



## Cunyu Station Visit

### An example of Profitable, Sustainable Pastoralism

On the 17 and 18 December 2016, Ken Shaw of Cunyu Station hosted a station visit for the purpose of sharing some of his arid rangeland management strategies and experience.

Ken & Dawn have been on Cunyu for 27 years. In that time they have worked to understand their pastoral business and to optimise its efficiency for their circumstances. The outcome is that Cunyu Station is in very good condition including; land condition; cattle condition and infrastructure.

First, a quick station run-down:

Cunyu Station is located about 60km north of Wiluna covering 412,000 hectares that includes the southern end of the Canning Stock Route.

- They currently run a Poll Hereford self-replacing breeding herd of around 2,500 head.
- Mustering is done twice a year, April and October. At least 90% of cattle are mustered each year, which is essential for a steer/bullock enterprise for the domestic market.
- Pastoral management is open range continuous grazing with the station divided between breeder and steer areas.
- The central tenant of management at Cunyu is the maintenance of **low grazing pressure** through a **conservative stocking rate** and **control of Total Grazing Pressure (TGP)**. Stock numbers are adjusted at each muster with the aim of having 18 months feed in front of the herd in fair and good years. After a failed summer the aim is to have 12 months of feed on hand.
- Annual average rainfall from 1910 is 210mm. From 1996 until now this average has risen to 261mm.
- Cost of production averaged **72 cents per kg over last 10 years**.
- Cunyu's annual turn off averages around 550 head. Females are 47% of sales.
- All station work, including mustering, is done by Ken & Dawn, no labour is employed.

### Cattle

The Cunyu herd is pure Poll Hereford, which was chosen for ease of handling and ability to fatten quickly. The cattle we saw were in good condition and certainly quiet.

The herd is young and productive with all dry seven year old plus cows going on the truck. Pregnancy testing is not carried out; fertility is assessed by udder inspection (or palpation if necessary). Female sales over 27 years has been 47% of total sold. Not many animals waste themselves by dying on the place.

Calves are weaned down to 130kg, dependant on season. Weaners are trucked at least 20km away and are held for 7 to 10 days in 1.5 square km weaning paddocks that come off a yard and water with its own mob of cattle. Contact with other cattle helps weaners get over the shock of coming off mother, and gets them used to the new water and herd mates. This form of weaning works at Cunyu and has a low labour requirement. It also helps that *Bos taurus* cows do not suckle stranger calves.

Cunyu produces finished steers. This is a risk reduction strategy, as fat steers are consistently valuable in the market. Weaner steers are trucked to the steer area in the more productive country which is separated from the breeder area by the Frere Range or internal electric fencing.

Most steers are sold weighing 480 to 600 kg, being 30 to 44 months old. Ken has found he can't sell more than two decks of steers at a time through Muchea, otherwise he risks flooding the market and affecting his return.

Ken finds cull heifers difficult to sell. They are the only feeder animals that are sent away, all other cattle go straight to slaughter.

For ease of management, all cattle are sold through Muchea. Within their production system, Ken & Dawn don't have the time, resources or herd size to put lines of cattle together. Various economic analyses of cattle stations have shown that it is the cost of production that drives enterprise profitability, not price received, so given their low cost operation, it is hard to see how time taken out of other activities, and devoted to marketing, will be worthwhile.

Cunyu has a bull ratio of about 8% which allows two bulls per water/mob and gives good coverage across the station.

All cattle vaccinated for botulism annually. Most calves are vaccinated twice; at marking and at weaning.



**Cunyu cattle**

## **Mustering**

As part of a MLA project run on Cunyu, looking into cattle production in the Southern Rangelands, Ken found that a mustering efficiency of 70% was the best that could be achieved with an aircraft, and Cunyu has quite open country. Mustering is now usually done twice a year, during autumn & early summer, with an annual **mustering efficiency of over 90%**, achieved through the use of trap yards and mustering twice a year.

Depending on season, cattle are mustered using a mix of trap yards and picking them up on the natural surface waters. Trap yards are very effective when conditions are dry and cattle have been trained to use both the in and out trap spears to get into the yard for a drink. (It is essential that no tank overflows outside the yard). Mustering is done in clusters from several trapyards into a central processing yard, which also has trap spears to the water yard. Cunyu has nine sets of processing yards meaning most cattle have no more than 9km to go, with a 14km walk being the longest.

At muster, the out spear is closed off and the trough turned off. Next day cattle are quietly let out, mothered up and walked to the processing yard with a buggy. Normally only one person takes them in. Yarding up is easy as the cattle are thirsty and used to going into a yard to drink. Usually, the trap is set for the second day to pick up cattle watering at longer intervals. The small numbers handled means calves are not mismothered.

## **Pasture management**

2016 was not an effective rainfall year for Cunyu, an effective year being good summer rain and a follow up. Cunyu received winter rain of about 50mm, not enough for good pasture growth but, at the time of our visit, it was evident there was a significant hay-stack of feed available, which was reflected in the body condition of the station's cattle.

DAFWA rates the carrying capacity of Cunyu at over 4000 head but Ken believes this figure is excessively high. Cunyu sustainably runs about 2,700 head. Feed budgeting is informal, all being done in Ken's head, with his stocking rate decisions being driven by the need to maintain a level of forage that ensures the station turns off cattle, in good condition, year on year. Nine rain gauges across the station are Ken's best planning tool in achieving this.

Ken's pasture management supports his beliefs that you can't sustain an arid rangeland pastoral business on a boom & bust cycle. A sustainable business needs a regular cash-flow which can only be achieved on an arid rangeland station by maintaining a conservative stocking rate to ensure that your country can produce good animal product year on year. To that end, Ken aims to manage his grazing pressure, by adjusting numbers, to ensure he can still turn off animals after two failed seasons. He can do this because he has achieved control of Total Grazing Pressure on Cunyu.



### **Cunyu Grasses**

### **Total Grazing Pressure (TGP)**

It has been argued that in the absence of TGP control, it is economically irrational to run conservative stocking rates in the southern rangelands. Income and station value are both driven by livestock numbers, so the economically rational response is to maintain maximum numbers for as long as possible. Whilst in the longer term this results in degraded and non-productive landscapes; any time before total ecological collapse, the economic reasoning is sound, as seen and experienced by many southern rangeland pastoralists in the current livestock market.

But, **Ken does have TGP control**. He has achieved this through the use of fencing; trap yards; active culling of all large feral animals; kangaroo management; and exclusion fencing around the permanent waters. Ken has compiled a list of tips, attached, on how he used his trap yards to achieve this.

As a consequence of conservative stocking, in good years Cunyu grows a lot of feed that will never be used, but Ken sees these times as building an ecological reserve. It means that in average or poor years, cattle remain in good condition for sale and reproduction.

### **Yards, paddocks & waters**

Cunyu has 56 waters including several pipelines. 44 waters are trapped. Waters that aren't trapped are turned off in the normal way for muster (they are in areas where feral animals and kangaroos are not an issue).

Cunyu's trap yards are a very simple and light design, see the attached photo. They are a square yard of 25m to 35m dependant on mob size, with in and out spears and a 3m gate all on the one side. They are made of septic mesh supported by steel posts or grader blades, concreted into the ground at the corners and gates. The septic mesh is twitched and strained, not welded to prevent breakages. The sides are 1.4m high. The bottom side of the mesh sits on the ground, in order to make life more difficult for kangaroos. All the trap gates and most yards have a cap rail, which has proved effective at keeping camels out.



**Cunyu trap yard**

Cunyu has nine processing yards across the station, spread out so that all cattle are walked to where they are processed. Once again, these yards are light, thus low cost, built for handling the cattle that the station has. Ken holds to a philosophy that you cannot afford to over-invest in infrastructure in the arid southern rangelands, due to the low carrying capacity of the country. Material costs for these yards, making use of a lot of second-hand steel, were \$2,400 each. Ken asks: "Why have one Rolls Royce when 9 Holdens do a better job?"

Portable yards were used in their early days but Ken found them not appropriate due to the labour required. The portable panels have been used to build the races of their process yards.

When aerial mustering was undertaken, the yards would comfortably hold 450 – 500 head. These days, with mustering conducted by just Dawn & Ken, mobs of around 120 – 200 head are yared, with processing completed by around 10am, leaving the remainder of the day for trucking, bringing in other mobs, or other tasks. The yard design ensures that one person can process cattle if required.

Hay is not needed in Ken's operation. Weaners are carted away that day or the following day. Sale cattle are stockpiled into one of three 2.5 square km holding paddocks at the main trucking yards for up to eight days. Occasionally, some of the other smaller weaning paddocks may be used to feed animals held for sale, provided there is sufficient forage reserves after the weaners have been through.

Ken and Dawn have a fair bit of fencing on Cunyu, used for their holding paddocks, fencing off natural waters, internal subdivisions and boundary fences. It is all electrified and is low maintenance. The design is a three wire electric suspension fence. To ensure some protection from lightning, only the middle wire is live. They are powered by solar energisers. Pickets are 45m apart using a metal dropper between with an insulator attached. Porcelain insulators are used throughout. This fencing both holds Cunyu's cattle in and keeps most feral grazing animals out.

### **Summing up**

Ken and Dawn have created a sustainable production system on Cunyu, though Ken stresses that while their system is good for their particular country, business and personal circumstances, every station is different and will require different solutions and management.

Ken also stresses the importance of quiet cattle and the benefits are obvious in incredibly efficient mustering, low cost handling infrastructure and no requirement to keep cattle on-hand and feed them. This is probably low cost beef production at its best.

But what really drives production on Cunyu is the feed produced through having control of Total Grazing Pressure, thus allowing the management of low grazing pressure through a conservative stocking rate.

Many thanks to Ken and Dawn for hosting our visit to Cunyu, letting us in on some of their passion for good management and for passing some of their hard earned knowledge. Thanks also to Kane Watson and Rangelands NRM WA for this facilitating this event, it is greatly appreciated.

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### **Ken's tips for managing TGM yards**

No water in overflows or leaks from tanks – must go into yard to access water.

For kangaroo control, mesh to the ground (use wire ties not welding so flexible).

Build TGM yards in a cluster – all animals tend to shift off the water if only one yard built.

Concentrate your first clusters where you will get best returns – high feral animal problem area or hard to muster areas.

Have gate and trap spears all on the same side – and build both an in and an out trap spear and face the gate in the direction you want the cattle to go when released (towards the handling yards).

Put trough away from sides of yard otherwise kangaroos get head caught in mesh and camels push down on the fence.

When mustering, turn off the trough in the TGM yard to focus cattle on heading towards water in the handling yards. Have the gate in the direction you want them to go.

Efficiency of trap yards. When dry, 100% of cattle watering there (over 2 days if some stock watering every 2<sup>nd</sup> day). Even if it rains overnight, you still have the cattle in the trap.

Train the cattle. Get them used to using the narrow trap entrance before putting in some of the trap spears, then more spears. Once educated, the older cattle will remember how to use the trap spears and then the gates can be opened so that calves can escape dingo.

As we have dingoes, in the breeder area, we leave the gates wide open for the calves. About a fortnight before we muster, we train the calves into using spears. After muster we open up again.

Trap spears are in year round in the steer area. Steers can ignore an open gate to go out the exit spear, so they may need reminding before muster on where the gate is.

Trap yards make cattle quieter and easy to muster as used to going into a yard for water

Cap rail on the trap spears to stop camels entering trap – denies them water

Feral animal control easy if a network of TGM yards. And the cattle are not stressed nor thirsty.

Exclusion paddocks around permanent pools must be big so that animals are not able to sweat on the fence trying to get to the water. Electric fencing only. Suspension fence.