

# Biodiversity Trading

protecting our unique biodiversity



## Background

Biodiversity – the array of plants, animals and micro-organisms, the genes they contain and the functions they perform – sustains our ecosystems. The inter-dependence of all the components of biodiversity provides balance and stability to our life support systems.

The Upper South East is one of only three regions in SA that still has sufficient intact ecosystems to be effectively self sustaining. So there is a biodiversity platform on which to build, but there is also an imperative to act now, as much of the remnant vegetation is neither protected nor managed but is steadily degrading.

## The issues

Unwanted water – surface water and saline groundwater – is the focus of the USE Dryland Salinity and Flood Management Program (USE DS&FMP), the drainage scheme playing an essential role in removing this unwanted water from a very flat landscape.

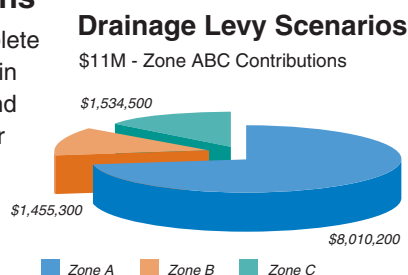
Native vegetation is also very efficient at reducing groundwater recharge and so helping control flooding and salinity, and this has been a driving force behind revegetation projects in the USE. But the region's large areas of remnant vegetation perform a similar function, while at the same time contributing far more to biodiversity than we can ever expect from revegetation. So it makes a lot of sense to manage this resource sustainably and to enhance it where it has already degraded.

The clear connection between the drainage scheme and need to protect biodiversity provides a unique opportunity in the USE to 'kill two birds with the one stone'. This is the foundation for the 'Drainage Levy – Biodiversity Conservation' model that is now being developed, allowing landholders the option of off-setting their levy payment by entering into a management agreement to improve the protection and enhancement of biodiversity values on their property.

It is important to understand that the Government is not proposing to buy land or vegetation. What it is prepared to buy, on behalf of the South Australian community, is the management skills and services of landholders in the USE.

## Management options

The \$49M funding to complete the USE DS&FMP will again be from Commonwealth and State Governments (78 per cent) and from the local community (22 per cent), reflecting the relative benefits that the general



public and the private landholders can expect to derive. The local community's contributions through the Drainage Levy will themselves be scaled in proportion to the impact the Program will have on particular zones.

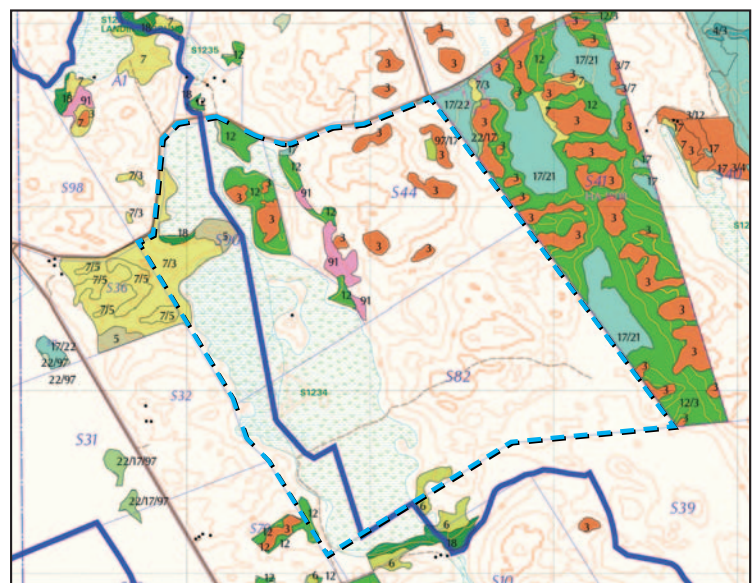
Part of the trading framework will of course involve placing a value on the biodiversity to be traded against the levy. The principles for this valuation come from the Biodiversity Plan for the SE of SA that indicates that there should be:

- a comprehensive and representative network of natural areas
- a focus on threatened species
- a coordinated approach to management
- sub-regions where diverse ecosystems can evolve.

It is important to recognise that recharge reduction is only one of the benefits of remnant vegetation and the biodiversity it supports. For instance:

- Wetlands, and particularly the riparian zones surrounding them, are among the most biodiverse parts of the landscape and therefore warrant special attention.
- Patches of native vegetation that connect with other patches (not necessarily on the same property) are generally of greater value than isolated patches.

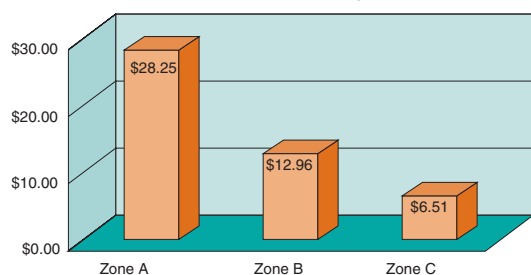
A hypothetical example helps explain how the Drainage Levy – Biodiversity Conservation trading framework might operate:



*This hypothetical property is in Zone A where the drainage levy will be \$28.50/ha over eight years. The property has several areas of native vegetation and a significant wetland complex.*

### Drainage Levy Scenarios

\$11M - Zone ABC Levy Rates



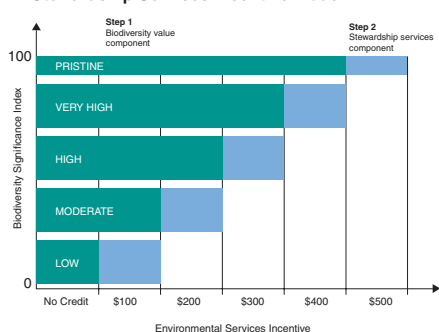
#### Levy calculation

Total property area	1,627 ha
Less native vegetation (blocks >10 ha)	124 ha
Less wetland inventory (managed for wetland values)	135 ha
Net levy area	1,368 ha @ \$28.25/ha
Levy obligation	<b>\$38,646</b>

### Biodiversity values assessment (Indicative only)

The asset value of each biodiversity element can be assessed in terms of its rating value (low – pristine) and the effective area represented. We can then determine the total biodiversity value of the property and its potential value if the landholder undertakes additional management. Where land is so degraded as to have negligible biodiversity value, there is still an opportunity for the landholder to apply for an ‘enhancement’ incentive, where an appropriate package of on-ground works might be developed.

#### Stewardship Services Incentive Model



Biodiversity asset	Category	Area (ha)	Offset value (\$)
Stringy Bark / Mallee woodland	Mod (\$100/ha)	35	3,500
Pink Gum / Mallee woodland	High (\$200/ha)	4	800
Blue Gum woodland	V High (\$300/ha)	3	900
Red Gum / <i>Melaleuca brevifolia</i>	Pristine (\$400/ha)	11	4,400
Remnant fern association	High (\$200/ha)	15	3,000
Wetland	V High (\$300/ha)	155	46,500
	Mod (\$100/ha)	350	35,000
Remnant sedge-land	V High (\$300/ha)	56	16,800
Total offset potential			<b>\$110,900</b>

\* Plus additional \$100/ha available for enhancement works

### Levy / biodiversity offset package (Indicative only)

Knowing the value of their biodiversity assets and how these are distributed, landholders decide how much they wish to actively manage. This decision will be based on their capacity to undertake the management, how it fits in with their farming system, the amount of biodiversity credit they wish to acquire and of course what they would like to achieve in terms of biodiversity value. In this example, the landholder is looking to earn sufficient credits to off-set against his/her total levy liability.

Levy / Biodiversity offset target

**\$38,646**

Biodiversity assets entered into Management Agreement:

Biodiversity	Category	Area (ha)	Offset Value (\$)
Red Gum / <i>Melaleuca brevifolia</i>	Pristine (\$400/ha)	11 ha	4,400
Remnant fern association	High (\$200/ha)	15 ha	3,000
Wetland inventory	V High (\$200/ha)	88 ha	26,400
Remnant sedge-land	V High (\$300/ha)	14 ha	4,200
Plus:			
Revegetation works in wetland zone	\$100/ha	7 ha	700
Total offset value			<b>\$38,700</b>

### Management requirements (Indicative only)

Different biodiversity assets will require different management tactics which, for this example, might be as follows:

Red Gum / *Melaleuca brevifolia* (11 ha)

- Fence & permanently exclude grazing
- Minor weed control

Remnant fern association (15 ha)

- Fence & permanently exclude grazing
- Minor weed control

Wetland (135 ha) / remnant sedge-land (26 ha)

- Fence & seasonally control grazing to manage pasture and weeds and allow sedge-land recovery
- Periodic inundation (1 year in 3) - water retention August-January

Plus:

Revegetation works in wetland zone (6 ha)

- Revegetation of wetland zone tree/shrub species
- Fence to exclude grazing pressure on revegetation

\* Additional incentives available for fencing, revegetation, etc.

### Outcome

This Drainage Levy – Biodiversity Conservation trading framework has the potential to conserve existing biodiversity assets and also maximise hydrological benefits beyond anything attempted before.

A great deal of consultation has brought us to this point where we can agree on the principles of a working model. Significant work still needs to be done to finalise the many practical details of the Drainage Levy / Biodiversity Offset Trading Framework and this will continue to be undertaken in close consultation with key regional stakeholder peak groups.