

**A Consolidation of Reports:  
Population, distribution, habitat assessments  
and translocations of *Hesperilla flavescens*  
(Yellowish Sedge Skipper Butterfly)  
(2019-2025)**



*Hesperilla flavescens*, Photo credit: Matt Endacott

Report Prepared for Green Adelaide Board  
June 2025

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## Summary

This document is a consolidation of population, habitats, distribution and translocation reports of *Hesperilla flavescens* (Yellowish Sedge Skipper Butterfly) for the Green Adelaide Board, South Australia.

The consolidation Report summarizes all *Hesperilla flavescens* (2019-2025) reports and presents all works undertaken in the Adelaide metropolitan areas, Fleurieu Peninsula, Coorong region, Yorke Peninsula and Eyre Peninsula.

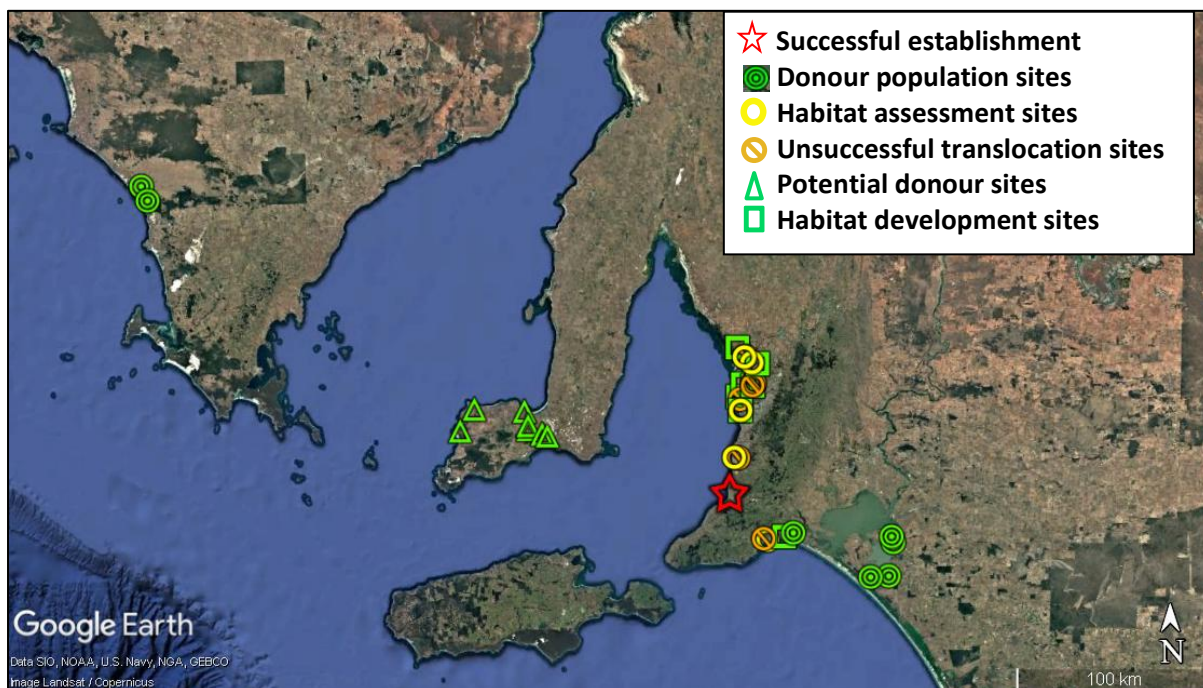
## Introduction

*Hesperilla flavescens* has received much publicity after the demise of the last standing population at St. Kilda due to habitat destruction. Since that time efforts have been undertaken to re-establish habitat to bring back the butterfly to the Adelaide region (Coleman & Coleman 2000; Coleman 2015). The project was initially driven by the South Australian Urban Forest Biodiversity Program and continued under the formerly named Adelaide and Mount Lofty Ranges Natural Resources Management (AMLR NRM), now known as Green Adelaide which has progressed the recovery of the butterfly.

The Local Recovery Plan for the Yellowish Sedge-Skipper and Thatching Grass (Coleman & Coleman 2000) identified possible reintroductions of *H. flavescens* into the Northern Adelaide plains using Yorke Peninsula donor populations.

The Yellowish Sedge-skipper Butterfly Reintroduction Feasibility Project Report (Butcher 2017) prepared by Nature Conservation Society of South Australia for the AMLR NRM Board, presents the processes and results undertaken to action this Recovery Plan.

An initial feasibility survey for translocating *H. flavescens* from healthy populations on southern Yorke Peninsula to habitats in the northern Adelaide coastal plains was undertaken in 2017. Following unsuccessful translocation efforts in 2018 due to low population numbers resulting from drought conditions on Yorke Peninsula, surveys were undertaken in the Meningie areas in the Coorong as well as Sheringa and Kiana areas on Eyre Peninsula. Surveys found suitable populations in both these areas which allowed for translocations to be undertaken into Adelaide's metropolitan region into various sites (Fig. 1).



**Figure 1:** *Hesperilla flavescens* work sites.

## Overview

*Gahnia filum*, the larval host plant and habitat for *H. flavescens* across Adelaide metropolitan region, Hindmarsh Island and Hayborough Victor Harbor, comprising both of remnant stands as well as artificially created sedge-land systems were assessed for suitability of introducing the butterfly. Sites were found highly variable in plant quality and quantity.

Translocation efforts into northern Adelaide plains sites have proven to be a challenge due to variable habitat qualities resulting from inconstant water inflows that affect larval hostplant quality. This variability in seasonal habitat quality has resulted in temporary establishments of the butterfly through translocated individuals followed by sudden population collapses. Repeated translocation attempts at sites deemed suitable at the time of assessments saw variable population establishment outcomes with eventual population collapses. The causes of population collapse other than habitat quality issues continue to be investigated, which is particularly evident in the Magazine Road Wetland.

The outcome for the northern sites is identified as habitat deficient and recommendations are provided for further habitat expansion at sites with guaranteed water flows such as at Magazine Creek Wetland and Windamere Park.

Two Golf Course (GC) sites; Grange GC and Royal Adelaide GC both provided opportunities for habitat establishment and translocation of the butterfly. Translocation attempts resulted in failed long-term population establishment with additional habitat expansion in suitable areas recommended and implemented to enhance the habitat area. Glenelg Golf Club presents opportunities for significant sedgeland development.

Perrys Bend site, within the Onkaparinga Recreational Park, with variable quality *G. filum* and *G. trifida* stands was found suitable for introductions of *H. flavescens*. The acceptance of the larval host plants by translocated larvae allowed for successful completion of the larval cycle to adult butterflies, however post adult emergence found no evidence of successful population establishment. Ecological burns to rejuvenate senescing *G. filum* stand and additional larval host plantings have been undertaken.

The Washpool, Aldinga Conservation Park, has seen a successful introduction of *H. flavescens* with an establishment of population. The site management through the implementation of additional *G. filum* plantings, ecological burns and weed management have provided suitable parameters for population growth. Specific population monitoring in The Washpool, Aldinga Scrub Conservation Park from 2020 to 2024 is conducted bi-annually to monitor progress.

The Fleurieu Peninsula, including Hindmarsh Island, has seen habitat enhancements for the butterfly with additional *G. filum* plantings at Tokuremoar Reserve, Encounter Lutheran College Paddock, Goolwa Township and Hindmarsh Island. Local translocations were undertaken into Encounter Lutheran College Paddock without successful population establishment.

Donour populations for translocations into Adelaide metropolitan areas were sourced from Eyre Peninsula areas and Meningie region including Ashville.

Works sites are summarized in Tables 1-3.

Given the change in land classification at Faile Reserve and the subsequent developments as part of the Submarine Construction Yard, YSS habitat will be substantially altered and unsuitable.

**Table 1.** Donour sites

| <b>Eyre Peninsula sites</b>   | <b>Yorke Peninsula Sites (not used)</b> |
|-------------------------------|-----------------------------------------|
| Hillsea Station, Sheringa     | Daly Heads                              |
| Lake Hamilton Station, Kiana  | Corny Point                             |
| <b>Meningie Sites</b>         | Brutus Road                             |
| Dodd's Swamp                  | Orrie Cowrie Road                       |
| Mason's Swamp Ashville        | Balaklava Road                          |
| Ashville roadside reserve     | Little Mordarby Waterhole               |
| Meningie Airstrip roadside    | Old Saltworks Road                      |
| <b>Hindmarsh Island Sites</b> |                                         |
| Captain Sturt Parade site     |                                         |

**Table 2.** Metropolitan sites

| <b>Gahnia filum habitat sites - assessed without translocations</b> | <b>Failed population establishment sites</b> |
|---------------------------------------------------------------------|----------------------------------------------|
| Brooks Road                                                         | Perrys Bend                                  |
| Northern Connector                                                  | Magazine Road Wetland                        |
| Onkaparinga Estuary (south of Port Noarlunga Oval)                  | Barker Intel                                 |
| Glenelg Golf Club                                                   | Constellation Model Flying Club              |
| <b>Habitat development only sites</b>                               | Greenfield Wetlands                          |
| Windamere Park                                                      | <b>Population establishment sites</b>        |
| Grange Golf Club                                                    | The Washpool, Aldinga                        |
| Magazine Creek Wetland                                              |                                              |
| Barker Inlet South (Horse Paddock)                                  |                                              |
| West Beach Basin & Patawalonga Creek                                |                                              |
| Kaurna Park Wetland                                                 |                                              |
| Royal Adelaide Golf Club                                            |                                              |

**Table 3.** Fleurieu Peninsula sites (inc Hindmarsh Island)

| <b>Habitat assessment sites</b>              | <b>Habitat development sites</b> |
|----------------------------------------------|----------------------------------|
| Watsons Gap                                  | Tokuremoar Reserve               |
| <b>Failed population establishment sites</b> | Hindmarsh Island                 |
| Encounter Lutheran College                   |                                  |

## ***Hesperilla flavescens* (Yellowish Sedge Skipper)**

The *Hesperilla flavescens* (Yellowish Sedge Skipper) (YSS) from the family Hesperiidae has an average wingspan of 30 mm. Their flight pattern is rapid and jerky giving them the common name of 'skipper'. They are usually seen feeding on nectar from various flowers or basking during sunny periods throughout the day. Males of Yellowish Sedge Skipper often establish small mating territories in open spaces between tussocks which they defend, sometimes challenging other males while waiting for females to arrive.

The butterfly completes its life cycle using *Gahnia filum* (Thatching Grass) as well as *G. trifida* (Cutting Grass) (in some coastal areas)) as its larval food plants (Fig. 2-7). Larvae construct shelters for protection during the day and come out at night to feed on the leaves. The life cycle takes 6-12 months to complete, with two distinct generations, one in spring and the other in autumn resulting in adults present during two periods: September to November and mid-February to mid-April.

Female butterflies lay their eggs on fresh outer leaves, and larvae progress through five stages known as instars before pupation occurs in the final shelter. First instar larvae construct simple shelters by joining or 'silking', two flat leaves together; subsequent instars construct tubular shelters by silking multiple leaves. The shelters are increased in size as larvae mature and outgrow them. Typically, multiple shelters from different stages are found on an individual host plant, and provide a useful key indicator of the species presence. For egg-laying, females choose plants according to their health and growing position, mostly single plants or plant groupings that provide open access on the side. Most larval activity can be seen on tussocks 10–70 cm high that have low volumes of dry leaves and are well hydrated and growing in full sun.

Shelters are often associated with bent leaves, and this occurs as a result of plant growth. A shelter with two silked leaves indicates the presence of a juvenile larva, while a larger shelter constructed with many leaves indicates a mature larva. Eggs can be found on outer leaves during the two butterfly flight periods, creamy in colour and about 2 mm wide.



**Figure 2.** Male butterfly. Photo: Andy Lines



**Figure 3.** Female butterfly. Photo: Andy Lines



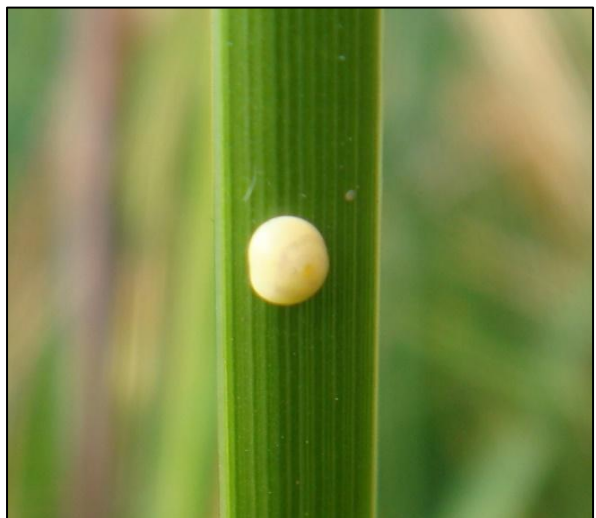
**Figure 4.** Larval shelter.



**Figure 5.** Larva exposed in shelter.



**Figure 6.** Pupa exposed in shelter.



**Figure 7.** Egg on *Gahnia filum* leaf.

## **Donour population sites**

### **Coorong**

Sites around the Lakes System and the Coorong were targeted for potential donor populations for translocation into the Washpool at Aldinga.

Sixteen sites were investigated for potential donor populations with four sites selected as suitable for this process;

- Dodd's Swamp, Narrung Peninsula
- Mason's Swamp, Ashville
- Ashville roadside reserve
- Meningie Airstrip roadside reserve

These sites were found to support sufficient population numbers with one third of pupae collected from total population numbers to ensure that no negative impacts resulted.

### **Eyre Peninsula**

Sheringa

- Hillsea Station

Kiana

- Lake Hamilton Station

### **Yorke Peninsula**

Initial surveys for translocations were undertaken during 2017 of the following sites for suitability assessments as donor sites for translocation into northern Adelaide sites.

- Daly Heads
- Corny Point
- Brutus Rd.
- Orrie Cowrie Rd.
- Balaklava Rd.
- Little Mordarby Waterhole
- Old Saltworks Rd.

Subsequent larval collection visits to the selected donor population sites in 2018 found that all but one population site (Orrie Cowrie Road) was unsuitable due to drought conditions and stock grazing pressures with collection placed on hold.

Subsequently a repeated 2022 survey of sites found that three sites were suitable as donor population sites if required: Orrie Cowrie Road, Old Saltworks Road and Daly Heads.

Four sites: Corny Point, Balaklava Road, Brutus Road and Little Mordarby Waterhole were deemed unsuitable due to low population densities.

These sites have not been used for translocation into Adelaide's metropolitan areas, however, should the need arise to use them a pre translocation survey is recommended.

## Adelaide Metropolitan sites

### Habitat assessments

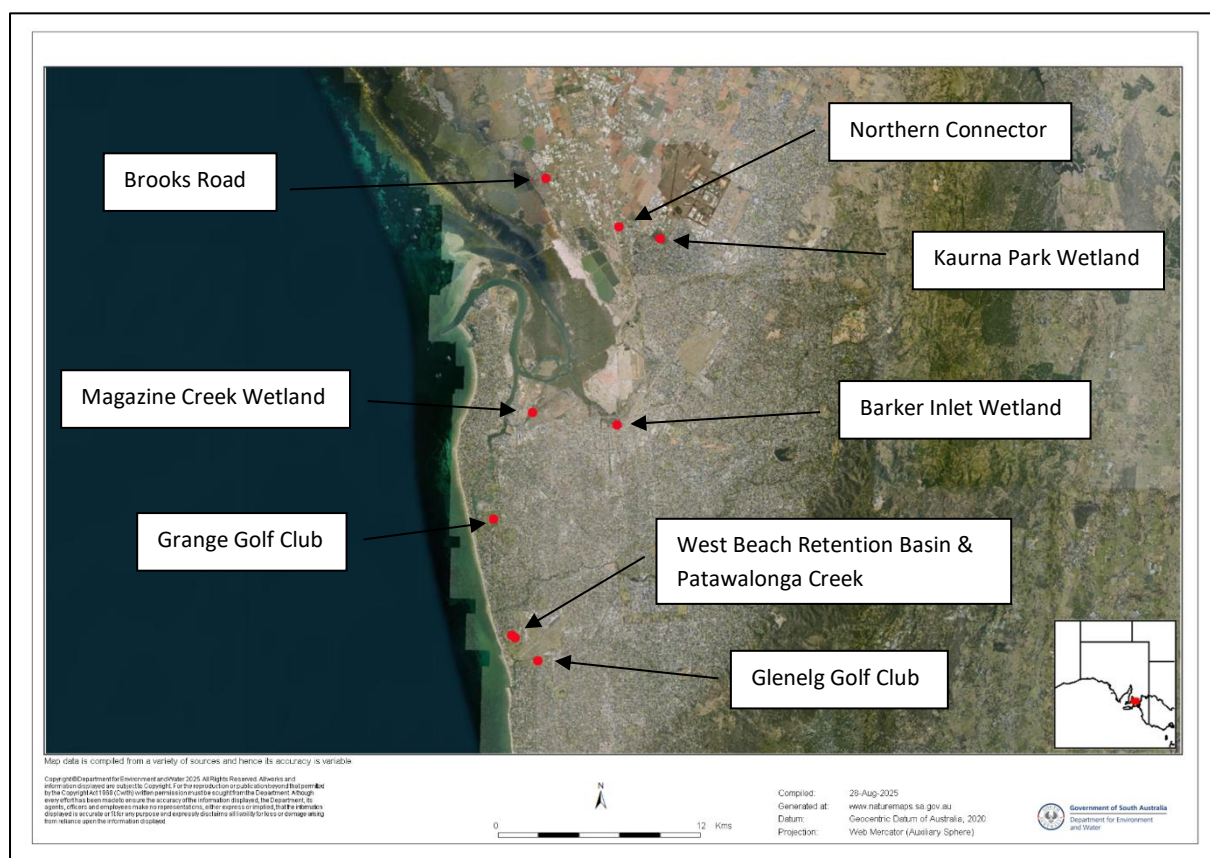


Figure 8. Metropolitan habitat assessment sites.

## Brooks Road – Buckland Park

Brooks Road site is the largest remnant *G. filum* Sedgeland area in the northern Adelaide plains, assessed numerous times for suitability, and continues to display unsuitability for YSS releases. This site has been subjected to altered ground hydrology through the implementation of drainage channels resulting in a localized lowering of the water table and creating poor plant health (Fig. 9 & 10).



**Figure 9.** Brooks Road site.



**Figure 10.** Brooks Road site.

## Magazine Creek wetlands – Dry Creek

This artificially constructed wetland system contains all year semi-saline and fresh water bodies and supports mature *G. filum* stands in low densities as well as recently planted stands. With expansive plantings planned this site should create a suitable habitat for YSS introductions within 2-3 years (Fig. 11 & 12).



**Figure 11.** Magazine Creek Wetlands



**Figure 12.** Magazine Creek Wetlands plantings

### **Barker Inlet South – (horse paddock) - Wingfield**

This site being part of the greater Barker Inlet system, situated directly south of the Barker Inlet initial release site, contains scattered mature *G. filum* plants as well as substantial newer plantings. These areas will create additional intra-connecting habitats within the greater Barker Inlet system (Fig. 13 & 14).



**Figure 13.** Barker Inlet South, mature *G. filum*.



**Figure 14.** Barker Inlet South, new plantings.

### **Northern Connector – Waterloo Corner**

Northern Connector site can be further identified as the Waterloo Corner Road interchange on the North South Motorway at Waterloo Corner.

As part of the Motorway's development, roadside vegetation works were undertaken including *G. filum* plantings in and on verges of storm water channels.

The site was suitable for *H. flavescens* introductions, however over time incursion of *Phragmites australis* (Common Reed) created a marginal habitat subsequently resulting in no releases (Fig. 15 & 16).



**Figure 15.** Northern Connector site.



**Figure 16.** Northern Connector site.

### **Grange Golf Course - Grange**

Grange Golf Course was assessed as a possible site for *H. flavescens* habitat development with the aim of establishing a population and was found to contain limited areas suitable for *G. filum* plantings.

The golf club was the recipient of 270 *Gahnia filum* plantings in winter of 2023 and assessed as growing well under natural conditions in marginal areas (Fig. 17).

The single area, containing a remnant natural semi-saline depression, was recently impacted by sand dumping, reducing the usability of the site (Fig. 18). Major ground works to restore this area which would involve substantial sand removal back to the original ground layer and the provision of adequate *G. filum* stands to create the required sedgeland size, is required. This area would also require full cycles of periodic water inundation for the provision of habitat suitability.

Managers of the site have been advised that the area containing the semi saline depression is the only suitable space for a large scale YSS habitat development. Unless this area is fully dedicated to *G. filum* sedgeland development, with the provision of at least 500 plants and recommended water management, the Golf Club will not be suitable for YSS.



**Figure 17.** Grange Golf Course *G. filum* plantings.



**Figure 18.** Grange Golf Course.

### **Glenelg Golf Club – Novar Gardens**

The Glenelg Golf Club, with its current reworking of many areas, provides an opportunity to develop large *G. filum*/*G. trifida* sedgeland areas within the “no play” zones. If *Gahnia* plantings are implemented adequately this Golf Club would be suitable for sustaining YSS populations (Fig. 19-20). Further planning for long-term YSS habitat development and a commitment to thorough management are the keys for successful outcomes.



**Figure 19.** Glenelg Golf Course site.



**Figure 20.** Glenelg Golf Course site.

### **Onkaparinga Estuary – Port Noarlunga South**

The Onkaparinga Estuary, (south of Port Noarlunga oval) assessment area was found suitable for the introduction of *H. flavescens* during 2020 surveys (Fig 23). Healthy stands of *G. filum* were found in areas of freshwater run-off with planned future

plantings increasing the habitat. *G. filum* distribution within the assessment area was found extensive with varying plant health due to soil hydrology.

Subsequent surveys found that suitable *G. filum* stands were senescing, and new plantings were found to fail in establishment, died or were subjected to heavy grazing by kangaroos resulting in unsuitability for *H. flavescens* introductions (Fig. 24 & 25).

The site is subject to future storm water redevelopment resulting from adjacent housing developments.



**Figure 23.** Onkaparinga Estuary South of Port Noarlunga Oval assessment site.



**Figure 24.** Onkaparinga Estuary, existing stands.



**Figure 25.** Onkaparinga Estuary, new plantings.

## Patawalonga Creek & Storm Water Retention Basin – West Beach

Patawalonga Creek site contains scattered stands of planted *G. filum* plants displaying various stages of plant growth. The plants display low volumes of dry leaf matter and are well hydrated, indicating good soil hydrology. The site would benefit from a further 500 *G. filum* and *G. trifida* plantings to increase the overall size of suitable *H. flavescens* habitat for potential introductions of the butterfly.

West Beach Storm Water Retention Basin is located to the west of Patawalonga Creek system and is approximately 6.25 acres in size. The basin is subject to irregular shallow water inundation and drying periods subject to storm water inflows (Matt Endacott, *pers. coms* 2021).

The site provides large suitable areas to accommodate approximately 2,500 *Gahnia* plant stands scattered throughout with *G. filum* plantings undertaken in 2022 and 2023 (Fig. 26 & 27).



**Figure 26.** Patawalonga Creek site.



**Figure 27.** West Beach Storm Water Retention Basin.

## Kaurna Park Wetlands - Burton

This artificial wetland system contains a small number of mature *G. filum* plants and additional plantings undertaken in 2020 in the aim of creating *H. flavescens* habitats for introductions. The newer planting is displaying stressed growth with many plants having died. The site, with its very variable wet dry cycles subject to storm water flows inundates the *G. filum* plantings for extensive periods during winter and dry periods during summer resulting in extremely stressful growing conditions. The site is deemed unsuitable for *H. flavescens* introductions at this time (Fig. 28 & 29).



**Figure 28.** Kaurna Park Wetland plantings.



**Figure 29.** Kaurna Park Wetlands plantings.

## Habitat loss sites

### Faile Reserve - Osbourne

This site is an industrial development drainage system and relatively small in size which diverts storm water through to Mutton Cove Conservation Park (Fig. 30). Storm water flows are minimal, however as further industrial developments occur this is expected to substantially increase (D. Kennedy, *pers. coms.* 2021). Currently the drainage system supports small stands of *G. filum* plants growing at the water level mark of the embankments and are displaying significant stress due to high ground salinity levels and dry conditions.

The site assessed in 2021 was found unsuitable for the Yellowish Sedge Skipper butterfly introduction due to low *G. filum* plant numbers and plant health. Projected increases in freshwater flows could assist drainage system hydrology, potentially resulting in desalination at the water level mark and enhancing *G. filum* plant health. The site was improved with additional *G. filum* plantings in suitable areas.



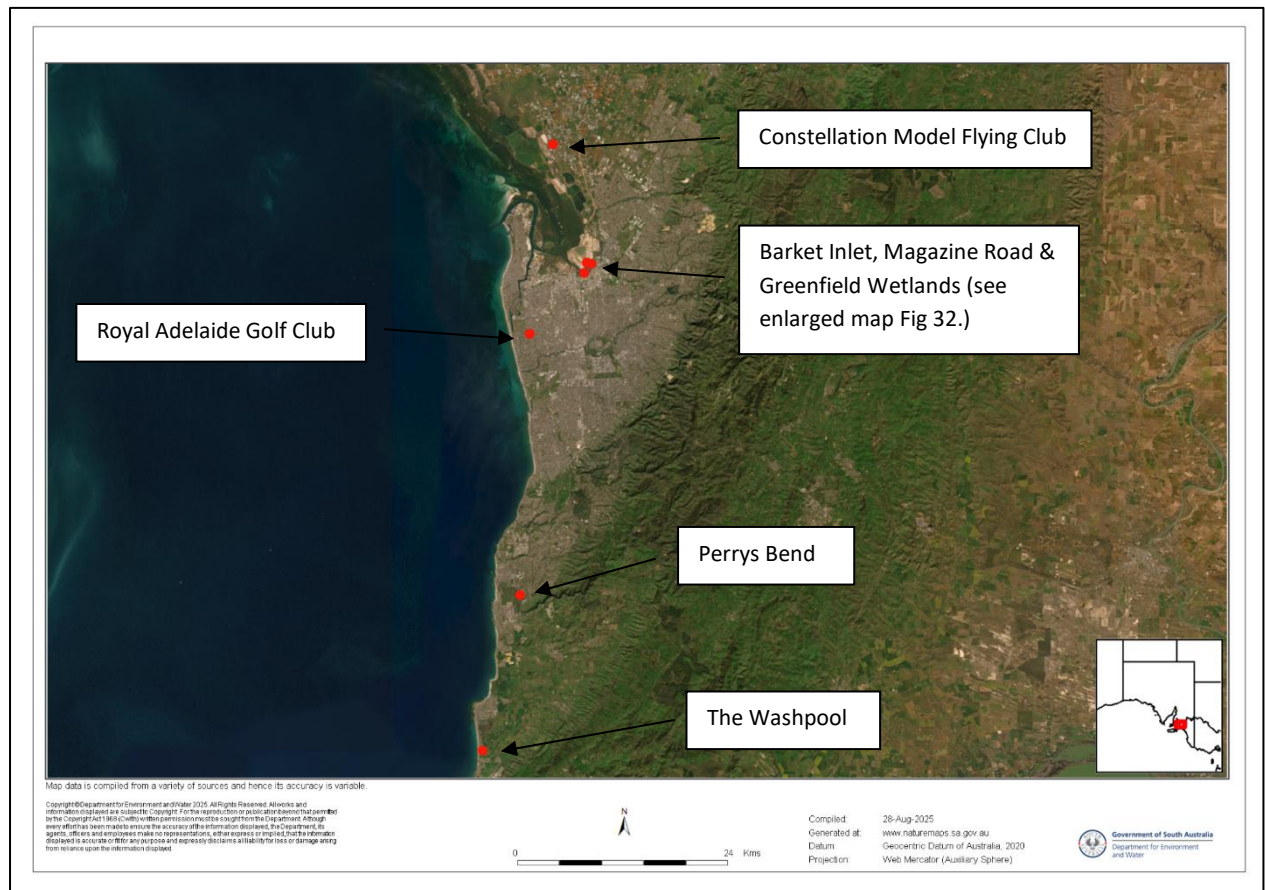
**Figure 30.** Faile Reserve, Osbourne.

The southern part of Faile Reserve is proposed to be used for a grade separated road over the rail corridor to link Pelican Point Road and Mersey Road North. Within Faile Reserve this would include the construction of abutments and retaining walls, in addition to a new connection to Mersey Road North.

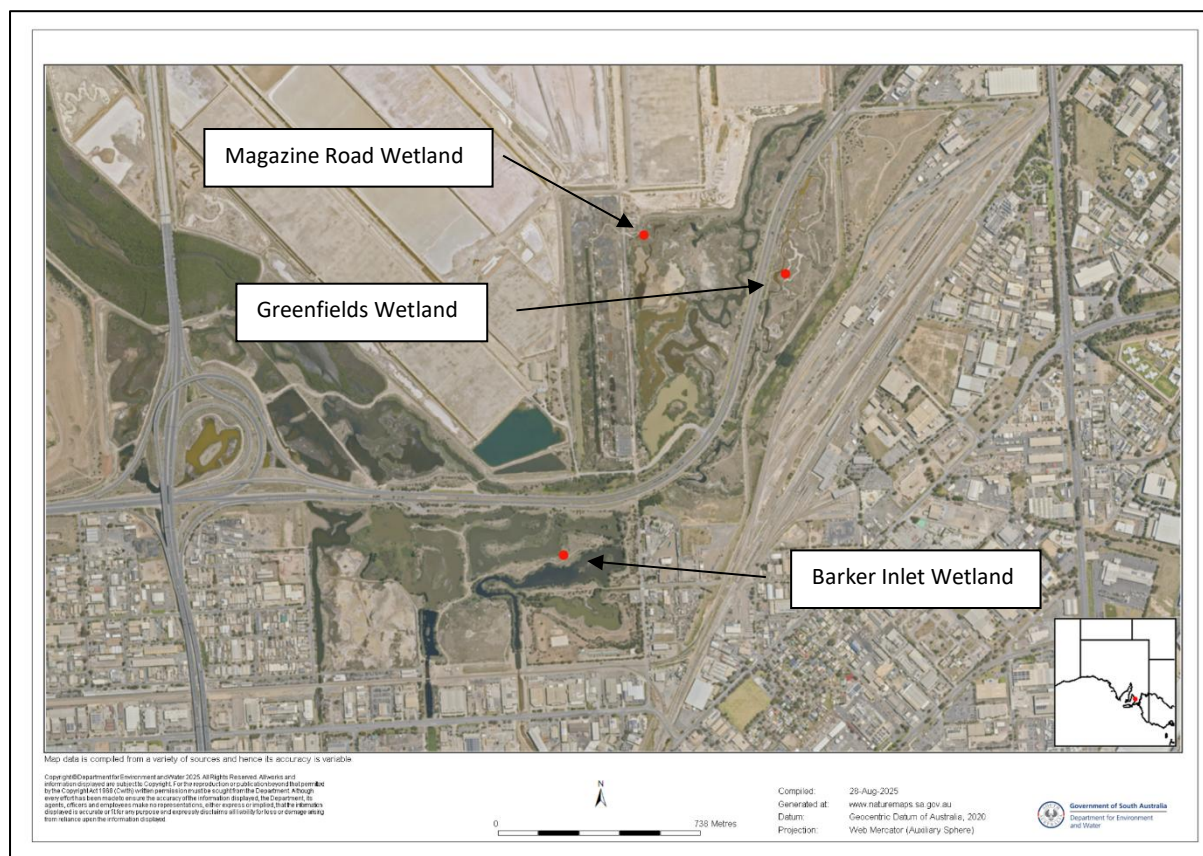
While the Reserve was previously identified as Community Land under the Local Government Act 1993, this status was revoked via the AUKUS (Land Acquisition) Act 2024 which transferred this land to Renewal SA and subsequently Australian Naval Infrastructure to be part of the Submarine Construction Yard. Given the change in land classification, the Zone's intent is no longer suitable for the land. It is therefore proposed that the Open Space Zone located within the development be converted to Strategic Employment Zone. This will ensure consistency between the relevant Zone boundaries and any development approval granted by the Minister.

This outcome further minimizes the potential of YSS habitat development for securing the species in metropolitan Adelaide.

## Translocation sites



**Figure 31.** Metropolitan translocation sites.



**Figure 32.** Barker Inlet, Magazine Road and Greenfield Wetlands translocation sites.

## Constellation Model Flying Club – Waterloo Corner

Constellation Model Flying Club site, with multiple introduction efforts and habitat restoration works undertaken through ecological burns has resulted in the inability for *H. flavescens* to establish. This small suitable habitat site has elements which prevent the establishment of successful larval transfers. These may be attributed to plant chemistry, adverse localised environmental factors and possible predation.

The site has limited potential for habitat enhancement through additional *G. filum* plantings due to the high ground salinity levels in surrounding areas (Fig. 33 & 34).

Releases and trials were undertaken at this site resulting in unsuccessful outcomes therefore further translocations are not recommended.



**Figure 33.** Constellation Model Flying Club site.



**Figure 34.** Constellation Model Flying Club site.

### **Barker Inlet - Wingfield**

This artificially created wetland site was assessed as suitable for introductions of *H. flavescens* with larval releases undertaken in February 2022 with successful host plant acceptance. Due to environmental conditions and the highly variable ground hydrology, the quality of *G. filum* resulted in population establishment failure. Subsequent surveys continue to observe highly variable plant health (Fig. 35 & 36).

Additional *G. filum* and *G. trifida* plantings are being undertaken to increase the habitat for future releases.



**Figure 35.** Barker Inlet site.



**Figure 36.** Barker inlet *G. filum* plant suitability.

### **Magazine Road Wetland - Gillman**

This artificially created wetland site contains well hydrated *G. filum* stands throughout the year (Fig. 37). Multiple adult and larval releases have been undertaken during 2021-

2024 with variable population establishment outcomes during which time sudden collapses of population have occurred. These results were found surprising in view of the initial results.

This demise may be attributed to the ground works being undertaken in adjacent parcels of land resulting in *G. filum* plants being periodically covered with soil dust. Potential adverse effects of mosquito control in areas of Globe Derby, directly north of this site, may have contributed if off target damage occurred. These however are speculations and no direct link has been established.

Habitat enhancements through additional *G. filum* and *G. trifida* plantings were undertaken in 2024 (Fig. 38).

The failed population establishments have resulted in this site being unsuitable for further introduction at this time and habitat monitoring is recommended for potential future introductions.



**Figure 37.** Magazine Road Wetland



**Figure 38.** Magazine Road Wetland, additional plantings

### **Greenfields Wetland – Dry Creek**

Greenfield Wetlands were assessed and found suitable for introduction of *H. flavescens* in 2021. Both larvae and adults were released into the site resulting in successful small population establishment found in February 2022.

The habitat was enhanced through slashing and additional plantings of *G. filum* to increase the number favourable plants for use by *H. flavescens* (Fig. 39 & 40).

Subsequent surveys failed to find evidence of population continuance and noted the decline in plant health due to reduced water flows into the site resulting in increased salinity.



**Figure 39.** Greenfield Wetlands



**Figure 40.** Greenfield Wetlands plantings.

### **Royal Adelaide Golf Course - Seaton**

This site was assessed and found suitable for YSS introductions in 2022 with larval and adult releases undertaken from Eyre Peninsula populations. The site was the recipient of 18 early instar larvae, 50 mature larvae and 24 adult butterflies. Post release surveys found a small number of constructed larval shelters possibly due to predation of larvae prior to shelter construction or the lack of host plant acceptance.

This limited success provides the opportunity for further habitat development and enhancement as the site provides multiple suitable areas (Fig. 41-42). The distribution of potential areas within the golf course presents opportunities for the provision of *G. filum*, but also *G. trifida*, in suitable areas containing freshwater holding ponds. This is subject to a major change in golf course management with the provision of dedicated long-term management of *G. trifida* in the freshwater holding pond areas.

The golf course was the recipient of 370 *G. filum* plantings in winter of 2023 and assessed as growing well under natural conditions in these marginal areas. Further planting undertaken by the golf club were unfortunately planted in unsuitable soil parameters and are struggling or dead. With appropriate guidance, availability of suitable *G. filum*/*G. trifida* planting areas and management, this golf course could sustain YSS population in the future.



**Figure 41.** Royal Adelaide GC, remnant *G. filum* stands.



**Figure 42.** Royal Adelaide GC, additional *G. filum* plantings.

### **Perry's Bend – Noarlunga Downs**

The initial collection of pupae for rearing and adult butterfly releases into Perry's Bend (Onkaparinga Estuary) was undertaken during September 2022 with collections sourced from Meningie area populations. Evidence of population establishment through adult releases was not found and subsequently larval introductions were undertaken in January 2023. The larvae were again sourced and Meningie populations with 52 mature larvae released onto *G. filum* and *G. trifida* plants. Post release failure of population establishment has been attributed to the highly variable plant health due to salinity encroachment and continuing senescing of *G. filum* plants (Fig. 43).

Rejuvenation works of *G. filum* stands through ecological burns have been undertaken in 2023 and 2024 (Fig. 44), however due to many stands having died no regrowth resulted post fire. The burnt areas provided an opportunity for further habitat enhancement with *G. trifida* plantings undertaken in 2024.

The site, once *Gahnia* plants attain suitability of use, will provide a large area for future introductions of *H. flavescens*.

Additional *Gahnia* planting works are proposed for the greater Onkaparinga Recreation Park to further enhance the butterfly's habitat.



**Figure 43.** Perrys Bend site.



**Figure 44.** Perrys Bend, ecological burns.

### **The Washpool – Aldinga Beach**

The Washpool (part of Aldinga Scrub Conservation Park) with extensive remnant and planted *G. filum* stands was assessed in 2019 for the presence of *H. flavescens* and the suitability of habitat (Fig. 45).

The site was found suitable for *H. flavescens* with introductions undertaken in 2020.

A total of 170 adults were released during spring 2020 and autumn 2021 and from sourced populations in the Meningie and Ashville areas. Collected pupae were raised to adults in captivity then released periodically in batches over a period of 2-3 weeks during the release periods.

The survey of active larval shelters, containing either larvae or pupae, found that population numbers have generally increased over the period from March 2021 to February 2024. The establishment and increase of the butterfly population numbers was aided through additional habitat enhancements of *G. filum* plantings (Fig. 46), ecological burns and weed management.

A steep decline in the population was observed in September 2024 (Table 4 & 5) and this result should not be considered as an alarming decline of the population. Population dynamics are a natural outcome of environmental processes, and this change is highly likely a result of environmental conditions affecting both the adult butterflies and the larval host plants.

Surveys undertaken in February 2025 found a slight increase in the population numbers indicating a continuing sustainable population.

The Washpool is currently the only successful *H. flavescens* introduction site in Adelaide's metropolitan area.



**Figure 45.** Mature *G. filum* stands.

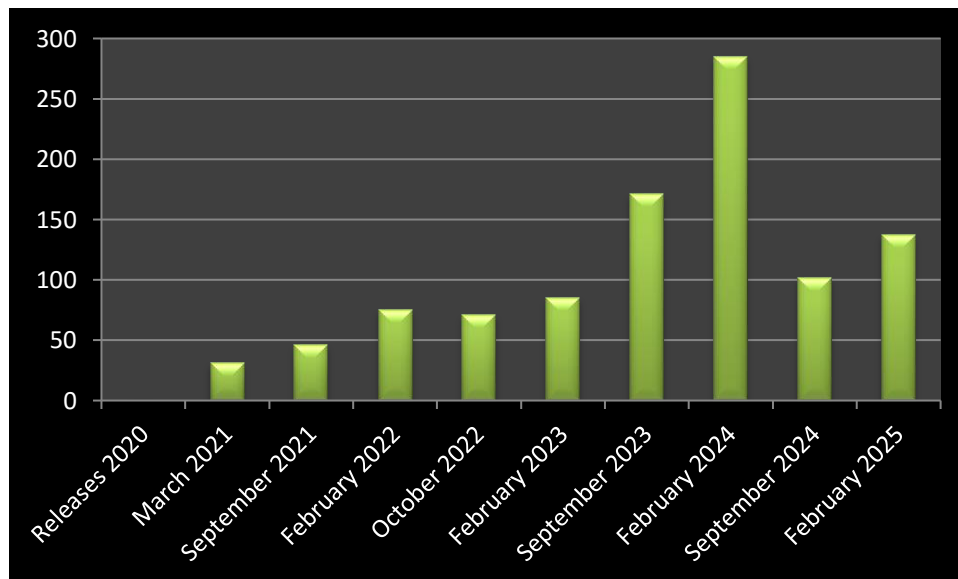


**Figure 46.** Additional *G. filum* plants attaining maturity.

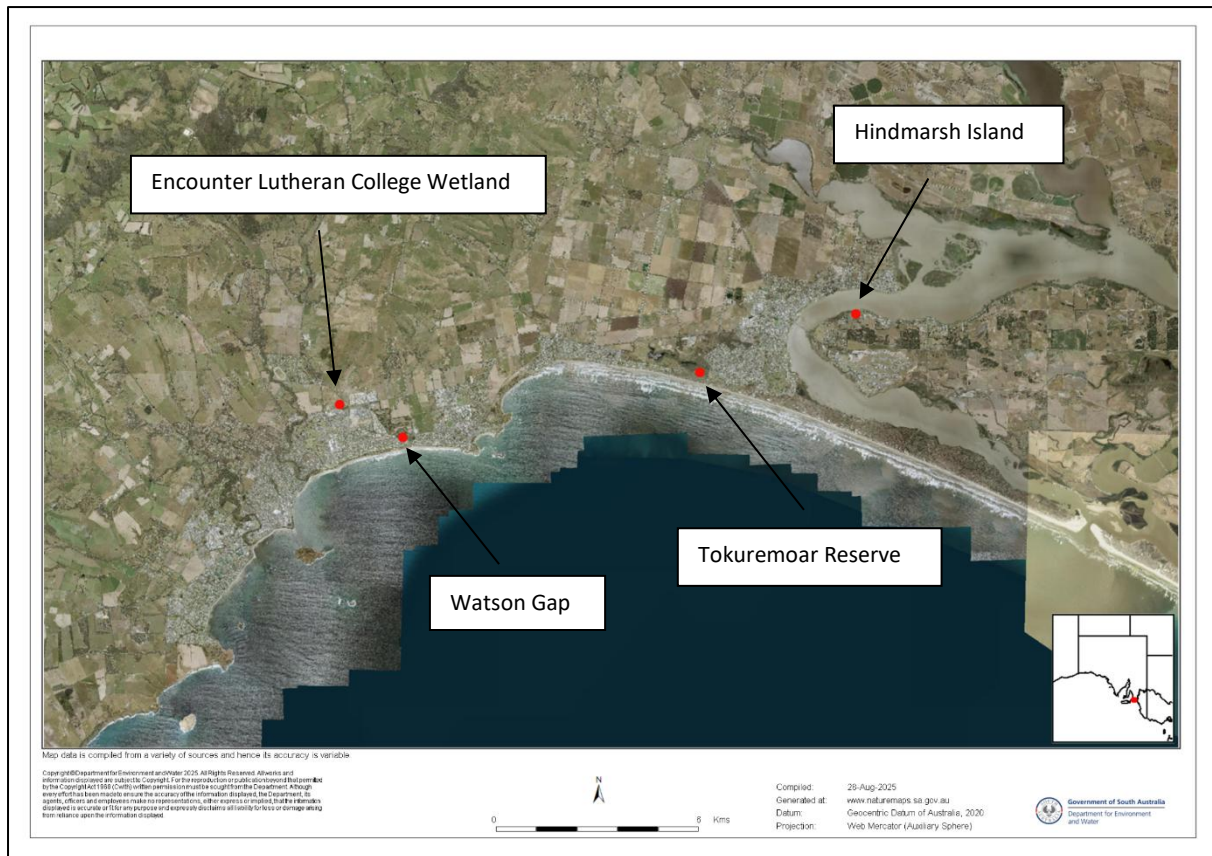
**Table 4.** Active shelter numbers, March 2021 to February 2025.

| Survey Date    | Active larval shelters count |
|----------------|------------------------------|
| March 2021     | 31                           |
| September 2021 | 46                           |
| February 2022  | 75                           |
| October 2022   | 71                           |
| February 2023  | 85                           |
| September 2023 | 171                          |
| February 2024  | 285                          |
| September 2024 | 102                          |
| February 2025  | 137                          |

**Table 5.** Population trends, March 2021 to February 2025.



## Fleurieu Peninsula sites



**Figure 47.** Fleurieu Peninsula sites.

### Tokuremoar Reserve – Goolwa Beach

Tokuremoar Reserve was identified as containing *G. filum* plants with site assessment undertaken in 2019 with findings of limited *G. filum* distribution within the reserve and no evidence of *H. flavescens* presence. Recommendations of increased habitat creation through additional *G. filum* were undertaken in 2020 with further plantings adjoining the reserve in 2024. With continuing habitat improvements, given time, the site(s) will become suitable for introductions of the butterfly (Fig. 48-49).



**Figure 48.** Tokuremoar Reserve plantings.



**Figure 49.** Reserve area adjoining Tokuremoar Reserve.

## Hindmarsh Island

Hindmarsh Island was assessed for the distributions of known occurrences of *H. flavescens* in 2021. The survey found that *G. filum* sedgeland was generally in poor condition and the occurrence of *H. flavescens* was restricted to the Northwest area of the Island at Captain Sturt Parade (Fig. 50).

Revegetation works incorporating *G. filum* plantings have occurred in Lawari Conservation Park and Captain Sturt Parade site (Fig. 51) securing and increasing suitable habitats for future *H. flavescens* introductions.

The Island's only population was used as donor for Encounter Lutheran College translocations.



**Figure 50.** Hindmarsh Island site.



**Figure 51.** Hindmarsh Island site, additional plantings.

## Encounter Lutheran College – Hayborough

The Encounter Lutheran College site contains extensive *G. filum* stands with natural regeneration of plants throughout the area being associated with good soil hydration attributed to the contours of the land. The site provided an opportunity for translocation of *H. flavescens* from a local population at Hindmarsh Island that occurred in January 2022 (Fig. 52).

Surveys undertaken in September 2022 failed to find evidence of population establishment, this being partly attributed to the low release numbers of larvae and adults, 42 in total, resulting from availability of donor population. Habitat improvements have occurred at the site in 2023 with additional *G. filum* plantings (Fig. 53).

It is recommended that larger number of individuals be translocated into the Encounter Lutheran College site to increase the probability of successful outcomes when donor population numbers on Hindmarsh Island increase post enhancement works.



**Figure 52.** Encounter Lutheran College site.



**Figure 53.** Encounter Lutheran College new plantings.

## Watsons Gap - Hayborough

Watsons Gap at Hayborough contains mainly remnant extensive *G. filum* stands. The site does not support *H. flavescens* and historically no records are present of the butterfly's occurrences. The site presents a potential for *H. flavescens* introductions however the mature plants display high thatch volumes and require rejuvenation works prior to introduction (Fig. 54-55).



**Figure 54.** Watsons Gap site.



**Figure 55.** Watsons Gap plant health.

## Recommendations

The establishment of the *H. flavescens* population in The Washpool, located within Aldinga Scrub Conservation Park at Aldinga, demonstrates the potential for successful translocation outcomes.

The involvement and contributions of various key stakeholders are important for achieving effective outcomes in habitat development and future butterfly introductions.

Whilst failures have occurred at sites due to various factors, some recommendations have been implemented with additional habitat creation and/or enhancements.

The following actions are recommended;

- Continue with habitat development/enhancement at sites
- Use *Gahnia filum* and/or *Gahnia trifida* as larval hosts subject to site location
- Continue to monitor the Washpool *H. flavescens* population
- Continue to engage key stakeholders

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