

4 SEASONS OF SEED

WITH MARTIN DRIVER



Local Land
Services



Landcare
New South Wales

This initiative made possible by the
NSW Landcare Program.
A collaboration of Local Land Services
and Landcare NSW Inc. supported by
the NSW Government.



MURRUMBIDGEE
Landcare
INCORPORATED



Hay Plains
Landcare

WINTER - DIRECT SEEDING AND PLANTING

MARTIN DRIVER

Ecologist and Project Manager with the **Australian Network for Plant Conservation**



Martin Driver has spent the last thirty years professionally, in private enterprises and community projects gaining hands-on experience in vegetation management, enhancement and restoration.

His professional life with CSIRO, Greening Australia, Murray Indigenous Seed Services, Murray CMA and Plain Sense Vegetation Management have given him a wealth of experience in tricks and techniques to get better on-ground vegetation outcomes with fewer resources.

Martin has been involved in the establishment of community based seed supply networks and training and the adoption of extensive native vegetation direct seeding, with the development of machinery suitable for broad-scale native vegetation establishment.

NATASHA LAPPIN

Senior Land Service Officer, Regional Weed and Risk Coordinator and **Murray Seed Services**



Murray Seed Services undertakes seed collection, seed storage, direct seeding, and technical support for planning and implementation of revegetation activities in the region.

Our facilities enable us to collect from a large range of species and from different provenances across the region. We process then store the seed in a temperature and humidity-controlled seed vault to ensure the best quality seed. When a seed order is submitted to us we are able to match the appropriate species, and provenance to your sites soil and vegetation type, to provide the best opportunity for successful establishment.

Bill Auldist

Senior Local Land Services Officer



Bill works for Local Land Services in Hay and has spent 14 years developing and implementing a variety of NRM projects with landholders within the Riverina region. In 2010 he developed a direct seeding project in conjunction with Hay Landcare to rehabilitate saltbush shrublands. He is also a keen seed collector and can help people wanting to start a direct seeding project



ITINERARY

9.30 am

Tea and coffee

9.45 – 10.00am

Welcome

Bert Mathews, Hay Landcare
Martin Driver, ANPC

10.00 – 10.30am

Principals of direct seeding

Martin Driver, ANPC

10.30 – 11.00am

Murray LLS Seed Services

Natasha Lappin, Murray LLS

11.00 – 11.15am

Morning Tea

11.15 – 12pm

Paddock Walk (Woolshed)

Marg & Colin Bull
Martin Driver, ANPC

12 – 12.45pm

Paddock Walk (Homestead)

Marg & Colin Bull
Martin Driver, ANPC

12.45 – 1.30pm

Lunch

1.30 – 2.00pm

Tour of Vegetation Sites

Colin and Marg Bull, Oakville

2.00– 2.45pm

**Direct seeding demonstration
& Q&A**

Natasha Lappin, Murray LLS
Bill Auldish, Riverina LLS

2.45 – 3.30pm

**Planting machine demonstration
& Q&A**

Martin Driver, ANPC



Australian Network for
Plant Conservation Inc

TIMELINE FOR 'OAKVILLE' TREE PLANTING

- 1985 Fencing of remnant vegetation – Site 10.e  1 acre of 52 Red gum trees
- 1987 100% of Oakville burnt in January fire – 2 Red gums survived.
- 1989 Restoration and Regeneration – Burnt Boree Site 2 – 40ha
- 1995 Fencing of remnant vegetation – Site 3 – 30ha (appropriate areas fenced off during irrigation development)
- 2000 Restoration and Regeneration – Site 4 (appropriate areas fenced off during irrigation development)
- 2007 Remnant vegetation. – Site 10 – 2.6ha & Site 10e – 25ha (Red Gums)
- 2007 Restoration and Regeneration. – Site 10c – 22.5ha – Existing Moonah trees
- 2005 – 2010 Restoration and Regeneration – Site 10.b – 2ha
- 2008 Restoration and Regeneration – Site 10.b – 50 pine seedling planted, 50 more have come through.
- 2009 Remnant vegetation – Site 10.e 2.6ha fencing and direct seeding around delta paddock
- 2011– 2016 "Connected Corridors" Project Site – 11's
- 2014 Original fenced areas connected with the "Connected Corridors" project – Site 1 – 3.2ha
- 2015 Remnant vegetation and regeneration – Site 11's (Unsuccessful direct seeding along fence lines)
- 2017–2019 Restoration and Regeneration –Site 10.b – Tapestry hedges planted to incorporate with direct seeding.
- 2018 – 2021 Windbreaks near sheep yards in containment areas. not on map
- 2020 Remnant vegetation and regeneration – Containment areas between Site 1-10.c – saltbush 20 Metre rows

"CONNECTED CORRIDORS" PROJECT

Marg and Colin have created connected corridors on their property by fencing of existing native vegetation, biodiverse planting of locally appropriate vegetation species and management of invasive species. Corridors are critical for the maintenance of ecological processes including allowing for the safe movement of animals and improving access to food and water.

The connected landscape supports the spread of seeds and pollen, which enhances biodiversity and strengthens ecosystem resilience. The benefits for farmers include improved crop pollination and prevention of soil erosion.



1987 -Site 10e



2007-Site 10e



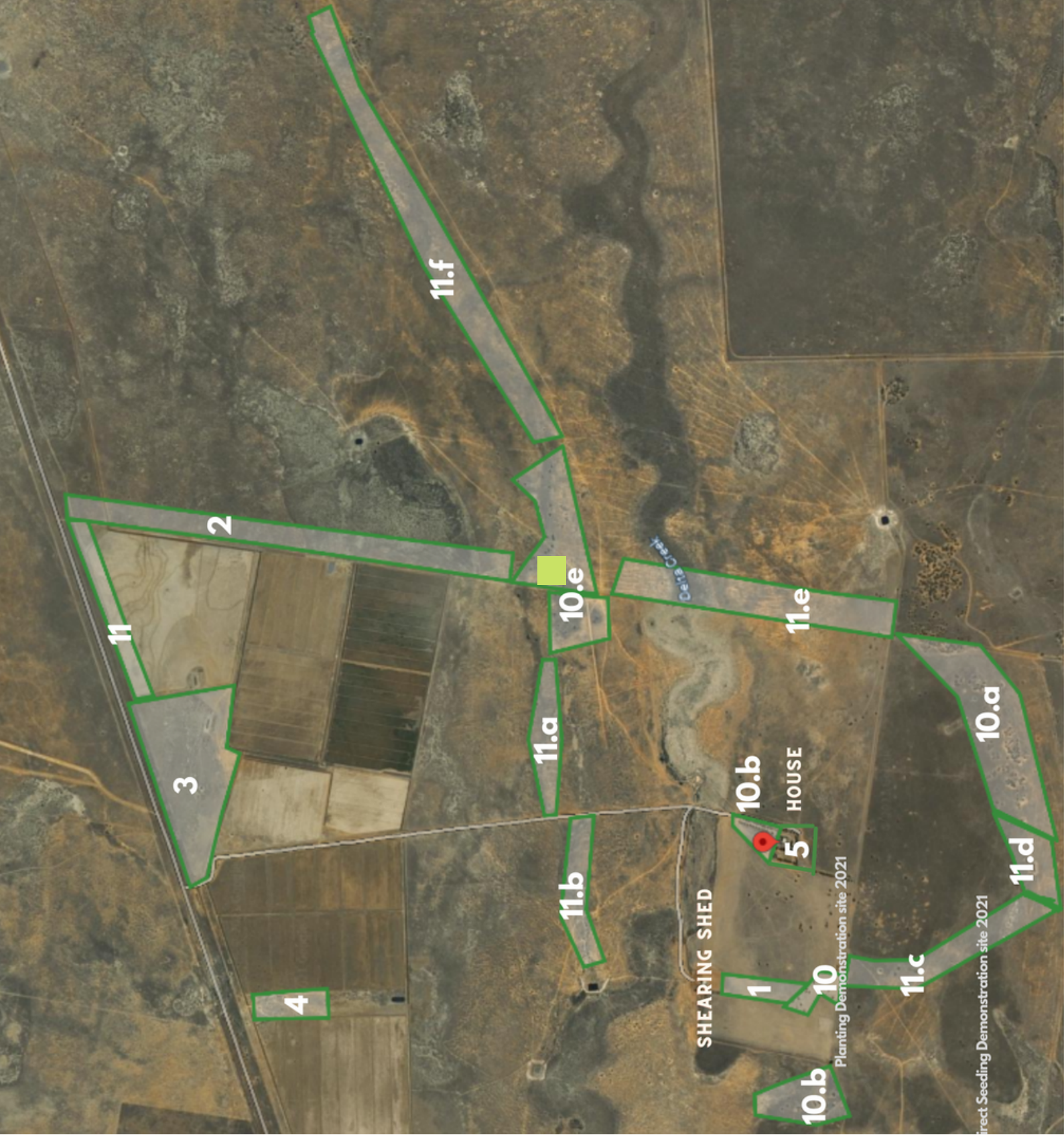
2014-Site 10b



2014-Site 10b



2017-Site 10b



2011-Site 11a



2021-Site 11a



2011- Site 11b



2017 - Site 10b



2021 - Site 11f

DEMONSTRATION SITES

PLANTING

MACHINE PLANTING – SITE 10

Tree species list

- 40 x *Acacia acinacea* - Gold Dust Wattle
- 40 x *Acacia brachybotrya* - Grey Wattle
- 30 x *Acacia oswaldii* - Miljee
- 20 x *Acacia salicina* - Cooba
- 50 x *Dodonaea viscosa ssp angustissima* - Narrow-leaved Hopbush
- 30 x *Enchylaena tomentosa* - Ruby saltbush
- 10 x *Melaleuca lanceolata* - Moonah
- 40 x *Pittosporum angustifolium* - Butterbush



HAND PLANTING – POTTIPUTKI

Tree species list

- 20 x *Callitris columellaris* - Murray Pine



DIRECT SEEDING



Hay Plains Landcare Direct seeder



Murray LLS Direct seeder

SAND HILL – SITE 10

Seed species list

- *Acacia acinacea* - Gold Dust Wattle
- *Acacia brachybotrya* - Grey Wattle
- *Acacia salicina* - Cooba
- *Atriplex semibaccata* - Creeping Saltbush
- *Callitris glaucophylla* - White cypress pine
- *Dodoniaea viscosa ssp cuneata* - Wedge-leaf Hopbush
- *Dodoniaea viscosa ssp angustissima* - Narrow-leaved Hopbush
- *Enchylaena tomentosa* - Ruby saltbush
- *Melaleuca lanceolata* - Moonah
- *Pittosporum angustifolium* - Butterbush
- *Senna artemisioides* - Punty Bush
- *Sanatalum acuminatum* - Quandong

CLAY SITE – SITE 11.C

Seed species list

- *Acacia pendula* - Boree
- *Chenopodium nitrariaceum* - Nitre Goosefoot
- *Duma florulenta* - Lignum
- *Enchylaena tomentosa* - Ruby saltbush
- *Eucalyptus camaldulensis* - River Red Gum
- *Maireana aphylla* - Cottonbush



Demonstrations- conducted by Hay Plains Landcare and Murray LLS Seed Services

SPECIES AT 'OAKVILLE'

Site 1

Acacia acinacea - Gold Dust Wattle, *Acacia brachybotrya* - Grey Wattle, *acacia hakeoides* - Western Black, *Acacia paradoxa* - kangaroo thorn, *Acacia salicina* - Cooba, *Atriplex semibaccata* - Creeping Saltbush, *Callitris glaucophylla* - White cypress pine, *Dodonaea viscosa ssp angustissima* - Narrow-leaved Hopbush, *Dodonaea viscosa ssp cuneata* - Wedge-leaf Hopbush, *Enchylaena tomentosa* - Ruby saltbush, *Melaleuca lanceolata* - Moonah, *Pittosporum angustifolium* - Butterbush, *Senna artemisioides* - Punty Bush, *Sanatalum acuminatum* - Quandong

Site 3

Acacia pendula - Boree, *Duma florulenta* - lignum and *Chenopodium nitrariaceum* - Nitre Goosefoot

Site 4

Acacia pendula - Boree and various saltbushes

Site 10b

Acacia oswaldii - Miljee, *Acacia pendula* - Boree, *Acacia salicina* - Cooba, *Atriplex nummularia* - Old man saltbush, *Chenopodium nitrariaceum* - Nitre Goosefoot, *Melaleuca lanceolata* - Moonah, *Senna artemisioides* - Punty Bush

Site 10c

Acacia brachybotrya - Grey Wattle, *Acacia salicina* - Cooba, *Callitris glaucophylla* - White cypress pine, *Dodonaea viscosa ssp angustissima* - Narrow-leaved Hopbush, *Melaleuca lanceolata* - Moonah, *Senna artemisioides* - Punty Bush,

Site 11 to 11.f

Acacia acinacea - Gold Dust Wattle, *Acacia brachybotrya* - Grey Wattle, *Acacia oswaldii* - Miljee, *Acacia pendula* - Boree, *Atriplex nummularia* - Old man saltbush, *Chenopodium nitrariaceum* - Nitre Goosefoot, *Dodonaea viscosa ssp angustissima* - Narrow-leaved Hopbush, *Enchylaena tomentosa* - Ruby saltbush, *Melaleuca lanceolata* - Moonah, *Pittosporum angustifolium* - Butterbush, *Chenopodium spinescens* - Thorny Saltbush, *Senna artemisioides* - Punty Bush,

*The most viable path
toward real
conservation for
biodiversity.*

Nick M. Haddad

