APPENDIX 6. WETLAND MANAGEMENT STORIES

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JON POCKNELL - SPRINGVALE STATION

Where	**43km north-west of Walgett, NSW**
Enterprise	**Sheep & cattle grazing (typically running 3,000 – 5,000 sheep)**
Size	**9,500 hectares**
Wetland area	**600 hectares**

What he did

- Erected 8km of fencing around the wetland (completed July 2007)
- A further 6km of internal fencing to create four 'wetland paddocks' to be installed soon, along with a central watering system
- Developed a new grazing regime for their wetland.

Why he did it

- To enhance the wetland vegetation through better stock management
- To provide improved waterbird habitat.

Cost

- Approximately $25,000

Assistance

- Funding assistance was provided by the Western CMA on a $2 : $1 ratio (CMA : landholder)

Benefits

- An improvement in the health of the wetland vegetation is already obvious

Monitoring & evaluation

- Fixed photo point established in January 2003
- Groundcover assessments to be made using a 'Grass Check' kit (groundcover quadrat assessment).

His story

Although Jon purchased Springvale in early 2003, he has been practicing 'holistic farming' principles for more than ten years. As its name suggests, holistic farming is a property planning and management approach that aims to combine all the aspects of a farm business with each landholder's personal goals.

While the approach can be applied to many types of farming enterprise, it is known to a wider audience through the recommended pasture management practice of 'cell grazing'. In simple terms this involves not only fencing paddocks to landform and soil type, but sub-dividing paddocks to produce 'cells' (small paddocks). Under this grazing system, stock are moved regularly from one relatively small paddock to another with each receiving a short period of intense grazing followed by a longer period of rest.

The paddock sizes, stock numbers and grazing periods for each paddock have to be worked out on a property-by-property basis. *'Most large, set-stocked paddocks are understocked but over-grazed'* Jon explains. What this means is that when large paddocks are sub-divided and managed according to cell grazing principles, it is not unusual to be able to increase the carrying capacity while at the same time improving the pasture quality. Jon explains how this works: *'In large set-stocked paddocks animals tend to selectively pick out all the good quality palatable perennial grasses, leaving only the rubbish behind'*. In contrast to this, the intense grazing of smaller areas tends to lead to a more even take of both the palatable and less palatable species and this, coupled with the long rest periods, can lead to a better pasture species mix and improved groundcover.

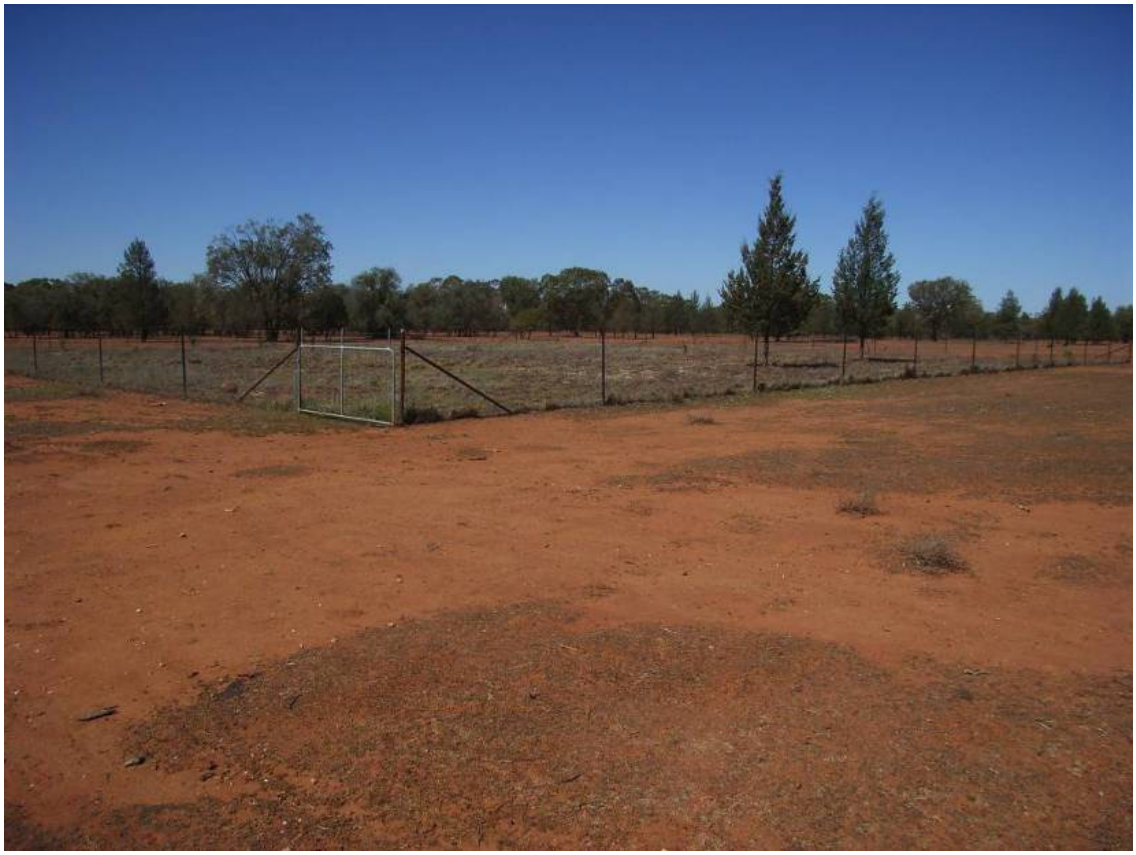

Image 17: This small trial plot at Springvale underlines the advantages of the 'cell grazing' technique whereby relatively small paddocks are intensely grazed for short periods and then allowed to recover. The land within the fence has been grazed a number of times and has produced more feed per unit area than the surrounding set-stocked paddock. The regular breaks (de-stocked periods) have maintained the groundcover as well as a good mix of native pasture species. The wetland at Springvale will be managed in a similar manner.

In keeping with Jon's holistic farming approach the wetland at Springvale is to be managed as an integral part of the property. Historically, the Springvale wetland formed part of a large set-stocked paddock and due to the presence of moisture and salts was, if anything, more heavily grazed than the surrounding area.

Under Jon's holistic farm plan, the property will eventually be divided into about 100 paddocks with each being grazed for relatively short periods at three to six month intervals. As part of this plan, the wetland boundary has been fenced and the wetland itself will be sub-divided into four 'wetland paddocks' in the near future.

Approximately 600 hectares in size, the wetland at Springvale is an example of a Shallow Freshwater Marsh wetland, the vegetation of which is dominated by cane grass *(Eragrostis australasica).* Other common native vegetation found within the wetland includes brown beetle grass *(Diplachne fusia),* grey samphire *(Arthrocnemum halocnemoides),* broughton pea *(Swainsona procumbens)* and lignum *(Muehlenbeckia florulenta).* The wetland margins are characterised by black box *(Eucalyptus largiflorens)* and eurah *(Eremophila bignoniflora).*

Fed by localised runoff from the surrounding hills, this claypan area drains to The Big Warrambool and from there to the Barwon River.

Image 18: Jon Pocknell of Springvale Station is fencing his 600 hectare wetland as part of an ongoing program of works that will see the property managed according to cell grazing principles in the future.

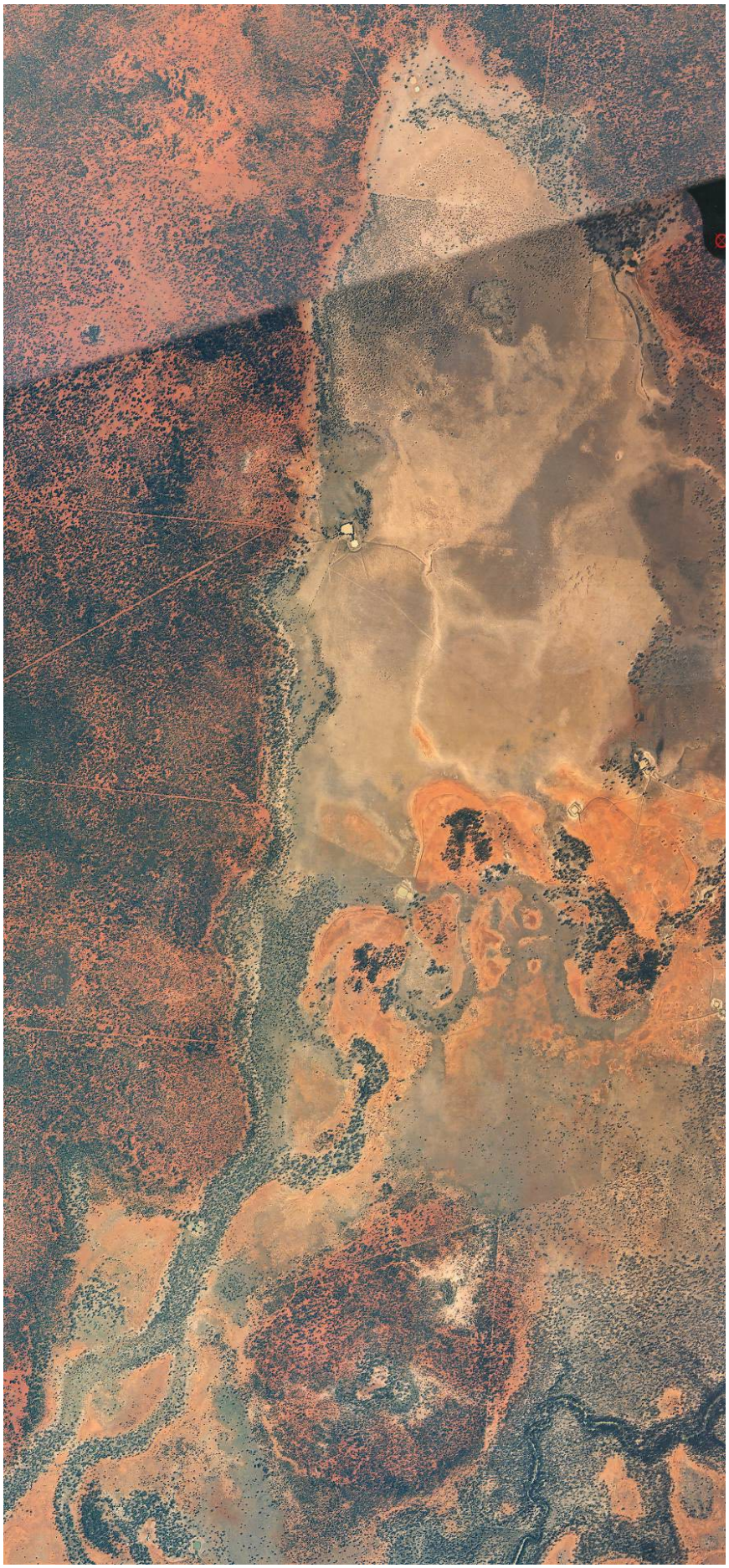

Image 19: Aerial photograph of the wetland at Springvale (the main wetland area is to the top right of the photograph). This 600 hectare shallow wetland supports a diverse range of wetland plants. Mount Charlotte can be seen at the bottom of the photo, with The Big Warrambool just to the east. (Photo 1998 courtesy of NSW Crown Lands).

1. Fencing & watering

With the wetland boundary fence complete, the next task is to install the internal fencing that will divide the wetland into four paddocks. In addition to this work, an existing ground tank (dam) at the south-western side of the wetland will also be fenced out and a self-mustering yard system installed (through the use of a one-way access gate to the water). This will not only facilitate easier management of the property's sheep, but also trap feral goats. Water from the existing dam will be pumped to a header tank and fed to a central trough system that will provide stock water to all four of the new wetland paddocks.

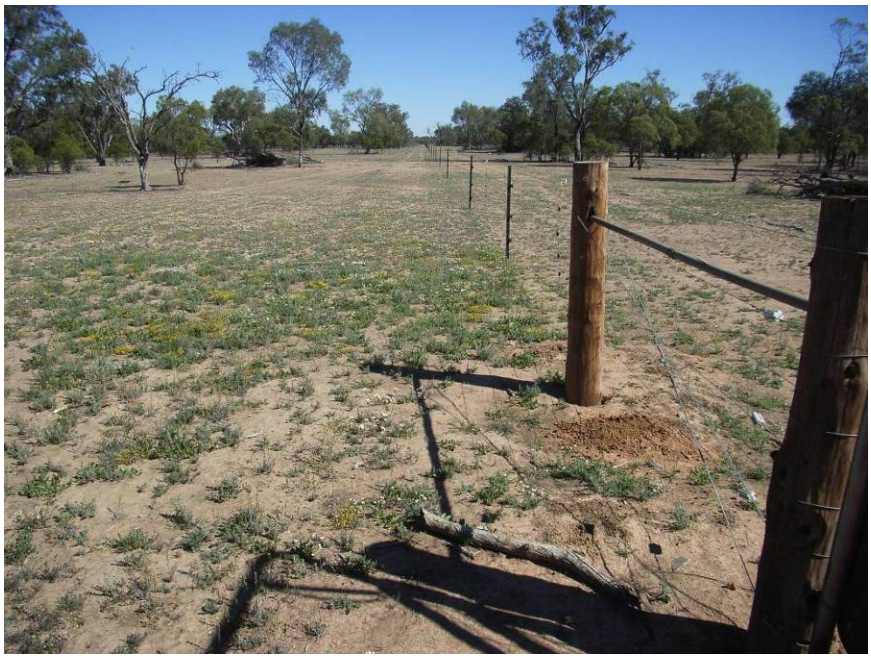

Image 20: The improved growth of native groundcover plants is already evident along this recently installed wetland boundary fence. The wetland is to be further sub-divided into four smaller paddocks which will be grazed as conditions permit. Jon's holistic farm plan includes a new grazing regime based on cell grazing techniques (the rotational use of up to 100 smaller paddocks that will be developed over time). The new wetland fencing forms part of this overall property plan.

2. Grazing management

With the new fencing in place the following key grazing principles will be employed.

- The boundary fencing will allow for complete stock exclusion during those times when the wetland floods. This includes during the drawdown phase when wetland plants will be allowed to mature and set seed. This will ensure the long-term health of the wetland vegetation community as well as minimising the disturbance of waterbirds
- During dry periods, the vegetation built up within the wetland paddocks will be grazed according to holistic pasture management principles i.e. intense grazing but for relatively short periods only.

3. Monitoring & evaluation

Jon established a fixed photo point within the wetland at Springvale soon after he purchased the property in 2003 (see page 65). This will be used as an ongoing monitoring site providing the all-important visual record of changes over time.

One of the key objectives of the new grazing practices being implemented at Springvale is to increase groundcover and the abundance of native perennial grasses in particular. Jon has been in the habit of monitoring pasture cover and species composition for some time, using a 'Grass Check' kit that he obtained from the Queensland agriculture department some years ago. This self-assessment kit comes with a quadrat (a square grid to place on the ground) and instruction book. This kit will be used to assess groundcover and species mix within the wetland.

Image 21: The native wetland plant broughton pea (*Swainsona procumbens*) within the wetland at Springvale. Fixed photo points and quadrat assessments of groundcover plants will be used to monitor vegetation over time.

Challenges

One of the key challenges when moving to a cell grazing system is the time and cost associated with erecting the additional fencing. Modern electric fencing methods have made this task somewhat easier, but on a large property like Springvale this still limits how much of the property can be converted each year.

Feral fauna and flora problems are also anticipated within the wetland paddocks in the future. Pigs and goats require ongoing control, although the electric fence design should reduce this problem somewhat. It is also hoped that the electrified fencing will minimise kangaroo and emu grazing as the numbers of these native animals can be high in the district at times.

Summary

The key to the Springvale wetland project is the use of holistic farming principles to control the timing, intensity and duration of grazing pressure within the new wetland paddocks. In time these methods will be applied across the whole property.

January 2003

End of February 2003

End of February 2004

Mid April 2004

Image 22: Monitoring shows the changes occurring in Jon's wetland.