



# Recovering Eroded Land in SA's Pastoral Lands

## **WILPOORINNA, MUNDOWDNA MOUNT LYNDHURST**

### **OWNER**

Litchfield Family

### **LOCATION**

Marree - Innamincka

### **PROPERTY TENURE**

Pastoral Lease

### **ENTERPRISES**

Sheep and Cattle

Lyall Litchfield brought his family to Mundowdna from Clifton Hills in 1958. The family purchased Wilpoorinna in 1972, having lived and worked in the region since the 50s. Gordon and Peter Litchfield purchased Mundowdna and from that point, the properties were run as one. With the addition of Mt Lyndhurst run by Adam Litchfield in 2016, all three properties formed the Litchfield Pastoral Company.



Gully heads had been expanding across the Litchfield's properties, removing water from the land and damaging the tracks

Concerned with a number of erosion issues on their properties, the Litchfields became involved in a Ecosystem Management Understanding (EMU™) project to gain a better awareness of the immediate issues. This allowed them to plan a course of action to repair them and to avoid future problems.

Wilpoorinna had gutters with sharp, steep gully heads approaching an internal fence line and important transport track. The gully made the track difficult to traverse in a utility, let alone in a truck carting livestock. Mundowdna had gully heads moving towards the access track and dam, that were also dehydrating the surrounding landscape. A big gully in the gateway at Mt Lyndhurst caused damage to the family's infrastructure, when it washed out gate posts and led to water running down the station track.



A decision was made to gain a greater understanding of their three landscapes, allowing the Litchfield family to leave a healthy and productive property for future generations.

Improvements in the landscape function lead to a reduction in soil erosion and an increase in water infiltration. By rehydrating the landscape, more feed could be grown leading to the restoration of natural biodiversity.



A sandhill washed away in the 1974 floods caused the adjacent Hayes swamp to drain quickly after each good rain. Peter has recently repaired the bank using techniques gained through the EMU project.



Gully heads eating their way up the catchment and drainage line, threatening a dam and station access track. Gully heads are sucking the Frome swamp dry as it doesn't stay as wet for as long.

The Litchfields began improving their country and station tracks concurrently on all three properties. Station tracks were surveyed and plans developed to build whoa boys on poorly-built roads above the Frome Swamp and on Wilpoorinna and Mt Lyndhurst.

The SA Arid Lands Natural Resources Management Board ran a grader workshop at Mt Lyndhurst in March 2017, at which the Litchfields improved their knowledge and necessary skills to construct whoa boys on their property. Two contour banks and some ripping was also completed during the workshop.

All participants learned that shape is important in the development of a whoa boy, because it needs to consider traffic use of tracks to avoid them being too short and sharp.

The Litchfields modified their station roads by bringing in windrows and building whoa boys in problem areas, with plans to install additional whoa boys as time, money, weather conditions and priorities permit.

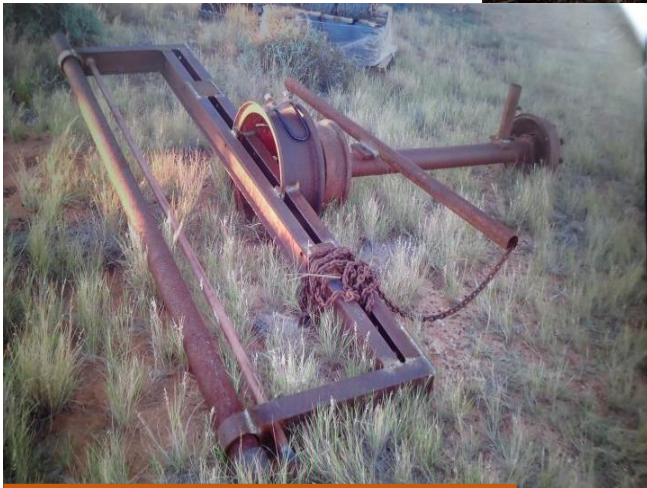




The level of success of the completed earthworks is difficult to gauge given they are still to be tested with a significant rainfall event.

A couple of 8mm rainfalls have tested the whoa boys, which are still intact and in good condition.

The whoa boys are proving to be cost effective and worthwhile, managing the overland water flow by rehydrating the landscape without scouring out the tracks.



**Innovative REO spinner created by Adam Litchfield**

**Collapsed Gully heads above the fence were trampled by livestock. This will assist in restoring the natural landscape and reduce the erosion impact.**

In what is considered an innovative approach, cattle were used on Wilpoorinna Station to knock down and trample active gully heads. The cattle were contained on the site using an electric fence.

This proved to be a successful technique, with the site now needing some rain to germinate seeds and stabilise the area.

This technique also led to an accidental success, with Adam Litchfield's involvement in the project providing the development of a wire spinner for the easy handling of the large rolls of REO wire.

**Two contour banks and some ripping was also completed on Mt Lyndhurst, when the Litchfields participated in a soil conservation workshop.**





Through planning, preparation and discussions about landscape function and soil conservation the Litchfield family has gained a greater understanding of how to prioritise and repair soil conservation issues and concerns.

The family has the confidence and techniques to undertake soil conservation activities themselves as well as identify when a specialist may be required to assist with more complex soil conservation concerns.

The whoa boys have helped reduce erosion and reduce the amount of time needing to be allocated for track maintenance after smaller rainfall events, however the overall earthworks and filters are yet to be tested with a good rainfall.



**The Whoa boys across station tracks are designed to ensure overland water flow gets across the track and back into the swamp. They also ensure less water damage to the track resulting in less track maintenance.**



The Litchfield family is very keen to undertake soil conservation works on the Frome Swamp and any other areas that have been identified as needing attention.

While past works allowed for the planning, ground-truthing and preparation for the Frome Swamp, this project is yet to be completed.

The family will continue to monitor observations and undertake works as required for better production and conservation outcomes.

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