfully treated within this quadrat.			
Native species:	Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Cynodon dactylon is continui	ng to lose vigour.	
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Eucalyptus robusta is setting	seed in the surrounding.	
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Allelopathic properties of the	e casuarina leaf litter is still supres	ssing species diversity.
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	50	Months since direct seeding:	55		
Date:	October 2019				
Comments:	Extended drought conditions plant growth.	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Casuarina glauca				
Weed species:	Cynodon dactylon				
Damage:	Nil				
Native dominance:	90%	Percentage vegetation cover:	100%		
Photo:					

Monitoring month:	51	Months since direct seeding:	56
Date:	November 2019		
Comments:	Allelopathic properties of the casuarina leaf litter is still supressing other species growth, including Cynodon dactylon.		
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Growth steady.		
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	No significant changes this m	onth.	
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	54	Months since direct seeding:	59
Date:	February 2020		
Comments:	Standing water covers this er	ntire quadrat this month.	
Native species:	Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020	March 2020		
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.			
Native species:	Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Periodic flooding improves overall ecosystem health			
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:	N/A			



## 4.4 Quadrat 4

Monitoring month:	1	Months since direct seeding:	6		
Date:	September 2015				
Comments:	Canopy trees were in seedling form in the quadrat. This quadrat is also performing very well.				
Native species:		Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens			
Weed species:	Cynodon dactylon	Cynodon dactylon			
Damage:	Nil				
Native dominance:	88%	Percentage vegetation cover:	50%		
Photo:					

Monitoring month:	2	Months since direct seeding:	7
Date:	October 2015		
Comments:	Canopy trees remain in seedling form in the quadrat. Weed species are not present. However, couch is beginning to migrate toward the quadrat. It will be interesting to observe this migration and its effect in the time ahead.		
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	88%	Percentage vegetation cover:	50%
Photo:	Nil		

Monitoring month:	3	Months since direct seeding:	8		
Date:	November 2015	November 2015			
Comments:	Canopy trees remain in seedling form in the quadrat. Minimal change in growth rate here. However, this is expected to change with the onset of Summer approaching.				
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens				
Weed species:	Aster subulatus, Cynodon dactylon				
Damage:	Nil				
Native dominance:	78%	Percentage vegetation cover:	50%		
Photo:	Nil				



Monitoring month:	4	Months since direct seeding:	9
Date:	December 2015		
Comments:	Canopy trees remain in seedling form in the quadrat. Groundsel seedlings again appearing here in isolated locations. Hand pulling occurring.		
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	50%
Photo:	Nil		

Monitoring month:	5	Months since direct seeding:	10
Date:	January 2016		
Comments:	As with Quadrat 3, a lot of tree seedlings continue to appear beyond Quad 4. Aster growth seems to creating a positive competition environment. Will monitor whether this is correct in the time ahead.		
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	60%
Photo:	Nil		

Monitoring month:	6	Months since direct seeding:	11
Date:	February 2016		
Comments:	Canopy trees remain in seedling form in this quadrat. In surrounding areas several new species were observed germinating, small clusters of Eucalyptus, also <i>Canavalia rosea</i> , <i>Acacia concurrens</i> , <i>Hibiscus diversifolium</i> , and <i>Corymbia intermedia</i> . They may be vulnerable if the area is inundated for long periods. Aster weed is proving to be an unlikely ally.		
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	60%
Photo:			



Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	Canopy trees remain in seedling form in the quadrat. The new terrestrial species observed last time between these quadrats have mostly yellowed, suffering from lack of oxygen due to recent rains. Of course sedges are becoming abundant, and the appropriate canopy trees being Melaleuca and Casuarina are thriving.			
Native species:	_	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	8	Months since direct seeding:	13	
Date:	April 2016			
Comments:	Canopy trees remain in seedling form in the quadrat. The new terrestrial species observed last time between these quadrats have mostly yellowed, suffering from lack of oxygen due to recent rains. Sedges are becoming abundant, and the appropriate canopy trees being Melaleuca and Casuarina are thriving. Percentage cover and native dominance remain strong.			
Native species:	_	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	70%	
Photo:				



Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016			
Comments:	Canopy trees remain in seedling form in the quadrat. Native diversity and species dominance within this quadrat are both moderate to high for the area.			
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens			
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016			
Comments:	Native grass and sedge species continue to progress well. Casuarina seedlings are prospering, however growth will slow over the winter period.			
Native species:	_	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Aster subulatus, Cuphea cart	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	75%	
Photo:				



Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	Growth within this quadrat has slowed during the winter period. Aster die-off is evident.		
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon	
Damage:	Nil		
Native dominance :	70%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016			
Comments:	Canopy trees that were in seedling form in this quadrant are now over 1m high. There has been no change in native dominance, however vegetation cover has increased by 10%.			
Native species:	_	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Aster subulatus, Cuphea cart	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	80%	
Photo:	70% Percentage vegetation cover: 80%			



Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016			
Comments:	Casuarina seedlings within th	nis quadrat continue to prosper.		
Native species:		Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	14	Months since direct seeding:	19	
Date:	October 2016			
Comments:	Casuarina seedlings continue to show new growth. Native dominance continues to increase.			
Native species:	_	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:	Native species continue to dominate within this quadrat this month. Sedges and rushes also continue to grow well.		
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	16	Months since direct seeding:	21	
Date:	December 2016	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Groundsel has been identified within this quadrat this month.			
Native species:	,	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon, Baccharis halimifolia*			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	80%	
Photo:	ou/s			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	17	Months since direct seeding:	22
Date:	January 2017		
Comments:	Groundsel treatment has been successful within this quadrat. Casuarinas continue to grow well, with most individuals reaching approximately 1.5m in height.		
Native species:	<u> </u>	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi	
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	18	Months since direct seeding:	23	
Date:	February 2017			
Comments:	Casuarinas continue to grow well and dominate within this quadrat. Aster has died off from this quadrat this month.			
Native species:	_	lauca, Cyperus polystachyos, Bolbo widgia octovalvis, Persicaria decipi		
Weed species:	Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	19	Months since direct seeding:	24
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged (approximately 2cm of water covering quadrat) and functioning as the wetland it is designed to be. Casuarinas continue to grow well and dominate within this quadrat, approximately 1.8m high.		
Native species:	,	lauca, Cyperus polystachyos, Bolbo widgia octovalvis, Persicaria decipi	•
Weed species:	Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage		
Native dominance:	85%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Much of the area is still waterlogged and functioning as the wetland it is designed to be. Casuarinas continue to grow well, approximately 2m high.		
Native species:	_	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	21	Months since direct seeding:	26	
Date:	May 2017			
Comments:	Casuarinas continue to grow high.	Casuarinas continue to grow well and dominate within this quadrat, approximately 2m high.		
Native species:	<u> </u>	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017			
Comments:		onth. It is anticipated growth will	slow moving into the	
Native species:	_	lauca, Cyperus polystachyos, Bolbo widgia octovalvis, Persicaria decipi		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil	Nil		
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	23	Months since direct seeding:	28	
Date:	July 2017			
Comments:		An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.		
Native species:		lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017			
Comments:	A new species, <i>Gahnia aspera</i> , was also identified in good numbers within the surrounds of this quadrat.			
Native species:	_	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon		
Damage:	Nil	Nil		
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:	85% Percentage vegetation cover: 95%			



Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation health and casual	rina growth is steady.	
Native species:		lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi	
Weed species:	Cuphea carthagenesis, Cynod	don dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	95%
Photo:	85% Percentage vegetation cover: 95%		

Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	Vegetation health and casuarina growth is steady. Groundsel recorded within the area again.		
Native species:	,	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi	•
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon, <b>Baccharis halimifo</b> li	ia*
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	95%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:		n the latter part of this month assis ecorded but not increasing in densi	-
Native species:	_	lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon, <b>Baccharis halimifo</b> li	ia*
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	95%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017			
Comments:		Vegetation health and casuarina growth is steady. Treatment of groundsel will be required, however access is an issue due to rain and waterlogging.		
Native species:		lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon, <b>Baccharis halimifo</b> li	ia*	
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:		at the Desired Engine mental Outs		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		L
Comments:	Vegetation health and casual this month.	rina growth is steady. Treatment o	f groundsel commenced
Native species:		lauca, Cyperus polystachyos, Bolbo vidgia octovalvis, Persicaria decipi	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon, <b>Baccharis halimifo</b> li	ia*
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	95%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	30	Months since direct seeding:	35	
Date:	February 2018	February 2018		
Comments:	Native vegetation biomass co NWCP continues this month	ontinues to increase. Groundsel rer	noval throughout entire	
Native species:	_	lauca, Cyperus polystachyos, Bolbo widgia octovalvis, Persicaria decipi		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon, <b>Baccharis halimifol</b> i	ia*	
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	31	Months since direct seeding:	36	
Date:	March 2018			
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has assisted with natural weed treatment. Canopy growth and shading has also assisted in a reduction of weed growth. Groundsel treatment has been successful and the weed removed from this quadrat.			
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens			
Weed species:	Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	32	Months since direct seeding:	37	
Date:	April 2018			
Comments:	Vegetation health and casuarina growth is steady.			
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens			
Weed species:	Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	33	Months since direct seeding:	38	
Date:	May 2018			
Comments:	Native vegetation biomass co	ontinues to increase.		
Native species:		Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	34	Months since direct seeding:	39	
Date:	June 2018	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of th	ne growing season.	
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Persicaria decipiens			
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Species diversity is declining	due to the allelopathic properties	of Casuarina glauca.
Native species:	Juncus usitatus, Casuarina glauca, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	A decline in diversity was notable this month due to the developing dominance of Casuarina glauca.		
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	37	Months since direct seeding:	42	
Date:	September 2018			
Comments:	No significant changes this month however the surrounding area continues to develop well with <i>Juncus krausii</i> copses strengthening in areas of high sodium soils.			
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	38	Months since direct seeding:	43
Date:	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	39	Months since direct seeding:	44	
Date:	November 2018			
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.			
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	40	Months since direct seeding:	45	
Date:	December 2018			
Comments:	Vegetation growth was stead	y this month.		
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii		
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	No significant changes occur	red this month.	
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	43	Months since direct seeding:	48
Date:	March 2019		
Comments:	Casuarinas continue to increa	ase in biomass.	
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.		
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarinas continue to incre	ase in biomass.	
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	46	Months since direct seeding:	51	
Date:	June 2019			
Comments:	Rainfall over the past few m	onths has increased plant growth a	and vigour.	
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii		
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	47	Months since direct seeding:	52	
Date:	July 2019			
Comments:	Growth of this quadrat and t	he surrounds is steady.		
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii		
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Eucalyptus tereticornis is be	coming more notable within the su	rrounding area.
Native species:	Juncus usitatus, Casuarina g	lauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Allelopathic proper	ties of the casuarina leaf litter is still supre	essing species diversity.
Native species:	Juncus usitatus, Ca	asuarina glauca, Bolboschoenus cardwellii	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019			
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Juncus usitatus, Casuarina gl	lauca, Bolboschoenus cardwellii		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	51	Months since direct seeding:	56
Date:	November 2019		
Comments:	Growth steady.		
Native species:	Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Vegetation community matur	ring.	
Native species:	Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Quadrat continues to mature		
Native species:	Casuarina glauca, Bolboschoo	enus cardwellii	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	54	Months since direct seeding:	59	
Date:	February 2020			
Comments:	No significant changes this month. Elevation of this quadrat is slightly higher therefore not subject to standing water.			
Native species:	Casuarina glauca, Bolboschoe	enus cardwellii		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020	March 2020		
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.			
Native species:	Casuarina glauca, Bolboscho	enus cardwellii		
Weed species:	Nil			
Damage:	Periodic flooding improves overall ecosystem health			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:	N/A			



## 4.5 Quadrat 5

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015	September 2015		
Comments:	Some plants exceeded 1 metre in height. <i>Melaleuca quinquenervia</i> was common here. Excellent plant diversity recorded here.			
Native species:		ystachyos, Bolboschoenus cardwell alvis, Melaleuca quinquenervia, Pe	_	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	88%	Percentage vegetation cover:	60%	
Photo:				

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015			
Comments:	Some plants exceeded 1 metre in height. <i>Melaleuca quinquenervia</i> is common here.  Very little structural or species change has occurred here.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	88%	Percentage vegetation cover:	60%	
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8	
Date:	November 2015			
Comments:	Melaleuca quinquenervia continues to be common here generally at 1m in height.  Emergent weeds Aster subulatus identified. Melaleuca growth rates and dominance indicate favourable soil and moisture conditions for this species in this location.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cynodon dactylon			
Damage:	Nil			
Native dominance:	77%	Percentage vegetation cover:	60%	
Photo:	Nil			



Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015			
Comments:	Some plants exceeded 1.2 metre in height - an improvement of 200mm since last month. <i>Melaleuca quinquenervia</i> remains common here. The weed <i>Aster subulatus</i> continues to grow. <i>Cuphea carthagenesis</i> identified.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	75%	
Photo:	Nil			

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016			
Comments:	No significant change in height this month for the <i>Melaleuca quinquenervia</i> . Generally at approximately 1.2 m. Asides, <i>Ludwigia</i> showing signs of stress due to dry ground conditions.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	80%	
Photo:	Nil			

Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016			
Comments:	Some plants now exceeding 1.3 metres in height. <i>Melaleuca quinquenervia</i> remains most common here. In surrounding areas several new species were observed germinating, small clusters of Eucalyptus, also <i>Canavalia rosea</i> , <i>Acacia concurrens</i> , <i>Acacia hubbardiana</i> , <i>Acacia falcata</i> , <i>Hibiscus diversifolium</i> , <i>Corymbia intermedia</i> , and <i>Eucalyptus teriticornis</i> . They may be vulnerable if the area is inundated for long periods. These are dormant seed as this area was not over-seeded in October. A promising sign for elsewhere onsite.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	80%	





Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	Some plants of <i>Melaleuca quinquenervia</i> and <i>Casuarina glauca</i> exceeded 1.5 metres in height, these were common here. The new terrestrial species observed last time between these quadrats have mostly yellowed, suffering from lack of oxygen due to recent rains. Seven canopy trees were counted within 1 square metre being <i>Melaleuca quinquenervia</i> and <i>Casuarina glauca</i> . Myrtle Rust is also obvious on Melaleuca in the surrounds.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	8	Months since direct seeding:	13	
Date:	April 2016			
Comments:	Some plants of <i>Melaleuca quinquenervia</i> and <i>Casuarina glauca</i> exceeded 1.5 metres in height. As per Quadrat 4, the new terrestrial species observed last time between these quadrats have mostly yellowed, suffering from lack of oxygen due to recent rains. Canopy trees, <i>Melaleuca quinquenervia</i> and <i>Casuarina glauca are progressing</i> . Myrtle Rust is also obvious on Melaleuca in the surrounds.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016			
Comments:	Melaleuca quinquenervia and Casuarina glauca seedlings exceed 1.5 metres in height. New species emerging in the surrounding areas are still not evident within this quadrat.			
Native species:		ystachyos, Bolboschoenus cardwell alvis, Melaleuca quinquenervia, Pe	-	
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016			
Comments:		progressing well. Some Aster die-b	ack is starting to show	
	due to the decrease in temper			
Native species:		ystachyos, Bolboschoenus cardwell	•	
		alvis, Melaleuca quinquenervia, Pe	rsicaria attenuata	
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	11	Months since direct seeding:	16	
Date:	July 2016			
Comments:	Growth of vegetation has slowed over this month as species enter winter dormancy. With the standard reduction in Aster due to the winter period, native dominance has increase, despite overall growth of vegetation not increasing.			
Native species:		ystachyos, Bolboschoenus cardwell alvis, Melaleuca quinquenervia, Pe	· ·	
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016			
Comments:	Melaleuca and Casuarina are forming impressive thickets in areas between quadrants 4, 5, 6 and 7. Despite the changes surrounding the quadrants, no significant change is noted within this quadrat. Canopy trees, <i>Melaleuca quinquenervia</i> and <i>Casuarina glauca</i> are still progressing. Myrtle Rust is also obvious on Melaleuca in the surrounds.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016	September 2016		
Comments:	No significant change is noted within this quadrat. Canopy trees, <i>Melaleuca</i> quinquenervia and Casuarina glauca are still progressing. Myrtle Rust is also obvious on Melaleuca in the surrounds.			
Native species:		ystachyos, Bolboschoenus cardwell alvis, Melaleuca quinquenervia, Pe	· · ·	
Weed species:	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	80%	
Photo:	referrage vegetation cover.			



Monitoring month:	14	Months since direct seeding:	19		
Date:	October 2016				
Comments:		dlings continue to grow well. Myrtl Is, however is yet to spread into th			
Native species:	Juncus usitatus, Cyperus pol	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata			
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon			
Damage:	Nil				
Native dominance:	80%	Percentage vegetation cover:	80%		
Photo:					

Monitoring month:	15	Months since direct seeding:	20	
Date:	November 2016			
Comments:	Melaleuca and Casuarina see have occurred this month.	Melaleuca and Casuarina seedlings continue to grow well. No other notable changes have occurred this month.		
Native species:		ystachyos, Bolboschoenus cardwell alvis, Melaleuca quinquenervia, Pe	_	
Weed species:	Aster subulatus, Cuphea cart	thagenesis, Cynodon dactylon		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	85%	
Photo:				



Monitoring month:	16	Months since direct seeding:	21	
Date:	December 2016			
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Groundsel has been identified within this quadrat this month. Melaleucas continue to gain height.			
Native species:		ystachyos, Bolboschoenus cardwell alvis, Melaleuca quinquenervia, Pe	•	
Weed species:	Aster subulatus, Cuphea carr	Aster subulatus, Cuphea carthagenesis, Cynodon dactylon, Baccharis halimifolia*		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	85%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017			
Comments:	Native vegetation continues to prosper this month with Casuarinas reaching up to approximately 1.5m and Melaleucas averaging 1.3m in height.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Aster subulatus, Cuphea care	thagenesis, Cynodon dactylon, <b>Bac</b>	charis halimifolia*	
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	18	Months since direct seeding:	23	
Date:	February 2017			
Comments:	Native vegetation continues to prosper this month with Casuarinas reaching up to approximately 1.5m and Melaleucas averaging 1.3m in height.			
Native species:		Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	19	Months since direct seeding:	24	
Date:	March 2017 (NB: monitoring 6	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged (approximately 4cm of water covering quadrat) and functioning as the wetland it is designed to be. Correct angle for photo was not achievable due to water. Casuarinas reaching up to approximately 2.5m and Melaleucas averaging 1.5m in height.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	20	Months since direct seeding:	25	
Date:	April 2017			
Comments:	Much of the area is still waterlogged and functioning as the wetland it is designed to be. Casuarinas and Melaleucas continue to grow well.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynod	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	21	Months since direct seeding:	26	
Date:	May 2017	May 2017		
Comments:		Canopy species continue to reach above groundcovers. Casuarinas reaching up to approximately 3m and Melaleucas averaging 2m in height.		
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:	85% Percentage vegetation cover: 90%			



Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017			
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynod	don dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	23	Months since direct seeding:	28		
Date:	July 2017				
Comments:	I -	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca				
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon			
Damage:	Nil				
Native dominance:	85%	Percentage vegetation cover:	90%		
Photo:					



Monitoring month:	24	Months since direct seeding:	29
Date:	August 2017		
Comments:	Melaleuca growth is notable	this month, becoming co-dominant	t with the casuarinas.
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Melaleuca and casuarina con	tinue to grow well.	
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	26	Months since direct seeding:	31	
Date:	October 2017	October 2017		
Comments:	Melaleuca and casuarina con	tinue to grow well.		
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynod	don dactylon		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	27	Months since direct seeding:	32	
Date:	November 2017			
Comments:	Increasing temperatures and scattered rain events have provided good growing conditions for all vegetation. Groundsel was recorded again within the vicinity of this quadrat.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynodon dactylon, Baccharis halimifolia*			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	90%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017			
Comments:	Rainfall and increasing temperatures promoted vegetative growth across this quadrat and overall NWCP. Groundsel will require treatment in the coming months, however no possible this month due to waterlogging.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynodon dactylon, Baccharis halimifolia*			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	90%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		
Comments:	Growth of casuarina seedlings very evident this month, adding a significant amount of biomass to this quadrat. A small amount of Myrtle Rust is still evident in the surrounding area, but not causing significant degradation.		
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Cynodon dactylon, Baccharis halimifolia*		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	30	Months since direct seeding:	35	
Date:	February 2018			
Comments:	Melaleuca and casuarina continue to grow well. Treatment of groundsel continued this month.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynoc	Cuphea carthagenesis, Cynodon dactylon, Baccharis halimifolia*		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	90%	
Photo:	90%  Percentage vegetation cover: 90%			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	31	Months since direct seeding:	36	
Date:	March 2018			
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth.			
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca			
Weed species:	Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	32	Months since direct seeding:	37
Date:	April 2018		
Comments:	Melaleuca and casuarina con	tinue to add height and biomass.	
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	33	Months since direct seeding:	38
Date:	May 2018		
Comments:	Melaleuca and casuarina con	tinue to grow well.	
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of th	ne growing season.
Native species:	Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Fimbristylis ferruginea, Ludwidgia octovalvis, Melaleuca quinquenervia, Persicaria attenuata, Casuarina glauca		
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	35	Months since direct seeding:	40		
Date:	July 2018	July 2018			
Comments:	Species diversity is declining	due to the allelopathic properties	of Casuarina glauca.		
Native species:		Juncus usitatus, Cyperus polystachyos, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca			
Weed species:	Cynodon dactylon				
Damage:	Nil				
Native dominance:	90%	Percentage vegetation cover:	90%		
Photo:	70%  Percentage vegetation cover.  90%				



Monitoring month:	36	Months since direct seeding:	41	
Date:	August 2018			
Comments:	A decline in diversity was notable this month due to the developing dominance of Casuarina glauca.			
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca			
Weed species:	Cynodon dactylon	Cynodon dactylon		
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	37	Months since direct seeding:	42	
Date:	September 2018			
Comments:	No significant changes this month. Myrtle rust still observed within the surrounding area.			
Native species:		Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	38	Months since direct seeding:	43
Date:	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	39	Months since direct seeding:	44	
Date:	November 2018	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.			
Native species:	Juncus usitatus, Bolboschoer quinquenervia, Casuarina glo	nus cardwellii,Ludwidgia octovalv nuca	ris, Melaleuca	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	ly this month.	
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	41	Months since direct seeding:	46	
Date:	January 2019	January 2019		
Comments:	Casuarinas continue to add b	iomass.		
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	Some native species declinin	g in vigour due to canopy growth,	but are still present.
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	43	Months since direct seeding:	48
Date:	March 2019		
Comments:	No significant changes this m	onth.	
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.		
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	45	Months since direct seeding:	50	
Date:	May 2019	May 2019		
Comments:	Melaleuca quinquenervia and	d Casuarina glauca continue to add	biomass.	
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	46	Months since direct seeding:	51	
Date:	June 2019			
Comments:	Rainfall over the past few me	onths has increased plant growth a	nd vigour.	
Native species:		Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Casuarina growth is steady th	nroughout this quadrat and surrour	nding area.
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	48	Months since direct seeding:	53	
Date:	August 2019	August 2019		
Comments:	Casuarina development continues to increase with some individuals now recorded at 9m in height.			
Native species:	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:	73% Percentage vegetation cover. 100%			

Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Allelopathic properties of the	e casuarina leaf litter is still supres	ssing species diversity.
Native species:	Juncus usitatus, Bolboschoer quinquenervia, Casuarina gla	nus cardwellii,Ludwidgia octovalv nuca	ris, Melaleuca
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019	October 2019		
Comments:	Extended drought conditions are starting to take their toll with the extreme slowir			
Commences.	plant growth.			
Native species:	· ·	nus cardwellii,Ludwidgia octovalv	ris, Melaleuca	
	quinquenervia, Casuarina glo	иса		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	51	Months since direct seeding:	56
Date:	November 2019		
Comments:	Some wetland species have dropped out of this quad, however native dominance remains unchanged.		
Native species:	Bolboschoenus cardwellii, Me	elaleuca quinquenervia, Casuarina	glauca
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:	95% Percentage vegetation cover: 100%		



Monitoring month:	52	Months since direct seeding:	57	
Date:	December 2019			
Comments:	Growth steady.			
Native species:	Bolboschoenus cardwellii, M	elaleuca quinquenervia, Casuarina	glauca	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:	75% reiteiltage Vegetation tover. 100%			

Monitoring month:	53	Months since direct seeding:	58	
Date:	January 2020	January 2020		
Comments:	No significant changes to rep	ort.		
Native species:	Bolboschoenus cardwellii, M	elaleuca quinquenervia, Casuarina	glauca	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	54	Months since direct seeding:	59	
Date:	February 2020	February 2020		
Comments:	Ongoing signs of maturing.	Ongoing signs of maturing.		
Native species:	Bolboschoenus cardwellii, M	elaleuca quinquenervia, Casuarina	glauca	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020	March 2020		
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.			
Native species:	-	Juncus usitatus, Bolboschoenus cardwellii, Ludwidgia octovalvis, Melaleuca quinquenervia, Casuarina glauca		
Weed species:	Cynodon dactylon	Cynodon dactylon		
Damage:	Periodic flooding improves overall ecosystem health			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:	N/A			



## 4.6 Quadrat 6

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015			
Comments:	The water having recently receded from this area results in a poor cover at the moment. However, It is assumed that <i>Bolboschoenus carwellii</i> in the background will advance to inhabit the area quickly.			
Native species:	Juncus usitatus, Typha orien	talis		
Weed species:	Nymphaea sp.	Nymphaea sp.		
Damage:	Nil			
Native dominance:	Unable to determine	Percentage vegetation cover:	1%	
Photo:				

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015	October 2015		
Comments:	There has been no great improvement for this quadrat with regard to vegetation cover. In time, the soil conditions will improve for spread of the surrounding vegetation.			
Native species:	Juncus usitatus, Typha orientalis			
Weed species:	Nymphaea sp.			
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	10%	
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8
Date:	November 2015		
Comments:	This quadrat still remains relatively dormant. It is expected that vegetation cover will improve in the summer months. The apparent slow performance of this quadrat can be attributed to its inundation for 9 months. Its only now been approximately 6 weeks since it's been free of standing water so it's reasonable to suggest growth has been 'stunted' as a consequence of the extended inundation.		
Native species:	Juncus usitatus, Typha orientalis		
Weed species:	Nymphaea sp.		
Damage:	Nil		



Native dominance:	66%	Percentage vegetation cover:	15%
Photo:	Nil		

Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015			
Comments:	Some additional species note	Some additional species noted including canopy species.		
Native species:	Juncus usitatus, Typha orientalis, Casuarina glauca			
Weed species:	Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	40%	
Photo:	Nil			

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016			
Comments:	Steady colonisation continues to occur in this quad. Diversity remains stable with no new species recorded this month.			
Native species:	Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii			
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	58%	Percentage vegetation cover:	60%	
Photo:	Nil			

Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016			
Comments:	This quadrat has changed from 1% cover to 80% cover in just six months. A remarkable result! There are significant numbers of canopy trees in the surrounding area to this quadrat. Although it looks like the weed species Aster is a dominant plant in the area, it is of no concern. It will die of its own accord within the next 4 months.			
Native species:	Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii.			
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	58%	Percentage vegetation cover:	80%	





Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	This quadrat has changed from 1% cover to 95% cover in 8 months. The quadrat has a thin layer of water covering it. This will have the effect of being a good weed control agent. There are significant numbers of canopy trees in the surrounding area to this quadrat. Although it looks like the weed species Aster is a dominant plant in the area, it is beginning to decline.			
Native species:	Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii, Persicaria attenuata			
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	61%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	8	Months since direct seeding:	13
Date:	April 2016		
Comments:	The quadrat has a thin layer of water covering it. This will have the effect of being a good weed control agent. There are significant numbers of canopy trees in the surrounding area to this quadrat. Although it looks like the weed species Aster is a dominant plant in the area, it is beginning to decline.		
Native species:	Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii, Persicaria attenuata		
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil		
Native dominance:	61%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	9	Months since direct seeding:	14
Date:	May 2016		
Comments:	There is still a thin layer of water covering it acting as a weed control agent. Aster growth is still declining, and is anticipated to continue this decline into winter.		
Native species:	· •••	talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016	June 2016		
Comments:	Aster die-off is notable this month. Waterlogging, whilst assisting weed control, is also impacting upon growth of native canopy species. However, many native sedges are prospering.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	11	Months since direct seeding:	16	
Date:	July 2016	July 2016		
Comments:	No significant changes have o	occurred during this month.		
Native species:	1	Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii, Persicaria attenuata		
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016	August 2016		
Comments:	This quadrat has retained native dominance during the entire monitoring phase to date, and continues to do so with many species of sedges in the area. There are significant numbers of canopy trees in the surrounding area to this quadrant.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	13	Months since direct seeding:	18
Date:	September 2016		
Comments:	Native sedges and rushes are continuing to prosper this month adding to the native dominance within this quadrat.		
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil		
Native dominance:	60%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	14	Months since direct seeding:	19		
Date:	October 2016				
Comments:	No significant changes have I	peen recorded this month.			
Native species:		Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii, Persicaria attenuata			
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon				
Damage:	Nil				
Native dominance:	60%	Percentage vegetation cover:	95%		
Photo:					

Monitoring month:	15	Months since direct seeding:	20	
Date:	November 2016	November 2016		
Comments:	Native sedges and rushes continue to grow well within this area, with Juncus still remaining the dominant species.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	16	Months since direct seeding:	21	
Date:	December 2016	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Juncus continues to flourish.			
Native species:	· ••	talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017	January 2017		
Comments:	Juncus continues to flourish,	however Cynodon dactylon still do	ominates.	
Native species:	1	Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii, Persicaria attenuata		
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	18	Months since direct seeding:	23
Date:	February 2017		
Comments:	Native sedge species continu	e to dominate this quadrat.	
Native species:		talis, Casuarina glauca, Cyperus p Irdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	19	Months since direct seeding:	24	
Date:	March 2017 (NB: monitoring e	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged and functioning as the wetland it is designed to be. The correct angle of the photo was not achievable due to this waterlogging. Native sedge species continue to dominate this quadrat.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage			
Native dominance:	65%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Native sedge species continu	e to dominate this quadrat.	
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	95%
Photo:	And the second s		

Monitoring month:	21	Months since direct seeding:	26	
Date:	May 2017	May 2017		
Comments:	Native sedge species continu	e to dominate this quadrat.		
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea ca Nymphaea sp., Cynodon dact	rthagenesis, Aster subulatus, Pasp Tylon	alum dilatatum,	
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017	June 2017		
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	23	Months since direct seeding:	28	
Date:	July 2017			
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.			
Native species:	1	talis, Casuarina glauca, Cyperus p Irdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea ca Nymphaea sp., Cynodon dact	rthagenesis, Aster subulatus, Pasp tylon	alum dilatatum,	
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017	August 2017		
Comments:	Weed growth remains minima	al within this quadrat.		
Native species:		Juncus usitatus, Typha orientalis, Casuarina glauca, Cyperus polystachyos, Ludwigia octovalvis, Bolboschoenus cardwellii, Persicaria attenuata		
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation growth is steady.		
Native species:	1	talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea ca Nymphaea sp., Cynodon dact	rthagenesis, Aster subulatus, Pasp rylon	alum dilatatum,
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	95%
Photo:	Percentage vegetation cover. 75%		



Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	Vegetation growth is steady.		
Native species:		talis, Casuarina glauca, Cyperus p rdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	27	Months since direct seeding:	32	
Date:	November 2017	November 2017		
Comments:	Frequent small rainfall events occurred during this month, increasing the waterlogging of this quadrat. These conditions are favourable for the species within this area.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017	December 2017		
Comments:	Similar conditions to the previous month whereby frequent small rainfall events occurred, increasing the waterlogging of this quadrat. These conditions are favourable for the species within this area.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	29	Months since direct seeding:	34	
Date:	January 2017	January 2017		
Comments:	Vegetation growth is steady. Casuarina seedlings are becoming noticeable over the top of tall reeds and sedges.			
Native species:		talis, Casuarina glauca, Cyperus p Irdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon			
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	30	Months since direct seeding:	35	
Date:	February 2018	February 2018		
Comments:		This quadrat continues to grow in complexity, with both sedge/cyperus wetland vegetation and casuarina canopy growing strongly.		
Native species:	1	talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea ca Nymphaea sp., Cynodon dact	rthagenesis, Aster subulatus, Pasp rylon	alum dilatatum,	
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	31	Months since direct seeding:	36
Date:	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth.		
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	32	Months since direct seeding:	37	
Date:	April 2018	April 2018		
Comments:	Vegetation growth is steady.			
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	Centella asiatica, Cuphea ca Nymphaea sp., Cynodon dact	rthagenesis, Aster subulatus, Pasp rylon	alum dilatatum,	
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	33	Months since direct seeding:	38	
Date:	May 2018			
Comments:	both sedge/cyperus wetland	vegetation and casuarina canopy g	growing strongly.	
Native species:		talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia	
Weed species:	•	Centella asiatica, Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Nymphaea sp., Cynodon dactylon		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	95%	
Photo:	90% Percentage vegetation cover: 95%			



Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of the	he growing season.
Native species:	1	talis, Casuarina glauca, Cyperus po rdwellii, Persicaria attenuata	olystachyos, Ludwigia
Weed species:	Centella asiatica, Cuphea ca Nymphaea sp., Cynodon dact	rthagenesis, Aster subulatus, Pasp rylon	alum dilatatum,
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	35	Months since direct seeding:	40	
Date:	July 2018			
Comments:		Native diversity has slightly reduced however this is expected given the slower growing season. Weed diversity has also decreased.		
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	36	Months since direct seeding:	41	
Date:	August 2018	August 2018		
Comments:	Weed diversity has significan	tly reduced again this month.		
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	Weed presence remains relat	rively low again this month.	
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:	95% Percentage vegetation cover: 95%		



Monitoring month:	38	Months since direct seeding:	43	
Date:	October 2018			
Comments:	Rainfall occurred throughout increase in biomass.	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	39	Months since direct seeding:	44
Date:	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.		
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	Casuarinas continue to add b	iomass this month.	
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	42	Months since direct seeding:	47	
Date:	February 2019	February 2019		
Comments:	One individual specimen of <i>Ludwigia octovalvis</i> has been recorded within the bounds of this quadrat. This is a new species record for this quadrat, but not for the NWCP on the whole.			
Native species:	Juncus usitatus, Typha orien Ludwigia octovalvis	Juncus usitatus, Typha orientalis, Casuarina glauca, Bolboschoenus cardwellii, Ludwigia octovalvis		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	43	Months since direct seeding:	48	
Date:	March 2019			
Comments:	No significant changes this m	onth.		
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	44	Months since direct seeding:	49	
Date:	April 2019			
Comments:	Rainfall events increased late much needed watering.	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.		
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Growth is steady.		
Native species:	Juncus usitatus, Typha orier	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:	y and the second		



Monitoring month:	48	Months since direct seeding:	53	
Date:	August 2019	August 2019		
Comments:	Within the surrounding area, <i>Melaleuca quinquenervia</i> was recorded setting seed for the first time.			
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	49	Months since direct seeding:	54	
Date:	September 2019	September 2019		
Comments:	Casuarina copses are starting	to extend outwards, closing gaps	between each stand.	
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019	October 2019		
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				

Monitoring month:	51	Months since direct seeding:	56	
Date:	November 2019	November 2019		
Comments:	Casuarina copses are continu	ing to spread, closing gaps betwee	en each stand.	
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:				



Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Vegetation growth steady.		
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Recent rainfall has increased	vigour of wetland species.	
Native species:	Juncus usitatus, Typha orien	talis, Casuarina glauca, Bolboscho	enus cardwellii
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	54	Months since direct seeding:	59
Date:	February 2020		
Comments:	Quadrat remains weed free,	with the exception of couch.	
Native species:	Juncus usitatus, Typha orien Ludwigia octovalvis	talis, Casuarina glauca, Bolboscho	enus cardwellii,
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	95%
Photo:			

Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020	March 2020		
Comments:		High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.		
Native species:	Juncus usitatus, Typha orien Ludwigia octovalvis	talis, Casuarina glauca, Bolboscho	enus cardwellii,	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	95%	
Photo:		N/A		



## 4.7 Quadrat 7

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015			
Comments:	Very heavily dominated by Ludwigia, with one individual canopy species, <i>Melaleuca quinquenervia</i> . Reasonable diversity, exotic presence recorded at the outer perimeter of the quadrat.			
Native species:	Ludwidgia octovalvis, Juncus	s usitatus, Cyperus exaltatus, Mela	leuca quinquenervia	
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil			
Native dominance:	83%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015			
Comments:	Still heavily dominated by Lu quinquenervia.	Still heavily dominated by Ludwigia with one canopy species, <i>Melaleuca</i> quinquenervia.		
Native species:	Ludwidgia octovalvis, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cuphea carthagenesis, Cynodon dactylon			
Damage:	Nil			
Native dominance:	83%	Percentage vegetation cover:	90%	
Photo:	Nil		•	

Monitoring month:	3	Months since direct seeding:	8	
Date:	November 2015			
Comments:	Ludwigia continues to dominate however a number of canopy trees have emerged within this quadrat. An additional weed <i>Aster subulatus</i> was identified. Aster is appearing across much of the western portion of the site and will require careful observation in regard to potential dominance.			
Native species:	Ludwidgia octovalvis, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon			
Damage:	Nil			
Native dominance:	71%	Percentage vegetation cover:	90%	
Photo:	Nil			



Monitoring month:	4	Months since direct seeding:	9
Date:	December 2015		
Comments:	This quadrat continues to be dominated by Ludwigia, with a number of individual canopy trees, Melaleuca quinquenervia. Aster subulatus continues to grow.		
Native species:	Ludwidgia octovalvis, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon		
Damage:	Nil		
Native dominance:	71%	Percentage vegetation cover:	90%
Photo:	Nil		

Monitoring month:	5	Months since direct seeding:	10		
Date:	January 2016	January 2016			
Comments:	This quadrat continues to be dominated by Ludwigia, however a number of canopy trees have emerged including <i>Melaleuca quinquenervia</i> and <i>Casuarina glauca</i> . No significant structural change report this month.				
Native species:	Ludwidgia octovalvis, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia, Casuarina glauca				
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon				
Damage:	Nil				
Native dominance:	75%	Percentage vegetation cover:	90%		
Photo:	Nil				

Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016			
Comments:	The overall number of canopy trees has improved in this quadrat. This is representative of the surrounding area also. As per quadrat 6, it appears weeds are dominating in the picture but on-ground natives make up approximately 75% of coverage.			
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	Upon the first visit, one canopy tree was identified, upon the second visit 6 canopy trees were identified. Now there are significant numbers present. This is representative of the surrounding area also, and an upwards trend common over much of the site. There are significant numbers of canopy trees in the surrounding area. A vigorous response from the sedges to recent rain is evident around this area.			
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	8	Months since direct seeding:	13	
Date:	April 2016			
Comments:	A significant number of canopy species are present. This is representative of the surrounding area also, and an upwards trend common over much of the site. There are significant numbers of canopy trees in the surrounding area. A vigorous response from the sedges to recent rain is evident around this area.			
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca	
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon			
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016			
Comments:	Growth conditions have favor	ured native sedges this month.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	100%	
Photo:	Percentage vegetation cover. 100%			

Monitoring month:	10	Months since direct seeding:	15
Date:	June 2016		
Comments:	As per similar quadrats, Aster is starting to show signs of die-back for the winter months.		
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	No significant differences were recorded this month.		
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon		
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016			
Comments:	Native canopy vegetation continues to increase in diversity within this quadrat. During month 1, 6 individuals were identified, now there are significant numbers present. This is also representative of the surrounding area, and an overall upwards trend common over much of the site.			
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon			
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016			
Comments:	Melaleuca and Casuarina seedlings continue to grow and prosper this month. Native dominance has also increased with this spike in growth.			
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	14	Months since direct seeding:	19	
Date:	October 2016			
Comments:	Cypress and sedge growth continues to increase this month.			
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:		dlings continue to grow and prospe	er this month, with
comments.	many emerging over the heig	<u>'</u>	
Native species:		rina glauca, Juncus usitatus, Cyper	rus exaltatus, Melaleuca
	quinquenervia		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	16	Months since direct seeding:	21
Date:	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Melaleuca and Casuarina seedlings continue to grow and prosper this month.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	17	Months since direct seeding:	22
Date:	January 2017		
Comments:	Melaleuca and Casuarina seedlings continue to grow and prosper this month, with Casuarinas up to approximately 2m in height and Melaleucas averaging approximately		
Comments.	1.2m in height.	ety ziii iii neigiit and metateucas av	eraging approximately
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:	75% Percentage vegetation cover. 100%		

Monitoring month:	18	Months since direct seeding:	23
Date:	February 2017		
Comments:	Melaleuca and Casuarina seedlings continue to grow and prosper this month, with Casuarinas up to approximately 2m in height and Melaleucas averaging approximately 1.2m in height.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	19	Months since direct seeding:	24	
Date:	March 2017 (NB: monitoring of	event occurred early April due to in	naccessibility)	
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged and functioning as the wetland it is designed to be. Melaleuca and Casuarina seedlings continue to grow and prosper, with Casuarinas up to approximately 3m and Melaleucas approximately 1.5m in height.			
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Paspa	Cuphea carthagenesis, Paspalum dilatatum, Cynodon dactylon, Conyza sumatrensis		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Much of the area is still waterlogged and functioning as the wetland it is designed to be. Melaleucas and Casuarinas continue to grow well.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	21	Months since direct seeding:	26
Date:	May 2017		
Comments:		dlings continue to grow and prospe Aelaleucas approximately 2m in he	•
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	22	Months since direct seeding:	27
Date:	June 2017		
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	rus exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	23	Months since direct seeding:	28
Date:	July 2017		
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	rus exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	ılum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017			
Comments:	Biomass of casuarinas has increased significantly, which has in turn increased			
Commences.		ication of <i>Conyza sumatrensis</i>		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca	
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation health and growt	h is steady.	
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	Vegetation health and growt	h is steady.	
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	rus exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	Rainfall and increasing temperatures have driven an increase in biomass of casuarina and melaleuca.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017			
Comments:	-	Rainfall events of the previous month and this month have resulted in waterlogging.  This has assisted the growth of melaleucas.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca	
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon,	Conyza sumatrensis	
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	29	Months since direct seeding:	34	
Date:	January 2018			
Comments:	Casuarinas have added signif	icant biomass and continue to clos	e in the canopy.	
Native species:	Ludwidgia octovalvis, Casual quinquenervia	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Paspo	alum dilatatum, Cynodon dactylon,	, Conyza sumatrensis	
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	30	Months since direct seeding:	35
Date:	February 2018		
Comments:	Vegetation health and growth	h is steady.	
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon,	Conyza sumatrensis
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	31	Months since direct seeding:	36
Date:	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth. One weed species not present this month.		
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Paspalum dilatatum, Cynodon dactylon		
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	32	Months since direct seeding:	37	
Date:	April 2018			
Comments:	Vegetation health and growt	h is steady.		
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	33	Months since direct seeding:	38	
Date:	May 2018			
Comments:	Casuarinas have added signif	icant biomass and continue to clos	e in the canopy.	
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of th	ne growing season.
Native species:	Ludwidgia octovalvis, Casuar quinquenervia	ina glauca, Juncus usitatus, Cyper	us exaltatus, Melaleuca
Weed species:	Cuphea carthagenesis, Paspa	lum dilatatum, Cynodon dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		L
Comments:	An alternate route was identified to gain access into this quadrat beyond the thicket of <i>Casuarina glauca</i> . Quadrat is dominated by wetland groundcovers. Species composition, native dominance and vegetation cover statistics remain unchanged.		
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:	1 electricage vegetation cover. 100%		

Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	Casuarina glauca was recorded flowering and seeding within the surrounding areas for the first time since monitoring commenced.		
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	Melaleuca quinquenervia in t	the surrounding area is struggling v	vith Myrtle Rust.
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	38	Months since direct seeding:	43
Date:	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	39	Months since direct seeding:	44	
Date:	November 2018			
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.			
Native species:		Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	Access to this quadrat is become	oming extremely difficult	
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	42	Months since direct seeding:	47	
Date:	February 2019			
Comments:	Vegetation growth was stead	y this month.		
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	43	Months since direct seeding:	48
Date:	March 2019		
Comments:	Casuarinas in surrounding are	eas continue to close in the canopy	<i>'</i> .
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:	73/0 Percentage vegetation cover. 100/6		

Monitoring month:	44	Months since direct seeding:	49		
Date:	April 2019				
Comments:	Rainfall events increased late much needed watering.	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.			
Native species:	_	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cynodon dactylon				
Damage:	Nil				
Native dominance:	95%	Percentage vegetation cover:	100%		
Photo:					



Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Casuarina copses are starting	g to extend outwards, closing gaps	between each stand.
Native species:	Ludwidgia octovalvis, Casuai exaltatus, Melaleuca quinqu	rina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	48	Months since direct seeding:	53		
Date:	August 2019	August 2019			
Comments:	Myrtle rust is still notable in	the surrounding area, however this	s presence is declining.		
Native species:		Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cynodon dactylon				
Damage:	Nil				
Native dominance:	95%	Percentage vegetation cover:	100%		
Photo:	1 ercentage vegetation cover. 100%				



Monitoring month:	49	Months since direct seeding:	54	
Date:	September 2019			
Comments:	Allelopathic properties of the	e casuarina leaf litter is still supres	ssing species diversity.	
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:	95% Percentage vegetation cover: 100%			

Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019			
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:		Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	51	Months since direct seeding:	56	
Date:	November 2019			
Comments:	Myrtle rust on melaleuca was	s minimal within the immediate are	ea to this quadrat.	
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Growth is steady.		
Native species:	Ludwidgia octovalvis, Casuarina glauca, Juncus usitatus, Carex apressa, Cyperus exaltatus, Melaleuca quinquenervia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Recent rain has assisted in th	ne health of wetland understorey s	pecies.
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	54	Months since direct seeding:	59
Date:	February 2020		
Comments:	Wetland species are flourishi	ng.	
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020	March 2020		
Comments:		High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.		
Native species:	Ludwidgia octovalvis, Casuar exaltatus, Melaleuca quinqu	ina glauca, Juncus usitatus, Carex enervia	apressa, Cyperus	
Weed species:	Cynodon dactylon			
Damage:	Periodic flooding improves or	Periodic flooding improves overall ecosystem health		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:	N/A			



## 4.8 Quadrat 8

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015			
Comments:	This is a typical example of an ephemeral clay pan wetland. Water has receded now for approximately 1 month. Clay crust has formed with moist soil material below the crust. Weeds are not present.			
Native species:	Ludwigia octovalvis, Juncus	prismatacarpa, Fimbristylis ferrug	inea	
Weed species:	Cynodon dactylon	Cynodon dactylon		
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	30%	
Photo:				

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015			
Comments:	This quadrat is slowly improve this stage.	This quadrat is slowly improving with vegetation cover and remaining weed free at this stage.		
Native species:	Ludwigia octovalvis, Juncus	Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	100% Percentage vegetation cover: 40%			
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8
Date:	November 2015		
Comments:	This quadrat continues to improve in vegetative cover. It is expected that a number of weeds will emerge during summer with <i>Cuphea carthagenesis</i> noted.		
Native species:	Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea, Cyperus polystachyos, Juncus usitatus		
Weed species:	Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	86%	Percentage vegetation cover:	50%
Photo:	Nil		



Monitoring month:	4	Months since direct seeding:	9
Date:	December 2015		
Comments:	As expected a number of new weeds have emerged however the percentage vegetative cover is also improving. It is expected that these annual weeds will retreat after the summer months.		
Native species:	Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea, Cyperus polystachyos, Juncus usitatus, Cynodon dactylon		
Weed species:	Cuphea carthagenesis, Aster subulatus		
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	70%
Photo:	Nil		

Monitoring month:	5	Months since direct seeding:	10
Date:	January 2016		
Comments:	Vegetative cover continues to improve in this quadrat. A number of canopy trees have been observed in the surrounding areas.		
Native species:	Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea, Cyperus polystachyos, Juncus usitatus, Persicaria sp.		
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon		
Damage:	Nil		
Native dominance:	66%	Percentage vegetation cover:	80%
Photo:	Nil		

Monitoring month:	6	Months since direct seeding:	11
Date:	February 2016		
Comments:	This area has developed from 30 percent cover to 100 percent cover in six months.  There are significant numbers of canopy trees in the surrounding area. Diversity is impressive here also.		
Native species:	Ludwigia octovalvis, Juncus polystachyos, Juncus usitatu	prismatacarpa, Fimbristylis ferrug s, Persicaria sp.	inea, Cyperus
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon		
Damage:	Nil		
Native dominance:	66%	Percentage vegetation cover:	100%
Photo:	Terecinage vegetation cover.		



Monitoring month:	7	Months since direct seeding:	12
Date:	March 2016		
Comments:	This area has developed well in the last 8 month period. There are significant numbers of canopy trees in the surrounding area. <i>Capillipedium spiciergum</i> is seeding prolifically in this area.		
Native species:	Ludwigia octovalvis, Juncus polystachyos, Juncus usitatu	prismatacarpa, Fimbristylis ferrug s, Persicaria sp.	inea, Cyperus
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	66%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	8	Months since direct seeding:	13
Date:	April 2016		
Comments:	There are significant number spiciergum is seeding prolific	s of canopy trees in the surroundir cally in this area.	ng area. <i>Capillipedium</i>
Native species:	, , ,	prismatacarpa, Fimbristylis ferrug	inea, Cyperus
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	66%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016	May 2016		
Comments:	Sedges and rushes continue to change in native dominance.	Sedges and rushes continue to perform well within this quadrat. There has been no change in native dominance.		
Native species:	Ludwigia octovalvis, Juncus polystachyos, Juncus usitatu	prismatacarpa, Fimbristylis ferrug. s, Persicaria sp.	inea, Cyperus	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	10	Months since direct seeding:	15
Date:	June 2016		
Comments:	_	dormancy, however not significant rowth is anticipated over this perio	_
Native species:	Ludwigia octovalvis, Juncus polystachyos, Juncus usitatu	prismatacarpa, Fimbristylis ferrug s, Persicaria sp.	inea, Cyperus
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	66%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	No significant change has be	en recorded this month.	
Native species:	Ludwigia octovalvis, Juncus polystachyos, Juncus usitatu	orismatacarpa, Fimbristylis ferrug s, Persicaria sp.	inea, Cyperus
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	66%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016	August 2016		
Comments:	This quadrat still remains relatively weed free. The first canopy tree within the quadrat was recorded this month, indicating canopy trees are still emerging.			
Native species:		orismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	13	Months since direct seeding:	18
Date:	September 2016		
Comments:	With the increase of tempera has increased the native dom	atures, Juncus and rushes have gro ninance within this quadrat.	wn significantly. This
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	14	Months since direct seeding:	19
Date:	October 2016		
Comments:	No significant change record	ed for this month.	
Native species:		prismatacarpa, Fimbristylis ferrug. s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:	Tercencage vegetation cover. 100%		



Monitoring month:	15	Months since direct seeding:	20	
Date:	November 2016			
Comments:	changes have been recorded.	Wetland species, such as Juncus, have continued to remain healthy. No significant changes have been recorded.		
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	16	Months since direct seeding:	21	
Date:	December 2016	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Wetland species, such as Juncus, have continued to remain healthy.			
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	17	Months since direct seeding:	22
Date:	January 2017		
Comments:	Wetland species, such as Juncus, have continued to remain healthy. Casuarinas average approximately 1.2m in height. <i>Cynodon dactylon</i> continues to dominate.		
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	100%
Photo:	n and a second		

Monitoring month:	18	Months since direct seeding:	23	
Date:	February 2017	February 2017		
Comments:	There are no significant char	nges to this quadrat this month.		
Native species:		orismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	inea, Cyperus	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Yes - evidence of tyre tracks through quadrat. It is anticipated that this quadrat will recover quickly from this disturbance.			
Native dominance:	70%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	19	Months since direct seeding:	24
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged (approximately 8cm of water covering quadrat) and functioning as the wetland it is designed to be. Casuarinas up to approximately 1.5m in height.		
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon		
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage. Recovering well from tyre track disturbance.		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Much of the area is still waterlogged and functioning as the wetland it is designed to be.		
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	21	Months since direct seeding:	26
Date:	May 2017		
Comments:	Quadrat still dominated by sedges and groundcovers. Casuarinas up to approximately 1.5m in height.		
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	22	Months since direct seeding:	27
Date:	June 2017		
Comments:	No significant changes this molder months.	onth. It is anticipated growth will	slow moving into the
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	23	Months since direct seeding:	28
Date:	July 2017		
Comments:	1	uit was added to the flagging pole	this month due to the
	0 0	on. Vegetation health is steady.	·
Native species:	1	prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	24	Months since direct seeding:	29
Date:	August 2017		
Comments:	Quadrat remains stable.		
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	inea, Cyperus
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:	70% Percentage vegetation cover: 100%		



Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation growth is steady.		
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	· · · · · · · · · · · · · · · · · · ·
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	26	Months since direct seeding:	31	
Date:	October 2017			
Comments:	No significant changes this m	onth.		
Native species:	_	prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Nil	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	Rainfall and increasing temporal	eratures has boosted vegetative gr	owth.
Native species:		orismatacarpa, Fimbristylis ferrug. s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:	7 ON THE CENTERS VESCULION COVER. 100%		

Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017			
Comments:	Moderate rainfall has been re	eceived during this month, increas	ing waterlogging.	
Native species:		Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea, Cyperus polystachyos, Juncus usitatus, Persicaria sp., Casuarina glauca		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:	75% Percentage vegetation cover: 100%			



Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		
Comments:	Casuarina seedlings are now and are now growing rapidly	clearly evident over the tops of ru	shes/sedges this month
Native species:	Ludwigia octovalvis, Juncus p	prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Aster	subulatus, Cynodon dactylon	
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	30	Months since direct seeding:	35
Date:	February 2018		
Comments:	Casuarina canopy is continuing within this quadrat this month	ng to form and shade out weed spe :h.	cies. Aster not present
Native species:		prismatacarpa, Fimbristylis ferrug s, Persicaria sp., Casuarina glauca	
Weed species:	Cuphea carthagenesis, Cynod	don dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	32	Months since direct seeding:	37
Date:	April 2018		
Comments:	Native plant growth and bior	nass continues to increase.	
Native species:	Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea, Cyperus polystachyos, Juncus usitatus, Persicaria sp., Casuarina glauca, Carex appressa, Leersia hexandra, Cyperus exaltatus		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	33	Months since direct seeding:	38
Date:	May 2018		
Comments:	Casuarina canopy is continuing to form and shade out weed species.		
Native species:	Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea, Cyperus polystachyos, Juncus usitatus, Persicaria sp., Casuarina glauca, Carex appressa, Leersia hexandra, Cyperus exaltatus		
Weed species:	Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	34	Months since direct seeding:	39	
Date:	June 2018	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of the	he growing season.	
Native species:	Ludwigia octovalvis, Juncus prismatacarpa, Fimbristylis ferruginea, Cyperus polystachyos, Juncus usitatus, Persicaria sp., Casuarina glauca, Carex appressa, Leersia hexandra, Cyperus exaltatus			
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon		
Damage:	Nil	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	35	Months since direct seeding:	40	
Date:	July 2018			
Comments:	Some native species have dropped out of this quadrat due to a combination of competition and winter; however native abundance is increasing despite the decline in diversity.			
Native species:	Ludwigia octovalvis, Fimbrisa Casuarina glauca, Carex appa	tylis ferruginea, , Juncus usitatus, ressa, Cyperus exaltatus	Persicaria sp.,	
Weed species:	Cynodon dactylon	Cynodon dactylon		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	Some additional native species have dropped out of this quadrat due to a combination of competition and winter; however native abundance is increase despite the decline in diversity.		
Native species:	Fimbristylis ferruginea, Juno	tus usitatus, Casuarina glauca, Car	ex appressa
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	37	Months since direct seeding:	42	
Date:	September 2018	September 2018		
Comments:	Vegetation growth steady.			
Native species:	Fimbristylis ferruginea, Juno	us usitatus, Casuarina glauca, Car	ex appressa	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	38	Months since direct seeding:	43	
Date:	October 2018			
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.			
Native species:	Fimbristylis ferruginea, Juno	cus usitatus, Casuarina glauca, Car	ex appressa	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	39	Months since direct seeding:	44	
Date:	November 2018			
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.			
Native species:	Fimbristylis ferruginea, Juno	rus usitatus, Casuarina glauca, Car	ex appressa	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	40	Months since direct seeding:	45	
Date:	December 2018	December 2018		
Comments:	Vegetation growth was stead	y this month.		
Native species:	Fimbristylis ferruginea, Juno	us usitatus, Casuarina glauca, Car	ex appressa	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	Biomass continues to increas	e.	
Native species:	Fimbristylis ferruginea, Juno	us usitatus, Casuarina glauca, Car	ex appressa
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	42	Months since direct seeding:	47	
Date:	February 2019			
Comments:	Vegetation growth was stead	y this month.		
Native species:	Fimbristylis ferruginea, Juno	cus usitatus, Casuarina glauca, Car	ex appressa	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	43	Months since direct seeding:	48
Date:	March 2019		
Comments:	No significant changes this m	onth.	
Native species:	Fimbristylis ferruginea, Juno	us usitatus, Casuarina glauca, Car	ex appressa
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	44	Months since direct seeding:	49	
Date:	April 2019			
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.			
Native species:	Fimbristylis ferruginea, Juno	cus usitatus, Casuarina glauca, Car	ex appressa	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:	Fimbristylis ferruginea, Juno	us usitatus, Casuarina glauca, Car	ex appressa
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	46	Months since direct seeding:	51	
Date:	June 2019			
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.	
Native species:	Fimbristylis ferruginea, Juno	us usitatus, Casuarina glauca, Car	ex appressa	
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Growth of casuarina biomass continues to suppress the growth of less prolific groundcover species.		
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Vegetation continues to mate	ure.	
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Allelopathic properties of the casuarina leaf litter is starting to result in a marginal decline in couch density.		
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019	October 2019		
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	51	Months since direct seeding:	56	
Date:	November 2019			
Comments:	No significant changes to rep	ort.		
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa		
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Vegetation growth steady.		
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Recent rain has assisted wet	and plant health.	
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	54	Months since direct seeding:	59	
Date:	February 2020			
Comments:	Positive signs of maturation	continue.		
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa		
Weed species:	Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	55	Months since direct seeding:	60
Date:	March 2020		
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.		
Native species:	Juncus usitatus, Casuarina g	lauca, Carex appressa	
Weed species:	Cynodon dactylon		
Damage:	Periodic flooding improves overall ecosystem health		
Native dominance:	95% Percentage vegetation cover: 100%		
Photo:		N/A	



## 4.9 Quadrat 9

Monitoring month:	1	Months since direct seeding:	6
Date:	September 2015		
Comments:	This is an interesting quadrat due the drop in contour from the fore ground to the background. Although not easily seen in the photo, it highlights how water has limited weed growth at the lower contours, creating a specialist environment favouring the native sedges in comparison to the fore ground, where weed species are dominant.		
Native species:	Ludwigia octovalvis, Juncus o polystachyos, Cyperus exalta	usitatus, Eleocharis dulcis, Persica Itus, Typha orientalis	ria decipiens, Cyperus
Weed species:	Cuphea carthagenesis, Cynodon dactylon		
Damage:	Nil		
Native dominance:	89%	Percentage vegetation cover:	50%
Photo:			

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015			
Comments:	Native sedges continue to dominate the lower contours with weed species occurring at the top edge of this quadrat. One canopy species has emerged <i>Melaleuca</i> quinquenervia. This is a positive development.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Cyperus polystachyos, Cyperus exaltatus, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesi, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90% Percentage vegetation cover: 50%			
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8
Date:	November 2015		
Comments:	As the water line slowly recedes a number of new species have emerged.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Cyperus polystachyos, Cyperus exaltatus, Melaleuca quinquenervia, Casuarina glauca, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon		
Damage:	Nil		



Native dominance:	83%	Percentage vegetation cover:	50%
Photo:	Nil		

Monitoring month:	4	Months since direct seeding:	9		
Date:	December 2015	December 2015			
Comments:	Very little change recorded here this month. Wetland species continue to dominate the lower contour.				
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis				
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon				
Damage:	Nil				
Native dominance:	83%	Percentage vegetation cover:	70%		
Photo:	Nil				

Monitoring month:	5	Months since direct seeding:	10		
Date:	January 2016	January 2016			
Comments:	Groundsel observed here in small numbers for the first time. Hand pulling being undertaken. Asides, this quad has excellent diversity and structural integrity. No significant change is recorded this month.				
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis				
Weed species:	Cuphea carthagenesis, Aster subulatus, Baccharis halimifolia*, Cynodon dactylon				
Damage:	Nil				
Native dominance:	83%	Percentage vegetation cover:	80%		
Photo:	Nil				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016	February 2016		
Comments:	There has been an increase in canopy species in this quadrat from one, to two species. This area will benefit well from the next inundation event and is clearly now suffering the effects of extended drying and lack of rain.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster subulatus, Cynodon dactylon			
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016	March 2016		
Comments:	Rain events over the past month have improved the health of this quadrat. Native dominance still remains strong.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon		
Damage:	Nil			
Native dominance:	71%	Percentage vegetation cover:	100%	
Photo:	Percentage vegetation cover. 100%			



Monitoring month:	8	Months since direct seeding:	13	
Date:	April 2016			
Comments:	Rain events over the past month have improved the health of this quadrat. Native dominance still remains strong.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon			
Damage:	Nil			
Native dominance:	71%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	9	Months since direct seeding:	14
Date:	May 2016		
Comments:	Typha growth is slowly increasing. It is anticipated that this species will soon dominate this quadrat.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	71%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	10	Months since direct seeding:	15
Date:	June 2016		
Comments:	Aster has started to die-off f	or the winter period.	
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon		
Damage:	Nil		
Native dominance:	71%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	Ludwigia has grown significantly this month, becoming more dominant. This however has not changed the overall native dominance.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon		
Damage:	Nil		
Native dominance:	71%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016	August 2016		
Comments:	This area will benefit well fro	om the next inundation event.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon		
Damage:	Nil			
Native dominance:	71%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016	September 2016		
Comments:	No significant changes have I	peen recorded this month.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	14	Months since direct seeding:	19	
Date:	October 2016			
Comments:	Typha growth has increased this month and is clearly the dominant native species within this quadrat.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:	73% Percentage vegetation cover. 100%			

Monitoring month:	15	Months since direct seeding:	20	
Date:	November 2016	November 2016		
Comments:	No significant changes have t	peen recorded this month.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	16	Months since direct seeding:	21
Date:	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Typha continues to grow well, competing for dominance.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon, Verbena bonariensis		
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017			
Comments:		Typha continues to grow well, competing for dominance. Melaleuca and casuarina individuals continue to grow well, averaging 1m in height.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster subulatus, Paspalum dilatatum, Cynodon dactylon, Verbena bonariensis			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	18	Months since direct seeding:	23
Date:	February 2017		
Comments:	There has been no significan	t change within this quadrat this m	nonth.
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	19	Months since direct seeding:	24
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged (approximately 15cm of water covering quadrat) and functioning as the wetland it is designed to be. Casuarinas and Melaleucas approximately 1.5m in height.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	20	Months since direct seeding:	25	
Date:	April 2017			
Comments:	Much of the area is still waterlogged and functioning as the wetland it is designed to be. Quadrat dominated by sedges and groundcovers.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	21	Months since direct seeding:	26
Date:	May 2017		
Comments:	Sedges and groundcovers continue to dominate. Casuarinas and Melaleucas approximately 1.5m in height.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	22	Months since direct seeding:	27
Date:	June 2017		
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	23	Months since direct seeding:	28
Date:	July 2017		
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017	August 2017		
Comments:	Vegetation growth is stable.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	25	Months since direct seeding:	30	
Date:	September 2017	September 2017		
Comments:	Casuarinas continue to increa	ase in biomass.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon	
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	No significant changes this m	onth.	
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	A number of scattered rainfa of sedge and wetland species	ll events occurred this month. This that dominate this quadrat.	s assisted in the growth
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	28	Months since direct seeding:	33
Date:	December 2017		
Comments:	Further rain events occurred this month resulting in the increasing biomass of casuarinas and sedges/rushes.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:	73% Percentage vegetation cover. 100%		

Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		
Comments:	Vegetation growth is stable.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	30	Months since direct seeding:	35
Date:	February 2018		
Comments:	Native vegetation continues	to add biomass, outcompeting wee	ed species.
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Aster	subulatus, Paspalum dilatatum, C	ynodon dactylon
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	31	Months since direct seeding:	36
Date:	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth, including the displacement of 2 weed species.		
Native species:		usitatus, Eleocharis dulcis, Persica is polystachyos, Cyperus exaltatus, ipha orientalis	' '
Weed species:	Cuphea carthagenesis, Cynoc	don dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	32	Months since direct seeding:	37
Date:	April 2018		
Comments:	Vegetation growth is stable.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	33	Months since direct seeding:	38
Date:	May 2018		
Comments:	Native vegetation continues	to add biomass, outcompeting wee	ed species.
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of th	ne growing season.
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Persicaria decipiens, Persicaria attenuata, Cyperus polystachyos, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cuphea carthagenesis, Cynod	don dactylon	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Vegetative development con	tinues to displace weed species.	
Native species:	1	usitatus, Eleocharis dulcis, Cyperu: Melaleuca quinquenervia, Typha c	
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	Species diversity is declining	, however native dominance remai	ns high.
Native species:	Ludwigia octovalvis, Juncus og glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu ervia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	Within the surrounding area, casuarinas are noted to be in seed. Once these trees set viable seed, a second cohort will commence development.		
Native species:	Ludwigia octovalvis, Juncus o glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu Prvia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	38	Months since direct seeding:	43
Date:	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Ludwigia octovalvis, Juncus glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu: Prvia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	39	Months since direct seeding:	44	
Date:	November 2018	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.			
Native species:	Ludwigia octovalvis, Juncus i glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu: ervia, Typha orientalis	s exaltatus, Casuarina	
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	ly this month.	
Native species:	Ludwigia octovalvis, Juncus glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu ervia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	The closing canopy within this area continues to result in a decline in abundance of groundcover species. This will eventually plateau.		
Native species:	Ludwigia octovalvis, Juncus ( glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu: ervia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	42	Months since direct seeding:	47	
Date:	February 2019			
Comments:	Diversity of this quadrat is still low compared to 12 months ago, however biomass is still increasing.			
Native species:		Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	43	Months since direct seeding:	48
Date:	March 2019		
Comments:	No significant changes occur	red this month.	
Native species:	Ludwigia octovalvis, Juncus og glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu Prvia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late much needed watering.	e last month and continued this mo	onth giving the NWCP a
Native species:	Ludwigia octovalvis, Juncus i glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu Prvia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:	Percentage vegetation cover. 100%		

Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.
Native species:	Ludwigia octovalvis, Juncus og glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu rvia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Vegetation growth is steady.		
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Native dominance is increasi	ng marginally.	
Native species:	Ludwigia octovalvis, Juncus og glauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu rvia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Vegetative development con	tinues to displace weed species.	
Native species:	Ludwigia octovalvis, Juncus oglauca, Melaleuca quinquene	usitatus, Eleocharis dulcis, Cyperu. ervia, Typha orientalis	s exaltatus, Casuarina
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019			
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Cyperus exaltatus, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	51	Months since direct seeding:	56	
Date:	November 2019			
Comments:	Extended dry conditions are impacting wetland groundcover species.			
Native species:	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Casuarina continues to add b	iomass.	
Native species:	Ludwigia octovalvis, Juncus o quinquenervia, Typha orient	usitatus, Eleocharis dulcis, Casuari alis	ina glauca, Melaleuca
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Vegetation growth steady.		
Native species:	Ludwigia octovalvis, Juncus o quinquenervia, Typha orient	usitatus, Eleocharis dulcis, Casuari alis	ina glauca, Melaleuca
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	54	Months since direct seeding:	59	
Date:	February 2020			
Comments:	Quadrat is showing signs of i	nundation.		
Native species:	_	Ludwigia octovalvis, Juncus usitatus, Eleocharis dulcis, Casuarina glauca, Melaleuca quinquenervia, Typha orientalis		
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	55	Months since direct seeding:	60
Date:	March 2020		
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.		
Native species:	Ludwigia octovalvis, Juncus quinquenervia, Typha orient	usitatus, Eleocharis dulcis, Casuari alis	ina glauca, Melaleuca
Weed species:	Cynodon dactylon		
Damage:	Periodic flooding improves overall ecosystem health		
Native dominance:	95%	Percentage vegetation cover:	100%
Photo:		N/A	



## 4.10 Quadrat 10

Monitoring month:	1	Months since direct seeding:	6
Date:	September 2015		
Comments:	This is one of two dry and sloping quadrats where the contour highlights the impact of improved drainage on terrestrial plant success. This is evident both in diversity and structure, where 5 canopy species are present. The area is also surrounded with <i>Mimosa pudica*</i> , a weed of concern in these drier environments.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	76%	Percentage vegetation cover:	50%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015			
Comments:	No significant change has be	No significant change has been observed in this quadrat.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia			
Weed species:	<b>Mimosa pudica*</b> , Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	76%	Percentage vegetation cover:	50%	
Photo:	Nil			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	3	Months since direct seeding:	8
Date:	November 2015		
Comments:	Some additional native and weed species noted. Vegetative cover has not improved.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra		



Weed species:	Mimosa pudica*, Gomphocarpus fruticosus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	50%
Photo:	Nil		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	4	Months since direct seeding:	9		
Date:	December 2015	December 2015			
Comments:	It is not expected that vegetative cover will improve from seed due to the cut. Any increase in vegetative cover will be based on spread of existing vegetation. It is expected that weeds may exploit the bare areas in the summer months. However, tree diversity remains impressive here.				
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra				
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon				
Damage:	Nil				
Native dominance:	80%	Percentage vegetation cover:	50%		
Photo:	Nil				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016	January 2016		
Comments:	No significant changes to report. Of all quads, this is the most impressive for structure and diversity.			
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp. Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	50%	
Photo:	Nil			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016			
Comments:	This is one of two dry and sloping quadrats where the contour highlights the impact of improved drainage on terrestrial plant success. This is evident both in diversity and structure, where 5 canopy species are present. There has been an increase in diversity in this quadrat by three species. The area is also surrounded with <i>Mimosa pudica</i> , a weed of concern in these drier environments. The growth within this quadrat is quite representative of this contour zone around the entire site. Although the diversity is highest in this area. Other areas of the same contour are expected to change as the benefits of shading increases. The tallest tree measured at 3.2 metres in this quadrat. An increase in cover in this area is not expected due to the severity of scalping, with no surface organics left by machinery.			
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	50%	
Photo:		et the Desired Environmental Oute		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	7	Months since direct seeding:	12		
Date:	March 2016	March 2016			
Comments:	The growth within this quadrat is quite representative of this contour zone around the entire site. Although the diversity is highest in this area, change has been noted in other areas of the same contour as the benefits of shading increases. The tallest tree previously measured at 3.2 metres in this quadrat. This time the growth has been impressive, now growing up to 4 metres.				
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra				
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon				
Damage:	Nil				
Native dominance:	90%	Percentage vegetation cover:	50%		





<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	8	Months since direct seeding:	13	
Date:	April 2016			
Comments:	The growth within this quadrat is quite representative of this contour zone around the entire site. Although the diversity is highest in this area, change has been noted in other areas of the same contour as the benefits of shading increases.			
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	50%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	9	Months since direct seeding:	14
Date:	May 2016		
Comments:	No significant change has bee	en recorded this month.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	50%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016	June 2016		
Comments:	It is anticipated that growth winter period.	of vegetation within this quadrat v	will slow over the	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	50%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	Winter effects are evident, h	nowever vegetation health is good	for this time of year.
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	50%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016			
Comments:	This is one of two dry, sloping quadrats where the contour highlights the impact of improved drainage on terrestrial plant success. This is evident in diversity & structure.			
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	50%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016	September 2016		
Comments:	The growth within this quadrant is quite representative of the broader site, with some Eucalyptus reaching 5m or more. <i>Capillipedium spicigerum</i> is still a dominant grass in the background even though dormant over this period.			
Native species:	Corymbia citriodora, Capillipedium spicigerum, Cynodon dactylon, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Mimosa pudica*, Gomphoca	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	50%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	14	Months since direct seeding:	19
Date:	October 2016		
Comments:	No significant changes have I	peen recorded this month.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	50%
Photo:	70% Percentage vegetation cover. 30%		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	15	Months since direct seeding:	20	
Date:	November 2016	November 2016		
Comments:		Growth of canopy vegetation is evident this month, with juvenile eucalypts growing well. <i>Capillipedium spicigerum</i> is still a dominant grass within this quadrat.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	50%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	16	Months since direct seeding:	21	
Date:	December 2016			
Comments:	1	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. No other significant changes were noted.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	50%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	17	Months since direct seeding:	22
Date:	January 2017		
Comments:	Canopy eucalypts continue to	grow, averaging approximately 2.	.5m-4m in height.
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:	90% Percentage vegetation cover: 55%		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	18	Months since direct seeding:	23
Date:	February 2017		
Comments:	Canopy eucalypts continue to	grow, averaging approximately 2	.5m-4m in height.
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:	90% Percentage vegetation cover: 55%		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	19	Months since direct seeding:	24	
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)			
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Despite being on the upper margins of this area, this quadrat was still high in moisture. Canopy eucalypts continue to grow, approximately 4.5m.			
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage			
Native dominance:	90%	Percentage vegetation cover:	55%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	<u> </u>	er elevation areas was reduced ba	•
		grow, averaging approximately 4	
		pedium spicigerum, Acacia fimbria	
Native species:		ens, Acacia lieocalyx, Allocasurina	
	• • •	osa, Pultenaea villosa, Parsonsia st	•
		s, Eucalyptus crebra, Hovea acutifo	
Weed species:		rpus physocarpus, Axonopus sp., Bi	rachiaria decumbens,
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	21	Months since direct seeding:	26
Date:	May 2017		
Comments:	Canopy eucalypts continue to	grow, averaging approximately 4	.5m.
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	22	Months since direct seeding:	27
Date:	June 2017		
Comments:	No significant changes this molder months.	onth. It is anticipated growth will	slow moving into the
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Mimosa pudica*, Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	23	Months since direct seeding:	28
Date:	July 2017		
Comments:	•	uit was added to the flagging pole on. Weed treatment has controlled	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Gomphocarpus physocarpus,	Axonopus sp., Brachiaria decumbe	ns, Cynodon dactylon
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			

Monitoring month:	24	Months since direct seeding:	29
Date:	August 2017		
Comments:	Height and biomass of vegeta	ation continues to increase.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Gomphocarpus physocarpus,	Axonopus sp., Brachiaria decumbe	ns, Cynodon dactylon
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			



Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		,
Comments:	Vegetation growth remains s	teady.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Gomphocarpus physocarpus,	Axonopus sp., Brachiaria decumbe	ens, Cynodon dactylon
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			

Monitoring month:	26	Months since direct seeding:	31	
Date:	October 2017	October 2017		
Comments:	No significant changes this m	onth		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Gomphocarpus physocarpus,	Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	55%	
Photo:				



Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	A number of small rainfall evincreasing the biomass of ve	rents and warming temperatures argetation within this quadrat.	e assisting with
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Gomphocarpus physocarpus,	Axonopus sp., Brachiaria decumbe	ens, Cynodon dactylon
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			

Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017	December 2017		
Comments:	Vegetation growth remains st	teady.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Gomphocarpus physocarpus,	Axonopus sp., Brachiaria decumbe	ens, Cynodon dactylon	
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	55%	
Photo:	90% Percentage vegetation cover: 55%			



Monitoring month:	29	Months since direct seeding:	34
Date:	January 2017		
Comments:	Vegetation growth remains s	teady.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			

Monitoring month:	30	Months since direct seeding:	35	
Date:	February 2018	February 2018		
Comments:	Due to the location of this quest large rain event.	uadrat, it is quite dry and will bene	efit greatly from the	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	55%	
Photo:				



Monitoring month:	31	Months since direct seeding:	36	
Date:	March 2018			
Comments:	Canopy is continuing to close out compete the weed grass	e. The native grass <i>Capillipedium s</i> species.	picigerum continues to	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon			
Damage:	Nil	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%	
Photo:				

Monitoring month:	32	Months since direct seeding:	37
Date:	April 2018		
Comments:	Height and biomass of vegeta	ation continues to increase.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Gomphocarpus physocarpus,	Axonopus sp., Brachiaria decumbe	ens, Cynodon dactylon
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	55%
Photo:			



Monitoring month:	33	Months since direct seeding:	38	
Date:	May 2018			
Comments:	Vegetation growth remains st	teady.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Gomphocarpus physocarpus,	Axonopus sp., Brachiaria decumbe	ens, Cynodon dactylon	
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	55%	
Photo:				

Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of t	he growing season.
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Gomphocarpus physocarpus, Axonopus sp., Brachiaria decumbens, Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	60%
Photo:			



Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Winter has notably impacted	weed abundance and diversity.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	36	Months since direct seeding:	41		
Date:	August 2018				
Comments:	within this quadrat and surro	Corymbia citriodora recorded with mature seed. Many species in flower and seed within this quadrat and surrounding area.			
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia				
Weed species:	Cynodon dactylon				
Damage:	Nil				
Native dominance:	90%	Percentage vegetation cover:	70%		
Photo:					



Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	This quadrat is progressively transitioning towards a grassy woodland structure with dominance of native grasses in the understorey.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	38	Months since direct seeding:	43	
Date:	October 2018			
Comments:	Rainfall occurred throughout increase in biomass.	the area during this month which	has assisted with the	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Cynodon dactylon	Cynodon dactylon		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	70%	
Photo:				



Monitoring month:	39	Months since direct seeding:	44	
Date:	November 2018			
Comments:		Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Cynodon dactylon	Cynodon dactylon		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%
Photo:			



Monitoring month:	41	Months since direct seeding:	46	
Date:	January 2019			
Comments:	Vegetation growth has slowe seed.	Vegetation growth has slowed as juvenile trees focus energy into the production of seed.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	Corymbia citriodora recorde	d with mature seed.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	70%
Photo:			



Monitoring month:	43	Months since direct seeding:	48	
Date:	March 2019			
Comments:	No significant changes occur	red this month.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Cynodon dactylon	Cynodon dactylon		
Damage:	Nil			
Native dominance:	90%	Percentage vegetation cover:	70%	
Photo:				

Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	much needed watering.	e last month and continued this mo	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	No significant changes occur	red this month.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			



Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Vegetation growth is steady.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Leaf litter has now reached o	complete soil coverage, providing s	soil enrichment.
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:	95% Percentage vegetation cover: 80%		



Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	time.	$n$ is flowering in the surrounding ${f a}$	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019	October 2019		
Comments:	plant growth.	are starting to take their toll with	-	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	51	Months since direct seeding:	56
Date:	November 2019		
Comments:	No significant changes.		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Quadrat continues to mature		
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			



Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Biomass continues to increas	e.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	54	Months since direct seeding:	59
Date:	February 2020		
Comments:	Leaf litter now covers the en	tire quadrat.	
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Nil		
Native dominance:	95%	Percentage vegetation cover:	80%
Photo:			



Monitoring month:	55	Months since direct seeding:	60
Date:	March 2020		
Comments:		rded over the past month prohibite damage have been assumed.	ed site access. Species
Native species:	Corymbia citriodora, Capillipedium spicigerum, Acacia fimbriata, Acacia hubbardiana, Acacia concurrens, Acacia lieocalyx, Allocasurina littoralis, Cyperus polystachyos, Dodonaea viscosa, Pultenaea villosa, Parsonsia straminia, Melaleuca viminalis, Melaleuca salignus, Eucalyptus crebra, Hovea acutifolia		
Weed species:	Cynodon dactylon		
Damage:	Periodic flooding improves or	verall ecosystem health	
Native dominance:	95% Percentage vegetation cover: 80%		
Photo:		N/A	



## 4.11 Quadrat 11

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015			
Comments:	This is the only quadrat that has been left undisturbed. The quadrat and areas seen in the background were previously dominated by weeds prior to being slashed. Slashing works avoided small isolated stands of Cynodon and Eleocharis. This effort, coupled with flood rains has created a remarkable result with native plant communities now dominating the entire site.			
Native species:	Eleocharis dulcis			
Weed species:	Cynodon dactylon			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	100%	
Photo:	referrage vegetation cover. 100%			

Monitoring month:	2	Months since direct seeding:	7		
Date:	October 2015	October 2015			
Comments:	This quadrat is performing relatively well with no major weed incursion, but also contains no canopy species.				
Native species:	Eleocharis dulcis	Eleocharis dulcis			
Weed species:	Cynodon dactylon				
Damage:	Nil				
Native dominance:	80%	Percentage vegetation cover:	100%		
Photo:	Nil				

Monitoring month:	3	Months since direct seeding:	8		
Date:	November 2015	November 2015			
Comments:	A number of new species are present including <i>Cyperus polystachyos</i> and the weed <i>Aster subulatus</i> . It is expected that the receding waterline will allow an increase in weeds during the summer months.				
Native species:	Eleocharis dulcis, Cyperus polystachyos				
Weed species:	Aster subulatus, Cynodon dactylon				
Damage:	Nil				
Native dominance:	75%	Percentage vegetation cover:	100%		
Photo:	Nil				



Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015	December 2015		
Comments:	Weeds continue to grow as expected but native species still dominate. Cyperus performing well here.			
Native species:	Eleocharis dulcis, Cyperus polystachyos			
Weed species:	Aster subulatus, Cynodon dactylon			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:	Nil			

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016			
Comments:	Milk thistle has been identified here. This is expected as the site was previously covered in thistle prior to slashing and assisted natural regeneration being applied to the site. Natives continue to dominate. Milk Thistle and Aster should be expected to appear annually.			
Native species:	Eleocharis dulcis, Cyperus polystachyos			
Weed species:	Aster subulatus, Cynodon dactylon, Sonchus oleraceus			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:	Nil			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016			
Comments:	No new weed species identified and natives continue to dominate. In the background you can see clumping weed species, particularly Aster and Milk Thistle. It's evident with the absence of water logging, weed species can behave differently than when the area is inundated. Inundation on this site is actually an asset towards weed control.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos		
Weed species:	Aster subulatus, Cynodon dactylon, Sonchus oleraceus			
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:	73% Percentage vegetation cover. 100%			



Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	No new weed species identified and natives continue to dominate. Inundation on this site has been an asset towards weed control.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos		
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus		
Damage:	Nil			
Native dominance:	75%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	8	Months since direct seeding:	13
Date:	April 2016		
Comments:	No new weed species identified and natives continue to dominate. Inundation on this site has been an asset towards weed control.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos	
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus	
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	100%
Photo:	75% Percentage vegetation cover. 100%		



Monitoring month:	9	Months since direct seeding:	14
Date:	May 2016		
Comments:	No significant changes record	led this month.	
Native species:	Eleocharis dulcis, Cyperus po	olystachyos	
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016			
Comments:	Native dominance is slightly lower this month due to the onset of cooler temperatures.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos		
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus		
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	11	Months since direct seeding:	16	
Date:	July 2016			
Comments:	Wintering is extremely notable this month with the significant die-off of Aster.  Gomphocarpus physocarpus has been identified within the quadrat for the first time this month.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos		
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus	
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016			
Comments:	There is an ongoing change in abundance and dominance of different species within this quadrat. <i>Persicaria attenuata</i> located in the surrounding area can be seen taking advantage of the lack of competition, spreading rapidly.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1	
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus	
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	13	Months since direct seeding:	18	
Date:	September 2016			
Comments:	Cynodon dactylon continues to grow and is moving closer to taking over dominance within this quadrat.			
Native species:	Eleocharis dulcis, Cyperus polystachyos, Elaeocharis equisetina			
Weed species:	Aster subulatus, Cynodon dactylon, Sonchus oleraceus, Gomphocarpus physocarpus			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	14	Months since direct seeding:	19
Date:	October 2016		
Comments:	Cynodon dactylon continues to edge closer to dominance.		
Native species:	Eleocharis dulcis, Cyperus polystachyos, Elaeocharis equisetina		
Weed species:	Aster subulatus, Cynodon dactylon, Sonchus oleraceus, Gomphocarpus physocarpus		
Damage:	Nil		
Native dominance:	50%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:	Gomphocarpus physocarpus is becoming dominant in the surrounding areas and encroaching further into the quadrat.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus
Damage:	Nil		
Native dominance:	50%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	16	Months since direct seeding:	21	
Date:	December 2016	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. No other significant changes were recorded this month.			
Native species:	Eleocharis dulcis, Cyperus po	lystachyos, Elaeocharis equisetina		
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus	
Damage:	Nil			
Native dominance:	45%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017	January 2017		
Comments:	Cynodon dactylon continues	Cynodon dactylon continues to dominate within this quadrat.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetino	1	
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gomph	ocarpus physocarpus	
Damage:	Nil			
Native dominance:	45%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	18	Months since direct seeding:	23	
Date:	February 2017	February 2017		
Comments:	No significant change recorded within this quadrat. Aster continues to spread behind this quadrat.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1	
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus	
Damage:	Nil			
Native dominance:	45%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	19	Months since direct seeding:	24
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged and functioning as the wetland it is designed to be. No significant change recorded within this quadrat. Waterlogging is evident within this quadrant. Aster continues to spread in the background, however this annual will commence senescence soon.		
Native species:	Eleocharis dulcis, Cyperus polystachyos, Elaeocharis equisetina		
Weed species:	Aster subulatus, Cynodon dactylon, Sonchus oleraceus, Gomphocarpus physocarpus		
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Minor waterlogging is still evident within this quadrant. Aster has moved into the senescence stage of its lifecycle.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	21	Months since direct seeding:	26
Date:	May 2017		
Comments:	Growth conditions remain un	changed, with this quadrat continu	uing to underwhelm.
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gomph	ocarpus physocarpus
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	22	Months since direct seeding:	27
Date:	June 2017		
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	23	Months since direct seeding:	28
Date:	July 2017		
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017			
Comments:	An outbreak of Common Sow Thistle, a common pasture weed, has occurred across the quadrat this month. This weed is not of concern and will be controlled with the next large rain/flooding event.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1	
Weed species:	Aster subulatus, Cynodon da	Aster subulatus, Cynodon dactylon, Sonchus oleraceus, Gomphocarpus physocarpus		
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	25	Months since direct seeding:	30	
Date:	September 2017	September 2017		
Comments:	No significant changes this m	onth.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1	
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus	
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	Common Sow Thistle is still present in high numbers within this quadrat, however this is not of concern at this time.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	27	Months since direct seeding:	32	
Date:	November 2017			
Comments:	A number of small rainfall events were received during the latter part of this month increasing vegetative growth across this quadrat.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	!	
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gompho	ocarpus physocarpus	
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	28	Months since direct seeding:	33
Date:	December 2017		
Comments:	No significant changes this m	onth.	
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gomph	ocarpus physocarpus
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		
Comments:	No significant changes this m	onth.	
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Elaeocharis equisetina	1
Weed species:	Aster subulatus, Cynodon da	ctylon, Sonchus oleraceus, Gomph	ocarpus physocarpus
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	30	Months since direct seeding:	35
Date:	February 2018		
Comments:	A change in species composition and distribution of species within the quadrat is notable this month when compared to the previous monitoring.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Persicaria sp., Axonop	us sp
Weed species:	Sonchus oleraceus, Cynodon	dactylon	
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	31	Months since direct seeding:	36
Date:	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Persicaria sp., Axonop	us sp
Weed species:	Sonchus oleraceus, Cynodon	dactylon	
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:	40% Percentage vegetation cover. 100%		

Monitoring month:	32	Months since direct seeding:	37	
Date:	April 2018			
Comments:	Species density and distribut	ion in the quadrat continues to cha	ange.	
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Persicaria sp., Axonop	us sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon		
Damage:	Nil	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	33	Months since direct seeding:	38
Date:	May 2018		
Comments:	Common Sow Thistle is still present in high numbers within this quadrat, however this is not of concern at this time.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Persicaria sp., Axonop	us sp
Weed species:	Sonchus oleraceus, Cynodon	dactylon	
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of th	ne growing season.
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Persicaria sp., Axonop	us sp
Weed species:	Sonchus oleraceus, Cynodon	dactylon	
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	A transition is occurring with the re-emergence of Spear Thistle within this quadrat. This species is not of concern.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare	
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	Common Sow Thistle and Spear Thistle are codominant weed species within this quadrat due to the current season.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare	
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:	Percentage vegetation cover.		



Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	No significant changes this month. <i>Capillipedium spicigerum</i> is still dominant and abundant within the immediate surrounds.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	38	Months since direct seeding:	43
Date:	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	50%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	39	Months since direct seeding:	44
Date:	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	45%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	41	Months since direct seeding:	46	
Date:	January 2019			
Comments:	Aster is starting to increase in biomass and is predicted to become dominant over the coming months.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus	
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	42	Months since direct seeding:	47	
Date:	February 2019	February 2019		
Comments:	This quadrat has rapidly transitioned due to the dominance of Aster. This will transition again with the seasonal cycle of this species.			
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus	
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	43	Months since direct seeding:	48	
Date:	March 2019			
Comments:	No significant changes occur	No significant changes occurred this month.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus	
Damage:	Nil			
Native dominance:	40%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster sı	ubulatus
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Cirsium vulgare has taken the upper hand on the seasonal variation in herbaceous pasture weed dominance.		
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.
Native species:	Eleocharis dulcis, Cyperus po	olystachyos, Axonopus sp	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	40%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Aster is becoming dominant of	once again which has reduced nativ	ve abundance.
Native species:	Eleocharis dulcis, Cyperus po	olystachyos	
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	30%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	48	Months since direct seeding:	53	
Date:	August 2019			
Comments:	Quadrat still struggling to ga	Quadrat still struggling to gain native dominance.		
Native species:	Cyperus polystachyos			
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster si	ubulatus	
Damage:	Nil			
Native dominance:	25%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	No native improvement for this quadrat. It is anticipated this will shift once aster dominance decreases.		
Native species:	Cyperus polystachyos		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	25%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	50	Months since direct seeding:	55
Date:	October 2019		
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.		
Native species:	Cyperus polystachyos		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	25%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	51	Months since direct seeding:	56
Date:	November 2019		
Comments:	No native improvement for t dominance decreases.	his quadrat. It is anticipated this w	rill shift once aster
Native species:	Cyperus polystachyos		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	25%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	No significant change.		
Native species:	Cyperus polystachyos		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Nil		
Native dominance:	25%	Percentage vegetation cover:	100%
Photo:	23/0 Felicage Vegetation Cover. 100/0		



Monitoring month:	53	Months since direct seeding:	58	
Date:	January 2020	January 2020		
Comments:	Annual weed species domina	nce is transitioning due to season a	and water inundation.	
Native species:	Cyperus polystachyos			
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus	
Damage:	Nil	Nil		
Native dominance:	15%	Percentage vegetation cover:	100%	
Photo:	Telectricage regetation cover. 100%			

Monitoring month:	54	Months since direct seeding:	59
Date:	February 2020		
Comments:	Quadrat remains degraded.		
Native species:	Cyperus polystachyos		
Weed species:	Cynodon dactylon, Cirsium v	ulgare, Aster subulatus	
Damage:	Nil		
Native dominance:	5%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	55	Months since direct seeding:	60
Date:	March 2020	<u> </u>	
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.		
Native species:	Cyperus polystachyos		
Weed species:	Sonchus oleraceus, Cynodon	dactylon, Cirsium vulgare, Aster s	ubulatus
Damage:	Periodic flooding improves overall ecosystem health		
Native dominance:	25%	Percentage vegetation cover:	100%
Photo:	N/A		



## 4.12 Quadrat 12

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015			
Comments:	Water has recently receded from this area. Typha may move quickly in the coming wet season to smother the development of this area. This quadrat was selected to monitor how Typha (native) and other endemic wetland species will compete in the time ahead.			
Native species:	Bolboschoenus cardwellii, Lu dulcis, Typha orientalis	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Typha orientalis		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	15%	
Photo:				

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015	October 2015		
Comments:	There has not been a signific	ant change in this quadrat. Typha	is not spreading.	
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Typha orientalis			
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	15%	
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8	
Date:	November 2015			
Comments:	A number of Casuarina glauca have been identified. It is hoped that this species will continue to spread.			
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Typha orientalis, Casuarina glauca			
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	20%	
Photo:	Nil			



Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015			
Comments:	Casuarina glauca continues to grow. Ludwigia really starting to show signs of distress, probably drought related. The weed Aster subulatus has also been identified.			
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Typha orientalis, Casuarina glauca			
Weed species:	Aster subulatus			
Damage:	Nil			
Native dominance:	86%	Percentage vegetation cover:	25%	
Photo:	Nil			

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016			
Comments:	This quadrat is proving to be quite a good performer. While native cover remains relatively low, it holds quite a good percentage strength over exotics. This being more so as a result of drier ground conditions where weeds are expected to thrive.			
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Typha orientalis, Casuarina glauca			
Weed species:	Aster subulatus			
Damage:	Nil			
Native dominance:	86% Percentage vegetation cover: 30%			
Photo:	Nil			

Monitoring month:	6	Months since direct seeding:	11
Date:	February 2016		
Comments:	Typha has not increased in abundance in this area as expected since the first monitoring. 34 canopy trees were counted within the quadrat. No canopy trees were identified six months ago when monitoring started. This is representative of the surrounding area.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Typha orientalis, Casi	ıdwidgia octovalvis, Microleana sti uarina glauca	poides, Elaeocharis
Weed species:	Aster subulatus		
Damage:	Nil		
Native dominance:	86%	Percentage vegetation cover:	30%
Photo:			



Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	The canopy trees are abundant within this 16 square metre quadrat. This is representative of the surrounding area also. Schoenoplectus vallidus, a new native sedge is common in the surrounds. Pennesetum alopecerioides is looking fantastic in the surrounding area. Typha has not increased in abundance in this area as was expected at the first visit. Grasses and sedges have moved into the bare areas significantly over the past 6 weeks.			
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis			
Weed species:	Aster subulatus			
Damage:	Nil			
Native dominance:	86%	Percentage vegetation cover:	50%	
Photo:				

Monitoring month:	8	Months since direct seeding:	13	
Date:	April 2016			
Comments:	The canopy trees are abundant within this 16 square metre quadrat. This is representative of the surrounding area also. Schoenoplectus vallidus, a new native sedge is common in the surrounds. Pennesetum alopecerioides is looking fantastic in the surrounding area. Typha has not increased in abundance in this area as was expected at the very first visit. Grasses and sedges have moved into the bare areas.			
Native species:		Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Aster subulatus			
Damage:	Nil			
Native dominance:	86%	Percentage vegetation cover:	50%	
Photo:				



Monitoring month:	9	Months since direct seeding:	14
Date:	May 2016		
Comments:	No significant change record	ed this month.	
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	udwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis
Weed species:	Aster subulatus		
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	50%
Photo:	Fercentage vegetation cover. 30%		

Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016	June 2016		
Comments:	Aster is showing signs of wint	ering and die-back.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	dwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis	
Weed species:	Aster subulatus			
Damage:	Nil	Nil		
Native dominance:	80%	Percentage vegetation cover:	50%	
Photo:	80% Percentage vegetation cover: 50%			



Monitoring month:	11	Months since direct seeding:	16		
Date:	July 2016	July 2016			
Comments:	Wintering has affected this quadrat significantly this month. In addition, <i>Baccharis halimifolia*</i> was also identified for the first time.				
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis				
Weed species:	Aster subulatus, <b>Baccharis I</b>	nalimifolia*			
Damage:	Nil				
Native dominance:	65%	Percentage vegetation cover:	50%		
Photo:					

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	12	Months since direct seeding:	17	
Date:	August 2016	August 2016		
Comments:	This quadrat is abundant with canopy tree species, which is also representative of the surrounding areas. The native grass <i>Capillipedium spicigerum</i> is dormant in the surrounding area. <i>Baumea articulata</i> was also observed in the surrounds, a sedge species not identified before within the area.			
Native species:		Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Aster subulatus, Baccharis halimifolia*			
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	50%	
Photo:				

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	13	Months since direct seeding:	18
Date:	September 2016		
Comments:	This quadrat is slowly emerg	ing from its winter phase.	
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	dwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis
Weed species:	Aster subulatus, <b>Baccharis</b> h	alimifolia*	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	60%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	14	Months since direct seeding:	19
Date:	October 2016		
Comments:	No significant changes record	led this month.	
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Aster subulatus, <b>Baccharis</b> h	alimifolia*	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	60%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	15	Months since direct seeding:	20	
Date:	November 2016		1	
Comments:	Typha is growing well amor	ngst other native grass species.		
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis			
Weed species:	Aster subulatus, Baccharis	Aster subulatus, Baccharis halimifolia*		
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	60%	
Photo:		neet the Desired Environmental Out		

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	16	Months since direct seeding:	21
Date:	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Groundsel was not identified this month. This may be a result of the growing height and density of Typha.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	ıdwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis
Weed species:	Aster subulatus		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	60%
Photo:	70% Percentage vegetation cover: 60%		



Monitoring month:	17	Months since direct seeding:	22
Date:	January 2017		
Comments:	Casuarinas continue to grow	well, averaging 1.5m in height.	
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	ıdwidgia octovalvis, Microleana sti <sub>l</sub> oha orientalis	poides, Elaeocharis
Weed species:	Aster subulatus		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	60%
Photo:			

Monitoring month:	18	Months since direct seeding:	23	
Date:	February 2017			
Comments:	Casuarinas continue to grow	well, averaging 1.5m in height.		
Native species:		Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Paspalum dilatum			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	60%	
Photo:				



Monitoring month:	19	Months since direct seeding:	24
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged and functioning as the wetland it is designed to be. Previously bare areas within this quadrat are flooded this month. Waterlogging may change species diversity over the next few months.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	ıdwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis
Weed species:	Paspalum dilatum		
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage		
Native dominance:	70%	Percentage vegetation cover:	60%
Photo:			

Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Much of the area is still waterlogged and functioning as the wetland it is designed to be. Increased moisture has benefited this quadrat.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	dwidgia octovalvis, Microleana sti <sub>l</sub> pha orientalis	poides, Elaeocharis
Weed species:	Paspalum dilatum		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	60%
Photo:			



Monitoring month:	21	Months since direct seeding:	26	
Date:	May 2017	May 2017		
Comments:		rinas have shot up due to the rain	•	
		s now reaching 3m, almost doublin	× ×	
Native species:		idwidgia octovalvis, Microleana sti <sub>l</sub>	poides, Elaeocharis	
	dulcis, Casuarina glauca, Typ	ona orientalis		
Weed species:	Paspalum dilatum			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	60%	
Photo:				

Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017			
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.			
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	dwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis	
Weed species:	Paspalum dilatum			
Damage:	Nil	Nil		
Native dominance:	70%	Percentage vegetation cover:	60%	
Photo:				



Monitoring month:	23	Months since direct seeding:	28	
Date:	July 2017	July 2017		
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.			
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	ıdwidgia octovalvis, Microleana sti <sub>l</sub> oha orientalis	poides, Elaeocharis	
Weed species:	Paspalum dilatum			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	65%	
Photo:				

Monitoring month:	24	Months since direct seeding:	29
Date:	August 2017		
Comments:	Growth in biomass of casuarina has been steady. Quadrat is still lacking good soil		
	coverage.		
Native species:		idwidgia octovalvis, Microleana stij	poides, Elaeocharis
	dulcis, Casuarina glauca, Typ	ona orientalis	
Weed species:	Paspalum dilatum		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	70%
Photo:			



Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation growth is steady.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	udwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis
Weed species:	Paspalum dilatum		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	No significant changes this m	onth.	
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Paspalum dilatum		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	70%
Photo:			



Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	Casuarinas continue to grow	in biomass.	
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	ıdwidgia octovalvis, Microleana sti oha orientalis	poides, Elaeocharis
Weed species:	Paspalum dilatum		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	28	Months since direct seeding:	33	
Date:	December 2017			
Comments:	allowed for continued growth	Increasing temperatures and the rainfall events over the past two months have allowed for continued growth of casuarinas and native grasses.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	ıdwidgia octovalvis, Microleana sti <sub>l</sub> oha orientalis	poides, Elaeocharis	
Weed species:	Paspalum dilatum			
Damage:	Nil			
Native dominance:	70%	Percentage vegetation cover:	70%	
Photo:				



Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		
Comments:	Vegetation growth is steady.		
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Paspalum dilatum		
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	30	Months since direct seeding:	34	
Date:	February 2018			
Comments:	· -	Casuarina canopy continues to close and shade out understorey. Weed grass significantly reduced in growth.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	ıdwidgia octovalvis, Microleana sti <sub>l</sub> oha orientalis	poides, Elaeocharis	
Weed species:	Paspalum dilatum			
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	70%	
Photo:				



Monitoring month:	31	Months since direct seeding:	35
Date:	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth.		
Native species:	Bolboschoenus cardwellii, Lu dulcis, Casuarina glauca, Typ	idwidgia octovalvis, Microleana sti <sub>l</sub> oha orientalis	poides, Elaeocharis
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	70%
Photo:			

Monitoring month:	32	Months since direct seeding:	36
Date:	April 2018		
Comments:	Casuarina canopy continues to close and shade out understorey.		
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	70%
Photo:			



Monitoring month:	33	Months since direct seeding:	37	
Date:	May 2018	May 2018		
Comments:	Casuarinas continue to grow	in biomass.		
Native species:		Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	70%	
Photo:	reiceitage vegetation cover. 70%			

Monitoring month:	34	Months since direct seeding:	39	
Date:	June 2018	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of th	he growing season.	
Native species:	Bolboschoenus cardwellii, Ludwidgia octovalvis, Microleana stipoides, Elaeocharis dulcis, Casuarina glauca, Typha orientalis			
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	70%	
Photo:				



Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Due to the increase in shading and organic build up, weed species are continuing to decline.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Typha orientalis
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	This quadrat is developing well into an open woodland community with a sparse understorey due to inundation.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Typha orientalis
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:	100% Percentage vegetation cover: 80%		



Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	Native diversity has declined over the past few monitoring months; however native dominance has not decreased.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Typha orientalis
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	38	Months since direct seeding:	43	
Date:	October 2018	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.			
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Typha orientalis	
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	39	Months since direct seeding:	44
Date:	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Typha orientalis
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	40	Months since direct seeding:	45	
Date:	December 2018			
Comments:	Vegetation growth was steady this month. Typha was not identified during this monitoring event.			
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	Canopy cover continues to in	crease.	
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	Elaeocharis dulcis was not identified during this monitoring event. This could be due to the lack of rain and water inundation over the past few months.		
Native species:	Bolboschoenus cardwellii, Co	isuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			



Monitoring month:	43	Months since direct seeding:	48	
Date:	March 2019	March 2019		
Comments:	No significant changes occur	red this month.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:				

Monitoring month:	44	Months since direct seeding:	49	
Date:	April 2019	April 2019		
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.			
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	nd vigour.
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			



Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Recent waterlogging has enc	ouraged wetland sedge and rush gr	owth.
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	48	Months since direct seeding:	53	
Date:	August 2019			
Comments:	Wetland species diversity has	s slowly increased.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Isolepis nodosa	
Weed species:	Nil			
Damage:	Nil	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Vegetation growth is steady.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Isolepis nodosa
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019			
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca,	, Isolepis nodosa	
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	51	Months since direct seeding:	56
Date:	November 2019		
Comments:	No significant changes.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca,	, Isolepis nodosa
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	52	Months since direct seeding:	57	
Date:	December 2019	December 2019		
Comments:	Vegetation growth is steady.			
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Isolepis nodosa	
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Vegetation growth is steady.		
Native species:	Bolboschoenus cardwellii, El	aeocharis dulcis, Casuarina glauca	, Isolepis nodosa
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	54	Months since direct seeding:	59
Date:	February 2020		
Comments:	Signs of inundation within the	e quadrat due to recent rain.	
Native species:	Bolboschoenus cardwellii, Ela Ludwigia octovalvis	aeocharis dulcis, Casuarina glauca,	, Isolepis nodosa,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	80%
Photo:			



Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020	March 2020		
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.			
Native species:	Bolboschoenus cardwellii, El Ludwigia octovalvis	aeocharis dulcis, Casuarina glauca	, Isolepis nodosa,	
Weed species:	Nil			
Damage:	Periodic flooding improves overall ecosystem health			
Native dominance:	100%	Percentage vegetation cover:	80%	
Photo:	N/A			



## 4.13 Quadrat 13

Monitoring month:	1	Months since direct seeding:	6
Date:	September 2015		
Comments:	The very specific nature of the hydrology here has quite obviously favoured <i>Eleocharis dulcis</i> . The quadrat was selected to monitor how other natives perform in competition with present Eleocharis dominance.		
Native species:	Ludwigia octovalvis, Eleocha	ris dulcis, Bolboschoenus cardwell	ii, Juncus usitatus
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	50%
Photo:			

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015			
Comments:	Eleocharis dulcis continues to	Eleocharis dulcis continues to dominate. No new weed species have emerged.		
Native species:	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus			
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	50%	
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8	
Date:	November 2015			
Comments:	A new weed species has eme	A new weed species has emerged however native vegetative cover has increased.		
Native species:	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus.			
Weed species:	Cuphea carthagenesi			
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	60%	
Photo:	Nil			



Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015	December 2015		
Comments:	A number of new annual weeds have emerged. It is expected that this will be the case over summer months as conditions favour them. Coverage at approximately 57% is expected to slowly increase, despite weed presence.			
Native species:	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus.			
Weed species:	Cuphea carthagenesis, Paspalum dilatatum, Aster subulatus			
Damage:	Nil			
Native dominance:	57% Percentage vegetation cover: 50%			
Photo:	Nil			

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016	January 2016		
Comments:	Aster subulatus is prevalent however is not expected to thrive for an extended period of time. Eleocharis dulcis continues to dominate.			
Native species:	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus			
Weed species:	Aster subulatus, Paspalum dilatatum, Cuphea carthagenesis			
Damage:	Nil			
Native dominance:	57%	Percentage vegetation cover:	50%	
Photo:	Nil			

Monitoring month:	6	Months since direct seeding:	11
Date:	February 2016		
Comments:	The very specific nature of the hydrology here has quite obviously favoured <i>Eleocharis dulcis</i> . The surrounding area is lacking obvious signs of canopy trees.		
Native species:	Ludwigia octovalvis, Eleocha	ris dulcis, Bolboschoenus cardwell	ii, Juncus usitatus
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	57%	Percentage vegetation cover:	75%
Photo:	75% Percentage Vegetation Cover: 75%		



Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	More inundation will help the Eleocharis to recover its dominance. This surrounding area is lacking obvious signs of canopy trees.			
Native species:	Ludwigia octovalvis, Eleocha	ris dulcis, Bolboschoenus cardwell	ii, Juncus usitatus	
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis		
Damage:	Nil			
Native dominance:	57%	Percentage vegetation cover:	75%	
Photo:				

Monitoring month:	8	Months since direct seeding:	13
Date:	April 2016		
Comments:	More inundation will help the Eleocharis to recover its dominance. This surrounding area is lacking obvious signs of canopy trees.		
Native species:	Ludwigia octovalvis, Eleocha	ris dulcis, Bolboschoenus cardwell	ii, Juncus usitatus
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	57%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016			
Comments:	The first Casuarina seedling	was observed this month.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus, Casuarina glauca		
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis		
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	75%	
Photo:				

Monitoring month:	10	Months since direct seeding:	15	
Date:	June 2016	June 2016		
Comments:	Signs of wintering are eviden	t this month with the di-off of Aste	er.	
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus, Casuarina glauca		
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis		
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	75%	
Photo:				



Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	No significant change record	ed this month.	
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca	ris dulcis, Bolboschoenus cardwell	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	12	Months since direct seeding:	17
Date:	August 2016		
Comments:	Summer temperatures will se	ee Eleocharis recover its dominance	e in this area.
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwelli attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum di	latatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	13	Months since direct seeding:	18
Date:	September 2016		
Comments:	Quadrat and surrounds are qu	uite dry and seem to be in need of	a rain event.
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell: attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	14	Months since direct seeding:	19
Date:	October 2016		
Comments:	No significant changes record	ded this month.	
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:	Casuarina seedlings growing	well. Some individuals up to 40cm	in height.
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell: attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	16	Months since direct seeding:	21
Date:	November 2016		
Comments:	Groundsel has been identifie	d within this quadrat this month.	
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis, <b>B</b>	accharis halimifolia*
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.



Monitoring month:	17	Months since direct seeding:	22
Date:	January 2017		
Comments:	Casuarinas continue to grow well within this quadrat, averaging approximately 1.2m in height.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis, <b>B</b>	accharis halimifolia*
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

<sup>\*</sup> Weed species requires complete eradication to meet the Desired Environmental Outcomes.

Monitoring month:	18	Months since direct seeding:	23
Date:	February 2017		
Comments:	Casuarinas continue to grow well within this quadrat, averaging approximately 1.2m in height.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	19	Months since direct seeding:	24
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
	During the last half of this month, the NWCP received significant rainfall. Access to		
Comments:	the area was limited. Much of the area is waterlogged and functioning as the wetland		
Commence.	_	as continue to grow well within th	is quadrat, averaging
	approximately 1.2m in heigh		
Native species:	_	ris dulcis, Bolboschoenus cardwell	ii, Juncus usitatus,
- тапто органов	Casuarina glauca, Persicaria	attenuata	
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis	
Damage:	Nil - large weather event ass	ociated with Ex-Tropical Cyclone D	ebbie did not result in
Damage.	any damage		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:	Sedges and groundcovers stil	l dominate this quadrat. Casuarina	growth is steady.
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	21	Months since direct seeding:	26
Date:	May 2017		
Comments:	Sedges and groundcovers still dominate this quadrat. Casuarina growth is steady, averaging approximately 2m height.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	22	Months since direct seeding:	27	
Date:	June 2017	June 2017		
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.			
Native species:		Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus, Casuarina glauca, Persicaria attenuata		
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis		
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	75%	
Photo:				



Monitoring month:	23	Months since direct seeding:	28
Date:	July 2017		
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	24	Months since direct seeding:	29	
Date:	August 2017			
Comments:	_	Casuarinas continue to grow in abundance and height. Weedy grasses starting to struggle against native canopy.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell: attenuata	ii, Juncus usitatus,	
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis		
Damage:	Nil			
Native dominance:	65%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation health is steady.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	85%
Photo:			

Monitoring month:	26	Months since direct seeding:	31	
Date:	October 2017			
Comments:	No significant changes have o	occurred this month.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,	
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis		
Damage:	Nil	Nil		
Native dominance:	65%	Percentage vegetation cover:	85%	
Photo:				



Monitoring month:	27	Months since direct seeding:	32	
Date:	November 2017			
Comments:	Small rain events have promo	oted strong vegetative growth.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,	
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis		
Damage:	Nil	Nil		
Native dominance:	65%	Percentage vegetation cover:	85%	
Photo:				

Monitoring month:	28	Months since direct seeding:	33
Date:	December 2017		
Comments:	Casuarinas have increased in biomass this month assisted by increasing temperatures and a number of small rainfall events.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum d	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	85%
Photo:			



Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		
Comments:	Vegetation health is steady.		
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,
Weed species:	Aster subulatus, Paspalum di	ilatatum, Cuphea carthagenesis	
Damage:	Nil		
Native dominance:	70%	Percentage vegetation cover:	85%
Photo:			

Monitoring month:	30	Months since direct seeding:	35	
Date:	February 2018			
Comments:	Casuarina growth continues to close in canopy, increasing shade and decreasing weed biodiversity and biomass.			
Native species:	Ludwigia octovalvis, Eleocha Casuarina glauca, Persicaria	ris dulcis, Bolboschoenus cardwell attenuata	ii, Juncus usitatus,	
Weed species:	Aster subulatus, Cuphea cart	thagenesis		
Damage:	Nil			
Native dominance:	80%	Percentage vegetation cover:	85%	
Photo:				



Monitoring month:	31	Months since direct seeding:	36	
Date:	March 2018	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species. Canopy growth and shading has also assisted in a reduction of weed growth.			
Native species:	1	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,	
Weed species:	Nil	Nil		
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	85%	
Photo:				

Monitoring month:	32	Months since direct seeding:	37
Date:	April 2018		
Comments:	Vegetation health is steady.		
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	85%
Photo:			



Monitoring month:	33	Months since direct seeding:	38
Date:	May 2018		
Comments:	Casuarina growth continues to close in canopy, increasing shade and decreasing weed biodiversity and biomass.		
Native species:	1	ris dulcis, Bolboschoenus cardwelli attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	85%
Photo:			

Monitoring month:	34	Months since direct seeding:	39	
Date:	June 2018			
Comments:	No significant changes this m	onth due to the slowing down of th	ne growing season.	
Native species:	1	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus, Casuarina glauca, Persicaria attenuata, Lomandra longifolia		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	85%	
Photo:				



Monitoring month:	35	Months since direct seeding:	40	
Date:	July 2018			
Comments:	Vegetation growth steady.			
Native species:		Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus, Casuarina glauca, Persicaria attenuata, Lomandra longifolia		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	85%	
Photo:				

Monitoring month:	36	Months since direct seeding:	41
Date:	August 2018		
Comments:	No significant changes within the quadrat this month. Surrounding areas are progressing extremely well with the removal of Camphor Laurels.		
Native species:	1	ris dulcis, Bolboschoenus cardwelli attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	38	Months since direct seeding:	43	
Date:	October 2018	October 2018		
Comments:	Rainfall occurred throughout	the area during this month which	has assisted with the	
Comments.	increase in biomass.			
Native species:		ris dulcis, Bolboschoenus cardwell	ii, Juncus usitatus,	
	Casuarina glauca, Persicaria	attenuata, Lomandra longifolia		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	39	Months since direct seeding:	44
Date:	November 2018		
Comments:	Rapidly increasing temperatures were experienced this month resulting in the exponential growth of vegetation.		
Native species:	1	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	Vegetation growth was stead	y this month.	
Native species:	_	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	41	Months since direct seeding:	46	
Date:	January 2019			
Comments:	Casuarina canopy continues	to close in.		
Native species:		Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus, Casuarina glauca, Persicaria attenuata, Lomandra longifolia		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	Native groundcovers are continuing to thrive which is a positive change for the drainage line on the whole.		
Native species:	1	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:	Terestiage vegetation cover.		



Monitoring month:	43	Months since direct seeding:	48
Date:	March 2019		
Comments:	No significant changes occur	red this month.	
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late much needed watering.	e last month and continued this mo	onth giving the NWCP a
Native species:	1	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	45	Months since direct seeding:	50
Date:	May 2019		
Comments:	Casuarina glauca continues t	o add biomass.	
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few mo	onths has increased plant growth a	ind vigour.
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	increased abundance of nativ	unding area continues to add bioma e grasses such as <i>Imperata cylindi</i>	rica.
Native species:	_	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Native dominance declined d	lue to morning glory presence.	
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Ipomoea indica		
Damage:	Nil		
Native dominance:	90%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Lomandra longifolia and other native groundcovers in the surrounding area are continuing to strengthen in numbers.		
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	50	Months since direct seeding:	55
Date:	October 2019		
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.		
Native species:	Ludwigia octovalvis, Eleocharis dulcis, Bolboschoenus cardwellii, Juncus usitatus, Casuarina glauca, Persicaria attenuata, Lomandra longifolia		
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	51	Months since direct seeding:	56	
Date:	November 2019	November 2019		
Comments:	No significant changes to report.			
Native species:		ris dulcis, Bolboschoenus cardwell: attenuata, Lomandra longifolia	ii, Juncus usitatus,	
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	52	Months since direct seeding:	57	
Date:	December 2019	December 2019		
Comments:	Vegetation growth steady.			
Native species:	_	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,	
Weed species:	Nil			
Damage:	Nil	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	53	Months since direct seeding:	58	
Date:	January 2020			
Comments:	Recent rain is increasing wetland plant vigour.			
Native species:		ris dulcis, Bolboschoenus cardwell: attenuata, Lomandra longifolia	ii, Juncus usitatus,	
Weed species:	Nil			
Damage:	Nil	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:				

Monitoring month:	54	Months since direct seeding:	59	
Date:	February 2020	February 2020		
Comments:	Canopy vegetation growth ar	nd abundance is continuing to add l	biomass.	
Native species:		ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,	
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:				



Monitoring month:	55	Months since direct seeding:	60	
Date:	March 2020			
Comments:	High volumes of rainfall recorded over the past month prohibited site access. Species composition, dominance and damage have been assumed.			
Native species:	_	ris dulcis, Bolboschoenus cardwell attenuata, Lomandra longifolia	ii, Juncus usitatus,	
Weed species:	Nil	Nil		
Damage:	Periodic flooding improves overall ecosystem health			
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:		N/A		



## 4.14 Quadrat 14

Monitoring month:	1	Months since direct seeding:	6	
Date:	September 2015	September 2015		
Comments:	This quadrat is dominated by native Typha. It was selected to determine how other natives are able to compete successfully (or otherwise) with the Typha.			
Native species:	Elaeocharis dulcis, Typha ore	entalis, Ludwigia octovalvis		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	50%	
Photo:				

Monitoring month:	2	Months since direct seeding:	7	
Date:	October 2015	October 2015		
Comments:		This area continues to shows leaning toward Typha however no weeds have been identified and the quadrat remains 100% native.		
Native species:	Elaeocharis dulcis, Typha ore	Elaeocharis dulcis, Typha orentalis, Ludwigia octovalvis		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	50%	
Photo:	Nil			

Monitoring month:	3	Months since direct seeding:	8	
Date:	November 2015			
Comments:		No weeds have been identified and the quadrat remains 100% native. Typha levels remain stable. A Cyperus species has also been identified.		
Native species:	Elaeocharis dulcis, Typha ore	Elaeocharis dulcis, Typha orentalis, Ludwigia octovalvis. Cyperus polystachyos		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	50%	
Photo:	Nil			



Monitoring month:	4	Months since direct seeding:	9	
Date:	December 2015			
Comments:	, , ,	Typha beginning to show signs of distress here due to likely effect of dry ground with water having receded some time ago.		
Native species:	Elaeocharis dulcis, Ludwigia	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis		
Weed species:	Aster subulatus, Paspalum dilatatum			
Damage:	Nil			
Native dominance:	66%	Percentage vegetation cover:	50%	
Photo:	Nil			

Monitoring month:	5	Months since direct seeding:	10	
Date:	January 2016	January 2016		
Comments:	As per last month, the Typha is really beginning to struggle as a result of the dry conditions. I expect it'll go into a period of dormancy (this may have already commenced) and will only regain vigour once rain arrives.			
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis			
Weed species:	Cirsium vulgare, Aster subulatus, Paspalum dilatatum			
Damage:	Nil			
Native dominance:	Percentage vegetation cover: 50%			
Photo:	Nil			

Monitoring month:	6	Months since direct seeding:	11	
Date:	February 2016			
Comments:	The eastern side is the most isolated area of the project with regard to native tree recruitment potential, and an obvious lack of tree seedlings recruiting over the entire eastern side was observed. This quad reflects the lack of tree species being recorded in the eastern area. Typha continues to dominate native cover, however this dominance is finely balanced with weeds making up almost 50% of coverage. This quad is another good example of how standing water controls weeds in wetlands and the effect drying out may have on weed growth.			
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis			
Weed species:	Cirsium vulgare, Aster subul	Cirsium vulgare, Aster subulatus, Paspalum dilatatum		
Damage:	Nil			
Native dominance:	57%	Percentage vegetation cover:	80%	



Photo:	
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Monitoring month:	7	Months since direct seeding:	12	
Date:	March 2016			
Comments:	This eastern side is the most isolated area of the project with regard to native tree recruitment potential, and an obvious lack of tree seedlings recruiting over the entire eastern side was observed.			
Native species:	Elaeocharis dulcis, Ludwigia	octovalvis, Cyperus polystachyos,	Typha orientalis	
Weed species:	Cirsium vulgare, Aster subul	Cirsium vulgare, Aster subulatus, Paspalum dilatatum		
Damage:	Nil			
Native dominance:	57%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	8	Months since direct seeding:	13
Date:	April 2016		
Comments:	This eastern side is the most isolated area of the project with regard to native tree recruitment potential, and an obvious lack of tree seedlings recruiting over the entire eastern side was observed.		
Native species:	Elaeocharis dulcis, Ludwigia	octovalvis, Cyperus polystachyos,	Typha orientalis
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	60%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	9	Months since direct seeding:	14	
Date:	May 2016	May 2016		
Comments:	Typha continues to grow wel	l within this quadrat.		
Native species:	Elaeocharis dulcis, Ludwigia	octovalvis, Cyperus polystachyos,	Typha orientalis	
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum		
Damage:	Nil			
Native dominance:	60%	Percentage vegetation cover:	80%	
Photo:				



Monitoring month:	10	Months since direct seeding:	15
Date:	June 2016		
Comments:	No significant changes record	ded this month.	
Native species:	Elaeocharis dulcis, Ludwigia	octovalvis, Cyperus polystachyos,	Typha orientalis
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance :	60%	Percentage vegetation cover:	80%
Photo:			

Monitoring month:	11	Months since direct seeding:	16
Date:	July 2016		
Comments:	This quadrat fared well over	the winter period and continues to	grow well.
Native species:	Elaeocharis dulcis, Ludwigia	octovalvis, Cyperus polystachyos,	Typha orientalis
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	60%	Percentage vegetation cover:	80%
Photo:			



Monitoring month:	12	Months since direct seeding:	17
Date:	August 2016		
Comments:	<i>Typha</i> is becoming dominant in the area. The positive aspect to this would be its nesting habitat value for water birds over the wet season.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	13	Months since direct seeding:	18
Date:	September 2016		
Comments:	Typha continues to grow wel	l within this quadrat.	
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	65%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	14	Months since direct seeding:	19
Date:	October 2016		
Comments:	Typha is growing strongly and	d is dominant over all other specie	S.
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	75%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	15	Months since direct seeding:	20
Date:	November 2016		
Comments:	No significant changes record	ded this month.	
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	75%
Photo:			



Monitoring month:	16	Months since direct seeding:	21
Date:	December 2016		
Comments:	A high visibility flag and extended pole was added to the quadrate stake this month for ease of identification. Typha continues to grow well.		
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	80%	Percentage vegetation cover:	75%
Photo:			

Monitoring month:	17	Months since direct seeding:	22	
Date:	January 2017			
Comments:	Typha continues to grow wel	l and dominates this quadrat.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	85%	
Photo:				



Monitoring month:	18	Months since direct seeding:	23
Date:	February 2017		
Comments:	Typha continues to dominate	this quadrat.	
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	85%
Photo:			

Monitoring month:	19	Months since direct seeding:	24
Date:	March 2017 (NB: monitoring event occurred early April due to inaccessibility)		
Comments:	During the last half of this month, the NWCP received significant rainfall. Access to the area was limited. Much of the area is waterlogged and functioning as the wetland it is designed to be (background of photo). Typha still continues to dominate this quadrat.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subulatus, Paspalum dilatatum		
Damage:	Nil - large weather event associated with Ex-Tropical Cyclone Debbie did not result in any damage		
Native dominance:	85%	Percentage vegetation cover:	85%
Photo:			



Monitoring month:	20	Months since direct seeding:	25
Date:	April 2017		
Comments:		rlogged and functioning as the we	tland it is designed to
	be.	and the Comment of the land	To the section to the Const
Native species:	appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typna orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	85%
Photo:			

Monitoring month:	21	Months since direct seeding:	26	
Date:	May 2017			
Comments:	Typha still continues to domi	inate this quadrat.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum		
Damage:	Nil			
Native dominance:	85%	Percentage vegetation cover:	85%	
Photo:				



Monitoring month:	22	Months since direct seeding:	27
Date:	June 2017		
Comments:	No significant changes this month. It is anticipated growth will slow moving into the colder months.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	85%	Percentage vegetation cover:	85%
Photo:			

Monitoring month:	23	Months since direct seeding:	28	
Date:	July 2017	July 2017		
Comments:	An additional length of conduit was added to the flagging pole this month due to the increasing height of vegetation. Vegetation health is steady.			
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum		
Damage:	Nil			
Native dominance:	95%	Percentage vegetation cover:	85%	
Photo:				



Monitoring month:	24	Months since direct seeding:	29
Date:	August 2017		
Comments:	Native dominance has reached 100%, however noted that this is primarily Typha.		
Native species:	Diversity is decreasing due to Typha abundance.  Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subulatus, Paspalum dilatatum		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	25	Months since direct seeding:	30
Date:	September 2017		
Comments:	Vegetation health is steady.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:	Tercentage vegetation cover. 90%		



Monitoring month:	26	Months since direct seeding:	31
Date:	October 2017		
Comments:	No significant changes occur	red this month.	
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	27	Months since direct seeding:	32
Date:	November 2017		
Comments:	Quadrat still dominated by dense Typha, which will soon outcompete other native and weed species.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	28	Months since direct seeding:	33
Date:	December 2017		
Comments:	•	o months have increased the water	rlogging of this area,
Commences.	promoting strong vegetation		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	29	Months since direct seeding:	34
Date:	January 2018		
Comments:	Vegetation health is steady.		
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	30	Months since direct seeding:	35	
Date:	February 2018			
Comments:	Casuarina seedlings are becoming evident over the top of the Typa. This marks the commencement for a change in biodiversity for this quadrat. Species diversity will increase over time as the casuarina canopy forms.			
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex	
Weed species:	Cirsium vulgare, Aster subul	Cirsium vulgare, Aster subulatus, Paspalum dilatatum		
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	90%	
Photo:	Teleficage vegetation cover. 70%			

Monitoring month:	31	Months since direct seeding:	36
Date:	March 2018		
Comments:	A significant amount of rain fell at the end of last month resulting in standing water for approximately 3 weeks. This has acted as a natural weed control for a number of the weed species.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus	octovalvis, Cyperus polystachyos,	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	32	Months since direct seeding:	37
Date:	April 2018		
Comments:	-	ense Typha, however other natives	-
Native species:	density and biomass, including the addition of Casuarina glauca.  Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus, Casuarina glauca		
Weed species:	Cirsium vulgare, Aster subul		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	33	Months since direct seeding:	38
Date:	May 2018		
Comments:	Vegetation health is steady.		
Native species:	Elaeocharis dulcis, Ludwigia appressa, Juncus usitatus, Co	octovalvis, Cyperus polystachyos, asuarina glauca	Typha orientalis, Carex
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	95%
Photo:			



Monitoring month:	34	Months since direct seeding:	39
Date:	June 2018		
Comments:	No significant changes this m	onth due to the slowing down of the	he growing season.
Native species:	Elaeocharis dulcis, Ludwigia octovalvis, Cyperus polystachyos, Typha orientalis, Carex appressa, Juncus usitatus, Casuarina glauca		
Weed species:	Cirsium vulgare, Aster subul	atus, Paspalum dilatatum	
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	35	Months since direct seeding:	40
Date:	July 2018		
Comments:	Winter has had a notable eff	ect on species diversity within this	quadrat.
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	36	Months since direct seeding:	41	
Date:	August 2018			
Comments:	Casuarina seedlings continue	to grow well and add biomass.		
Native species:	Typha orientalis, Casuarina	glauca		
Weed species:	Nil			
Damage:	Nil	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	37	Months since direct seeding:	42
Date:	September 2018		
Comments:	Surrounding areas are contin	uing to grow well since the remova	al of Camphor Laurels.
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			



Monitoring month:	38	Months since direct seeding:	43
Date:	October 2018		
Comments:	Rainfall occurred throughout the area during this month which has assisted with the increase in biomass.		
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	39	Months since direct seeding:	44
Date:	November 2018		
Comments:	Vegetation growth was stead	y this month.	
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:	Terentage vegetation cover.		



Monitoring month:	40	Months since direct seeding:	45
Date:	December 2018		
Comments:	No significant changes this m	nonth.	
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	90%
Photo:			

Monitoring month:	41	Months since direct seeding:	46
Date:	January 2019		
Comments:	Typha still the dominant spe	cies.	
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	42	Months since direct seeding:	47
Date:	February 2019		
Comments:	Casuarina development is sti	ll strong.	
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	43	Months since direct seeding:	48	
Date:	March 2019			
Comments:	No significant changes this m	onth.		
Native species:	Typha orientalis, Casuarina s	glauca		
Weed species:	Nil			
Damage:	Nil	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				



Monitoring month:	44	Months since direct seeding:	49
Date:	April 2019		
Comments:	Rainfall events increased late last month and continued this month giving the NWCP a much needed watering.		
Native species:	Typha orientalis, Casuarina g	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:	100%  Percentage vegetation cover: 100%		

Monitoring month:	45	Months since direct seeding:	50	
Date:	May 2019			
Comments:	Casuarina glauca continues t Typha.	Casuarina glauca continues to add biomass and will soon start outcompeting the Typha.		
Native species:	Typha orientalis, Casuarina g	glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:	100%  Percentage vegetation cover: 100%			



Monitoring month:	46	Months since direct seeding:	51
Date:	June 2019		
Comments:	Rainfall over the past few me	onths has increased plant growth a	nd vigour.
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	47	Months since direct seeding:	52
Date:	July 2019		
Comments:	Casuarina growth continues t	o increase in height over the Typh	a.
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	48	Months since direct seeding:	53
Date:	August 2019		
Comments:	Vegetation growth is steady.		
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	49	Months since direct seeding:	54
Date:	September 2019		
Comments:	Dianella brevipedunculata noted in the surrounding area for the first time for this quadrat.		
Native species:	Typha orientalis, Casuarina g	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:	Telectitage vegetation cover.		



Monitoring month:	50	Months since direct seeding:	55	
Date:	October 2019			
Comments:	Extended drought conditions are starting to take their toll with the extreme slowing of plant growth.			
Native species:	Typha orientalis, Casuarina	glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:	100% Percentage vegetation cover: 100%			

Monitoring month:	51	Months since direct seeding:	56	
Date:	November 2019			
Comments:	No significant changes record	led.		
Native species:	Typha orientalis, Casuarina g	glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:	100% Percentage vegetation cover: 100%			



Monitoring month:	52	Months since direct seeding:	57
Date:	December 2019		
Comments:	Canopy growth continues to	increase.	
Native species:	Typha orientalis, Casuarina g	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			

Monitoring month:	53	Months since direct seeding:	58
Date:	January 2020		
Comments:	Quadrat is continuing to tran	sition.	
Native species:	Typha orientalis, Casuarina	glauca	
Weed species:	Nil		
Damage:	Nil		
Native dominance:	100%	Percentage vegetation cover:	100%
Photo:			



Monitoring month:	54	Months since direct seeding:	59	
Date:	February 2020	February 2020		
Comments:	Typha has significantly declin	ned and is now almost entirely abs	ent.	
Native species:	Typha orientalis, Casuarina	glauca		
Weed species:	Nil			
Damage:	Nil			
Native dominance:	100%	Percentage vegetation cover:	100%	
Photo:				

Monitoring month:	55													
Date:	March 2020		,											
Comments:	_	rded over the past month prohibite damage have been assumed.	ed site access. Species											
Native species:	Typha orientalis, Casuarina	Typha orientalis, Casuarina glauca												
Weed species:	Nil Periodic flooding improves overall ecosystem health													
Damage:														
Native dominance:	100%	100%												
Photo:		N/A												



Appendix A: Supporting Data



### NORTH WEST CONSERVATION PARK

SUMMARY OF SPECIES IDENTIFIED ON SITE						0 =				tified d on s		resen	t														
Shaded species names = included in seed mix						1 .	-	lue	iiiiiie	u on s	SILC																
		SEP	ОСТ	NOV	DEC	NA.	a P	APR	MAY	NO.	크	AUG	SEP OCT	NOV	DEC	8	MAR	APR	N N	Ιď	AUG	e S	No.	EC	NAL	AAR MAR	APR
			<u> </u>	15						201										017							
CANOPY	Constituted Course	0	-	0	0	0 0				0	<b>2</b>	20 0			0 0	-	0	0 0		<b>2</b>	0 (	20 47		<b>2</b>	0 4	n @	•
Corymbia citriodora Corymbia intermedia	Spotted Gum Pink Bloodwood		9		9	0 0			9			3) (C			9 9 9 9	9		9 C		9		3) (2 3) (2		9			
Eucalyptus crebra	Narrow-leaved Ironbark		3		ä	0 0			0			9 6			9 9	0		9 6				9 6		9		9 9	
Eucalyptus exserta	Qld Peppermint Gum		8		ø.	8 8	_		9		_	9 6			9 9	0		9 6				9 6		9	0		9
Eucalyptus microcorys	Tallowwood	3	(3)	8	9	9	0	9	9	9	9	9	9	9	9 9	9	9	9	9	9	9	9	9	9	9	9	9
Eucalyptus pilularis	Blackbutt		(3)		8	<b>3</b>			9	_	_	9			<b>3</b>	9		9				9		9	9	_	9
Eucalyptus robusta	Swamp Mahogany		9		9	0			9			9 6			9 9	9		9 6		The second		9 0		9		9 9	
Eucalyptus tereticornis	Queensland Blue Gum		9		<b>3</b>	0 0			<b>3</b>			9 6			9 9 3 8	0		9 C				3 (2 3) (2		9		9 9 3 8	9
Ficus obliqua Ficus rubiginosa	Small-leaved Fig Port Jackson fig		8		8	0 0			8		_	363			3 8 3 8	8		3 6 3 6			_	3 8		8		3 3	8
Livistona australis	Cabbage-tree Palm		ĕ		0	0 0			0		_	3 6			9 9	0		9 6				2 6		0		9 0	Ø
Lophostemon confertus	Queensland Brush Box		8		3	0 0			3		_	3 6		_	3 3	8		3 6		3	_	3 8		3		3 3	8
Melaleuca leucadendra	Weeping Paperbark	(3)	8	(3)	3	8	0	0	(3)	0	0 (	3 6	0	(3)	3 3	(3)	(3)	3 6	0	(3)	0	3 8	0	(3)	0	3 3	8
Melaleuca quinquenervia	Broad-leaved Paperbark		9		9	<b>9</b>			9			9 6			9 9	9		9				<b>3</b>		9	-	9	
Melaleuca salicina	White Bottlebrush		0		0	0			9			9 6			9 9	9		9 6				9 6		9		9 9	9
Melaleuca salignus	Willow Bottlebrush		8		<b>3</b>	8 8			9			9 6			9 9	9		9 C				9 0		9		9 9	
Melaleuca viminalis	Weeping Bottlebrush	8	8	8	w	8		9	9	9		9 6	9	9	9 9	9	9	9 6	9	9	9 (	9 0	9	9	9 (	9 9	9
MIDSTORY																											
Acacia aulococarpa	Golden Flowered Salwood	0	3	0	3	0 0	0	0	8	3 (	3 6	9 6	9	0	9 9	0	0	9 6	9	9	0 (	<b>3</b> 0	0	9	0 (	9 9	9
Acacia cincinata	Late-flowering Hickory Wattle	9	9		Ø	0			Ø			9			9 9	9		9				9 0		9		0	
Acacia concurrens	Black Wattle	9	9	9	9	Ø 0	9	9	9	9	9	3	9	9	3	9	9	9	9	9	9	9	9	9	9	9	9
Acacia disparrima	Brush Ironbark		9		9	0 0			9	_	_	9			9 9	9		9 6				9 0		9	9	9	9
Acacia falcata	Sickle Wattle		9		9	9 9			9			9 6			9 9	9		9 6		9		9 6		9	9	9	9
Acacia fimbriata	Brisbane Golden Wattle		9		9	9 9			9			9 6	and the same of		9 9	9		9 6		The second		9 0		9	Control Co.	9 9	9
Acacia implaya	Prickly Moses		9		<b>3</b>	0 0			<b>3</b>			9 ( 3 (			9 9 3 8	0		9 C				3 (2 3) (2		<b>3</b>		9 9 3 8	<b>3</b>
Acacia implexa	Hickory Wattle	0	<b>3</b>						8							0						3 6		0	_		0
Acacia leiocalyx Acacia melanoxylon	Black Wattle Austrlian Blackwood	8	8		9	0 0			9			3 C			9 9 9 9	9		9 C				9 6		0			
Acacia oshanesii	Irish Wattle		8	100000	3	0 0			0			9 6		-	9 9	9	-	9 6			-	9 6		9	0	9 9	Ø
Acacia penninervis	Hickory Wattle		8		0	0 0			3		_	3 6			3 3	0		3 6				3 8		(3)	0	3 3	3
Allocasuarina littoralis	Black Sheoak		8		9	0 0	_		9		9 6	9 6			9 9	9	0	9 6				9 0		9		0	9
Alphitonia excelsa	Red Ash		(3)	(3)	3	0	9	9	9	9	9	9	9	9	9 9	9	9	9	9	9	9	9 0	9	9	9	0	9
Banksia robur	Swamp Banksia		(3)		(3)	<b>8</b>	0	(3)	(3)	<b>3</b>	3 (	3 6	3		3 3	(3)	(3)	3 6	0	(3)	0	3 8	0	(3)	0	3	(3)
Banksia spinulosa	Hairpin Banksia		(3)		(3)	<b>8</b>	_		(3)		_	3 6			3 3	(3)		3 6				3 8		(3)		3 3	8
Casuarina glauca	Swamp Sheoak		9		9	0 0			9		_	9 6			9 9	9		9 6		9		9 0		9	9	9 9	9
Commersonia bartramia	Brown kurrajong		8		8	0 0	_		0		_	3 6			3 3	8		3 6		0		3 6		8	0 (	3 3	8
Dodonaea triquetra Dodonaea viscosa	Hop Bush	9	9		9	0 0			9	_	_	3 C			9 9 9 9	9		9 6 9 6		9		3 C		9			9
Hibiscus diversifolius	Sticky Hop Bush Swamp Hibiscus		3		3	0 0			9			9 6			9 9	9		9 6				9 6		9	Charles Co.		9
Hovea acutifolia	Hovea	Ö	8		8	0 0			0			9 6			9 9	0		9 6				3 6		9		9 0	0
Indigofera australis	Australian Indigo		Ø		Ø	0 0			0			9 6			9 9	0		9 6				9 6		0		9 9	0
Kennedia rubicunda	Dusky Coral Pea		9	-	9	0			0			9 6			9 9	9		9 6		9		9 0		9		0	9
Leptospermum polygalifolium subsp. cismontanum	Wild May	3	(3)		8	8 8	0	3	(3)	3	3 (	3 6	3	3	3 8	9	9	9	9	9	9	9	9	9	9	9	9
Ludwigia octovalvus	Native Willow Primrose		9		9	<b>9</b>			9			3			9 9	9		9				9		9		9	9
Oxylobium robustum	Golden Shaggy Pea		(3)		(3)	Ø 6			9			9 6			9 9	9		9 6				9 0		9		9	
Pultenaea retusa	Notched Bush-pea		8		<b>3</b>				0			9 6			9 9	9		9 6				3 C		9			9
Pultenaea villosa	Hairy Pea Bush	0	0	0	0	0 0	, 6	0				9 6			9 9	•	9	9 6				9 0			9 (		
GROUNDCOVER																											
Baumea articulata	Jointed Twig-rush	9	9		9	Ø Ø			9	9		<b>9</b> 6		9	<b>3 9</b>	9	9	9 6	9	9		<b>3 4</b>	9	9	9	9	
Bolboschoenus cardewellii	Marsh Club-rush	9	9		9	<b>9</b>				9		9			9 9	9		9 6	9		<b>(2)</b>	9	9	9	9	9	9
Canavalia rosea	Beach Bean		9		9	9 9			9			9 6			9 9			9 6				9 0		9		9 9	
Capillipedium spicigerum	Scent Top Grass		9		9	0 0			0			9 6			9 9 9 9	9		9 6				3 C					
Carex appressa Cladium procerum	Tall Sedge Leafy Twig-rush		<b>3</b>		3	0 0			8			3 6			3 3	3		3 6				3 6		3		3 3	
Cyperus exaltatus	Umbrella Sedge		9		0	0 0			0		_	9 6			9 9			9 6				9 6			_	9	
Cyperus polystachyos	Bunchy Sedge		9		0	0 0			0			9 6			9 9	9		9 6				9 6				9 9	
Dianella caerulea var assera	Blue Flax Lilly		3		3	0 0			0			3 6			3 8	0		3 6				3 6				9 0	
Eleocharis dulcis	Water Chestnut	9	9		9	9 9			9			9	9		9 9	9		9 6				9 9		9		9	
Eleocharis equisetina	Spike Rush		(3)		(3)	0 0			9			9 6			9 9			9 6				9 0				9	
Facinia nodosa	Knobby Club-rush		8		(3)	9 9			9			9 6			9 9	9		9 6				9 6				9	
Fimbristylis ferruginea	Rusty Sedge	9	9		9	0 0			9		_	9 6			9 9	9	_	9 6				9 0				9 9	
Gahnia aspera	Rough Saw-sedge Tall saw-sedge	8	8		8	8 8			8			36			3 8 3 8	8		3 6 3 6				3 6		8		3 (3 3 (3	
Gahnia clarkii Gahnia sieberiana	Red-fruit Saw-sedge		8		8	8 8			8			36			38	8		36				3 6	_			38	
Gannia sieberiana Grevillea robusta	Silky Oak		8		8	8 8			8			36			38	8		36				3 6		8		3 3	8
Heteropogon contorus	Black Speargrass		8		8	0 0			0		_	9 6			9 9	0		9 6				9 6		9			0
Isolepis inundata	Swamp Club-rush	0	9		0	0 0			0			9 6			9 9	0		9 6				9 6		9		9	0
Jagera pseudorhus	Foambark	3	8	8	3	8 8	0		(3)	<b>3</b>	0 (	3 6	0		3 8	3		3 6				3 6		0		3 3	
Juncus krausii	Salt Marsh Rush	3	(3)	8	8	8 8	8	3	(3)	3	3 (	3 6	3	3	3 8	9		9 6		9	9	9		9		9	9
Juncus prismatacarpa	Branching Rush		9		9	0			9			9 6			9 9	9		9 6				9 9		9		9	
Juncus usitatus	Common Rush	9	9		9	9 9			9			9 6			9 9	9		9 6				9 0		9		9	9
Lomandra histrix	Spiny-head Mat-rush		8		0	0 0			8			3 6			3 3	8		3 6				3 6				3 3	
Lomandra longifolia	Long-leaved Mat-rush		8		0	0 0			0			9 6			9 9	0		9 C				9 6		0		9 9	
Lophostemon suaveolens Microlaena stinoides	Swamp Box Weening Grass		8		8	8 8			<b>3</b>			3 6			3 8	<b>3</b>		3 6				3 C		( <u>3</u> )		3 3	
Microlaena stipoides Pennesetum alopeceriodes	Weeping Grass Swamp Foxtail		0		0	0 0			9			9 6			9 9			9 6				9 6					
Persicaria decipiens	Slender Knotweed		3		0	0 0			9			9 6			9 9	9		9 6				9 6					
Persicaria attenuata	Smart Weed		Ø		0	0			9			9 6			9 9			9 6				9 6				9	
Parsonsia straminea	Monkey Rope		8		3	0 0			9			9 6			9 9	9		9 6				9 6		9		0	0
Philydrum lanuginosum	Frogsmouth		9		9	0 0			9			9			9 9			9				9 6				9	
Schoenoplectus mucronatus	Bog Bulrush		9		9	0			9		_	9 6			9 9	9		9				9 0				0	
Schoenoplectus validus	River club-rush	(3)	(3)		(3)	0 0			9			9 6			9 9			9 6				9 0				9	
Sporobolus virginicus	Saltwater Couch		9		9	0			9			9 6			9 9	9		9 6				9 9		9		9	
Typha orientalis	Cumbungi		9		9	0			9			9 6			9 9			9 6				9 9				9	
Zoysia macrantha	Prickly couch	8	8	8	3	8 8	0	0	8	(3)	3	9		<b>3</b>	3	9	<b>9</b>	9	9	9	9 (	9	9	9	9	9	

# NORTH WEST CONSERVATION PARK SUMMARY OF SPECIES IDENTIFIED ON SITE

SUMMARY OF SPECIES IDENTIFIED ON SITE		
Shaded species names = included in seed mix		
		NO   NO   NO   NO   NO   NO   NO   NO
CANOPY		2018 2019 2020
Corymbia citriodora	Spotted Gum	
Corymbia intermedia	Pink Bloodwood	
Eucalyptus crebra Eucalyptus exserta	Narrow-leaved Ironbark Qld Peppermint Gum	
Eucalyptus exsertu  Eucalyptus microcorys	Tallowwood	
Eucalyptus pilularis	Blackbutt	000000000000000000000
Eucalyptus robusta	Swamp Mahogany	
Eucalyptus tereticornis	Queensland Blue Gum	
Ficus obliqua Ficus rubiginosa	Small-leaved Fig Port Jackson fig	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Livistona australis	Cabbage-tree Palm	
Lophostemon confertus	Queensland Brush Box	
Melaleuca leucadendra	Weeping Paperbark	
Melaleuca quinquenervia	Broad-leaved Paperbark	
Melaleuca salicina	White Bottlebrush	
Melaleuca salignus Melaleuca viminalis	Willow Bottlebrush Weeping Bottlebrush	
Weitheach virillians	weeping bottlebrasii	
MIDSTORY		
Acacia aulococarpa	Golden Flowered Salwood	0000000000000000000000
Acacia cincinata	Late-flowering Hickory Wattle	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Acacia concurrens	Black Wattle	
Acacia disparrima	Brush Ironbark	
Acacia falcata	Sickle Wattle	
Acacia fimbriata Acacia hubbardiana	Brisbane Golden Wattle Prickly Moses	
Acacia implexa	Hickory Wattle	
Acacia leiocalyx	Black Wattle	
Acacia melanoxylon	Austrlian Blackwood	
Acacia oshanesii	Irish Wattle	
Acacia penninervis	Hickory Wattle	000000000000000000000000
Allocasuarina littoralis	Black Sheoak	
Alphitonia excelsa Banksia robur	Red Ash Swamp Banksia	
Banksia spinulosa	Hairpin Banksia	
Casuarina glauca	Swamp Sheoak	
Commersonia bartramia	Brown kurrajong	
Dodonaea triquetra	Hop Bush	
Dodonaea viscosa	Sticky Hop Bush	
Hibiscus diversifolius	Swamp Hibiscus	
Hovea acutifolia Indigofera australis	Hovea Australian Indigo	
Kennedia rubicunda	Dusky Coral Pea	
Leptospermum polygalifolium subsp. cismontanum	Wild May	
Ludwigia octovalvus	Native Willow Primrose	
Oxylobium robustum	Golden Shaggy Pea	
Pultenaea retusa Pultenaea villosa	Notched Bush-pea Hairy Pea Bush	
	,	
GROUNDCOVER		
Baumea articulata	Jointed Twig-rush	
Bolboschoenus cardewellii	Marsh Club-rush	
Canavalia rosea	Beach Bean	
Capillipedium spicigerum	Scent Top Grass	
Carex appressa Cladium procerum	Tall Sedge Leafy Twig-rush	
Cyperus exaltatus	Umbrella Sedge	
Cyperus polystachyos	Bunchy Sedge	
Dianella caerulea var assera	Blue Flax Lilly	
Eleocharis dulcis	Water Chestnut	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Eleocharis equisetina	Spike Rush Knobby Club-rush	
Facinia nodosa Fimbristylis ferruginea	Rusty Sedge	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Gahnia aspera	Rough Saw-sedge	
Gahnia clarkii	Tall saw-sedge	
Gahnia sieberiana	Red-fruit Saw-sedge	
Grevillea robusta	Silky Oak	00000000000000000000000000
Heteropogon contorus	Black Speargrass	
Isolepis inundata	Swamp Club-rush	
Jagera pseudorhus Juncus krausii	Foambark Salt Marsh Rush	
Juncus prismatacarpa	Branching Rush	
Juncus usitatus	Common Rush	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lomandra histrix	Spiny-head Mat-rush	
Lomandra longifolia	Long-leaved Mat-rush	
Lophostemon suaveolens	Swamp Box	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Microlaena stipoides Pennesetum alopeceriodes	Weeping Grass Swamp Foxtail	
Persicaria decipiens	Slender Knotweed	
Persicaria attenuata	Smart Weed	
Parsonsia straminea	Monkey Rope	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Philydrum lanuginosum	Frogsmouth	
Schoenoplectus mucronatus	Bog Bulrush	
Schoenoplectus validus	River club-rush	0000000000000000000000
Sporobolus virginicus Tunha orientalis	Saltwater Couch	
Typha orientalis Zoysia macrantha	Cumbungi Prickly couch	
Loysia illuctullulu	Prickly couch	

#### NORTH WEST CONSERVATION PARK

SUMMARY OF WEED SPECIES IDENTIFIED ON SITE

0 = 🔕 Not identified as present

						1 =				d on	site																			
		SEP	OCT	NOV	띪	NA B	MAR	APR	MAY	N N	╡┃	AUG	SEP OCT	NOV	DEC	ᇹ	FEB	APR	MAY	S S	뒬	AUG	SEP SEP	S S	DEC	3	8 5	APR	MAY	N I
		<u>~</u>			<u> </u>	*   :	<u>   S</u>	₹	≥			<u> ₹</u>  ₹	<u>s   o</u>	) <u>  ž</u>	<u> </u>		፲   ≥	[   ₹	≥			<u> </u>	<u>v   c</u>	)   ž	<u> </u>	=	<u> </u>	≦   ₹	≥	
			20	15						20:	16									20	17									2018
WEEDS (TO BE ERADICATED)																														
Baccharis halimifolia	Groundsel Bush	(3)		9	9	9	9		9	9	9	9	9	9	9	9	9	9	(3)	8	3	3 (	3 8	(3)	9	9	<b>3</b>	(3)	(3)	<b>8</b>
Ipomea cairica	Mile-a-minute	(3)	(3)	<b>3</b> (	3 6	9 (3	0	8	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	8	3	3 (	3 8	(3)	(3)	(3)	3 6	(3)	(3)	<b>8</b>
Lantana camara	Lantana	(3)	(3)	<b>3</b> (	3 6	9 (3	0	(3)	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	(3)	3	3 (	3 8	(3)	(3)	3	3 6	(3)	(3)	<b>3 3</b>
Mimosa pudica	Sensitive Plant	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	0	9	9	9	9	3 (	3 8	(3)	(3)	3	3 6	(3)	(3)	<b>3 3</b>
Solanum chrysotrichum	Giant Devil's Fig	(3)	(3)	<b>3</b> (	3 6	9 (3	0	(3)	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	(3)	3	3 (	3 8	(3)	(3)	3	3 6	(3)	(3)	<b>3 3</b>
Solanum mauritianum	Wild Tobacco	8	8	<b>3</b> (	3 6	9 8	0	8	8	8	<b>3</b> (	3 6	3 (3	8	8	8	3 8	(3)	8	8	8	3 (	3 8	8	(3)	8	3 6	8	8	<b>8 8</b>
WEEDS (OTHER)																														
Ageratum houstonianum	Blue Billygoat Weed	8	8	<b>3</b> (	3 6	9 (3	0	(3)	8	3	<b>3</b> (	3 6	3 3	8	(3)	8	3 8	(3)	(3)	(3)	3	3 (	3 (3	(3)	(3)	3	3 6	0	8	<b>3</b>
Asclepiascurassa vica	Red Cotton Bush	(3)	(3)	<b>3</b> (	3 6	9 (3	0	8	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	8	3	3 (	3 8	(3)	(3)	(3)	3 6	(3)	(3)	<b>8</b>
Aster subulatus	Aster	(3)	(3)	9	9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Axonopus sp.	Carpet Grass			9	9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Brachiaria decumbens	Signal Grass	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	0	9	9	9	9	3	9	9		9	9	9	9	9
Centella asiatica	Pennywort	(3)	(3)	(3)	3	9	0	(3)	8	3	<b>3</b>	9	0	9	9	9	9	9	9	9	9	3	9	9	9	9	9	9	9	9
Conyza bonariensis	Flax-leaf Fleabane	(3)	(3)	<b>3</b> (	3 6	9 (3	0	8	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	8	3	3 (	3 8	(3)	(3)	(3)	3 6	(3)	(3)	<b>8</b>
Conyza sumatrensis	A Fleabane	(3)	(3)	<b>3</b> (	3 6	9 (3	0	8	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	9	9	9	9	9	9	9	9	9	9	<b>3</b>	(3)	(3)	<b>8</b>
Cirsium vulgare	Spear Thistle	(3)		9	9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Cuphea carthagenesis	Cuphea			9	9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Cynondon dactylon	Bermuda Grass	(3)	(3)	<b>3</b> (	3 6	9 (3			9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Gomphocarpus physocarpus	Balloon Cotton Bush			9	9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Lolium multiflorum	Annual Ryegrass	9		<b>9</b>	3 6	9 8	0	(3)	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	(3)	3	3 (	3 8	(3)	(3)	3	3 6	(3)	(3)	<b>8</b>
Nymphaea spp.	Lotus			9	9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Onopordum acanthium	Scotch Thistle	(3)	(3)	<b>3</b> (	3 6	9 (3	0	8	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	8	3	3 (	3 8	(3)	(3)	(3)	3 6	(3)	(3)	<b>8</b>
Paspalum dilatatum	Paspalum	(3)	(3)	<b>3</b>	9	9	9		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Senecio madagascariensis	Fireweed		(3)	<b>3</b> (	3 6	9 (3	0	8	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	8	3	3 (	3 8	(3)	(3)	(3)	3 6	(3)	(3)	<b>8</b>
Sida cordifolia	Flannel Weed	(3)	(3)	<b>3</b> (	3 6	9 (3	0	8	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	8	3	3 (	3 8	(3)	(3)	(3)	3 6	(3)	(3)	<b>8</b>
Sida rhombifolia	Paddy's Lucerne	(3)	(3)	(3)	3 6	0	0	(3)	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	(3)	3	3 (	3 8	8	(3)	3	3 6	(3)	(3)	<b>3</b>
Solanum americanum	American Black Nightshade	(3)	(3)	(3)	3 6	0	0	(3)	(3)	3	<b>3</b> (	3 6	3 3	(3)	(3)	3	3 8	(3)	(3)	(3)	3	3 (	3 8	8	(3)	3	3 6	(3)	(3)	<b>3</b>
Sonchus oleraceus	Milk Thistle	(3)	(3)	(3)	3	9	9	9	9	9	9	9	0	9	9	9	9	9	9	9	9	3	9	9	9	9	9	9	9	9
Verbena bonariensis	Purpletop	8	8	0	3 6	9 8	0	8	8	8	<b>8</b>	3 6	3 (3	8		9	9	9		9	9	9	9	9	9	9	9	9	9	9 9

## NORTH WEST CONSERVATION PARK SUMMARY OF WEED SPECIES IDENTIFIED ON SITE

		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	S S	크	AUG	SEP	ОСТ	NOV	DEC	NAL	FEB	MAR	APR	MAY	Ž :	<u> </u>	AUG SEP	50	NOV	DEC
												2(	019											2020	0				
WEEDS (TO BE ERADICATED)																													
Baccharis halimifolia	Groundsel Bush	(3)	(3)	(3)	(3)	(3)	9	9	(3)	3	3	(3)	(3)	(3)	8	8	3	3	Ø)	<b>9</b>	9								
Ipomea cairica	Mile-a-minute	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	9	9	(3)	(3)		9	9	Ø	<b>9</b>	3	8	8								
Lantana camara	Lantana	(3)	3	(3)	(3)	(3)	3	(3)	(3)	3	3	(3)	(3)	(3)	3	8	8	8	8	3	(3)								
Mimosa pudica	Sensitive Plant	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	3	3	(3)	(3)	(3)	8	8	3	3	3	8	8								
Solanum chrysotrichum	Giant Devil's Fig	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	3	(3)	(3)	(3)	(3)	8	3	8	8	3	8								
Solanum mauritianum	Wild Tobacco	8	3	8	(3)	(3)	8	8	(3)	3	8	8	8	(3)	3	8	8	8	8	3	8								
WEEDS (OTHER)																													
Ageratum houstonianum	Blue Billygoat Weed	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	8	3	(3)	3	(3)	8								
Asclepiascurassa vica	Red Cotton Bush	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	8	8	(3)	8	(3)	8								
Aster subulatus	Aster	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	<b>9</b>	9	<b>9</b>	9								
Axonopus sp.	Carpet Grass	9	9	9	9	9	9	9	9	9	9	9	9	9	9	<b>9</b>	<b>9</b>	<b>9</b>	9	<b>9</b>	<b>9</b>								
Brachiaria decumbens	Signal Grass	9		9	9		9	9		9	9	9	9	9	<b>9</b>	<b>②</b>	9	<b>9</b>	<b>3</b>	<b>9</b>	9								
Centella asiatica	Pennywort	9	9	9	<b>9</b>	9	9	9	9	9	9	9	9	<b>9</b>	<b>9</b>	<b>②</b>	<b>9</b>	<b>9</b>	<b>3</b>	<b>9</b>	<b>9</b>								
Conyza bonariensis	Flax-leaf Fleabane	(3)	(3)	(3)	(3)	(3)	(3)	8	(3)	(3)	(3)	(3)	(3)	(3)	3	8	3	8	8	3	(3)								
Conyza sumatrensis	A Fleabane	(3)	(3)	(3)	(3)	(3)	9	9	(3)	(3)	(3)	(3)	(3)	(3)	(3)	8	3	(3)	<b>3</b>	<b>9</b>	(3)								
Cirsium vulgare	Spear Thistle	9	9	9	9	9	9	9	9	9	9	9	9	9	<b>9</b>	<b>9</b>	9	<b>9</b>	<b>3</b>	<b>9</b>	9								
Cuphea carthagenesis	Cuphea	9	9			9	9	9	9	9	9	9	9		9	9	Ø	<b>9</b>	Ø)	<b>9</b>	9								
Cynondon dactylon	Bermuda Grass	9	9	9	9		9	9		9	9	9		9	<b>9</b>	<b>②</b>	9	<b>9</b>	<b>3</b>	<b>9</b>	9								
Gomphocarpus physocarpus	Balloon Cotton Bush	9	9	9		9	9	9	9	9	9	9			9	<b>②</b>	9	<b>9</b>	Ø	<b>②</b>	9								
Lolium multiflorum	Annual Ryegrass	(3)	(3)	(3)	(3)	(3)	(3)	8	(3)	(3)	(3)	(3)	(3)	(3)	(3)	8	3	3	8	3	(3)								
Nymphaea spp.	Lotus	9	9	9	9	9	9	9	9	9	9	9	9	9	<b>9</b>	<b>9</b>	9	<b>9</b>	<b>3</b>	<b>9</b>	9								
Onopordum acanthium	Scotch Thistle	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	3	3	(3)	(3)	(3)	8	8	3	3	3	8	8								
Paspalum dilatatum	Paspalum	9	9			9	9	9	9	9	9	9	9		9	9	Ø	<b>9</b>	Ø)	<b>9</b>	9								
Senecio madagascariensis	Fireweed	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	3	3	(3)	(3)	(3)	8	8	3	3	3	8	8								
Sida cordifolia	Flannel Weed	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	3	3	(3)	(3)	(3)	8	8	3	3	3	8	8								
Sida rhombifolia	Paddy's Lucerne	(3)	3	(3)	(3)	(3)	3	(3)	(3)	3	3	(3)	(3)	(3)	3	8	8	8	8	3	(3)								
Solanum americanum	American Black Nightshade	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	3	(3)	(3)	(3)	(3)	8	3	8	8	3	8								
Sonchus oleraceus	Milk Thistle	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	<b>9</b>	9	9	9								
Verbena bonariensis	Purpletop	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	<b>9</b>	<b>3</b>	<b>9</b>	9	9								