Spinifex Workshop Nov 18 & 19.

- *The Kimberley perspective,are we any different?*
- *Monsoonal climate for much of the area.*
- *Are able to use fire in the wet season.*
- *Quite diverse Spinifex occurrence from coastal swales to range top.*

Spinifex-commonly used name by many to cover a large number of prickly hummock grasses belonging to the genera Triodia and Plectrachne.

- In the Kimberley there are at least eight species in sufficient quantity to be considered significant in any management planning.
- Spinifex is a significant component of stock feed on pastoral land therefore the fire management of the species is very important.

In the Kimberley Spinifex flowers for only a brief period during the wet season and without flowers present identification of some species is very difficult.

- There are soft Spinifex species-Curley (*bitextura),*Feather-(bynoei), Soft-(*pungens).*
- And there are hard Spinifex species-Winged(*intermedia),*Rock-(racemigera),Limestone-(*wiseana).*
- As well as colonizers like Beach Spinifex-(*longifolius).*

With such specie diversity it is important to know what species you are dealing with because of a number of factors!

There is evidence that specie dominance can occur following a fire event when grazing pressure targets the most palatable species thus allowing others to dominate the site!

- There is evidence that areas of soft Spinifex have been taken over by the less palatable hard species in areas of high stocking or heavy post fire grazing!

- There is also Spinifex sites taken over by recovery plants like Acacia following a hot fire that has killed the mature Spinifex and the seedlings are overtaken.

Not only the fire management needs care in the implementation and monitoring, the post fire site recovery management is a critical element in determining the final outcome achievable!

- A Spinifex site burnt hot with Acacia & Grevillea established as post fire recovery
- As pastoral grazing land management becomes a major issue.

What are the Spinifex management regimes currently in us in the Kimberley.

- Biodiversity enhancement with vegetation age diversity.
- Reduce the potential for unplanned fire events burning out an entire range in the late dry season
- Using fire in the wet season to remove Sorghum germinants from within areas that were pure Spinifex.

Wet season fire has been used to establish fine mosaics within Spinifex areas on upland sites that have had fire excluded for extensive periods.

- Spinifex will burn well in the wet season even with high humidity so long as there is wind>10km/hr!
- Fire scar size is managed by time of ignition!

Some examples of wet season burning in different Spinifex species over the past two years.

Early dry season burning objectives are to remove annual grasses by implementing a series of mosaic & fuel reduced buffers in collaboration with neighbouring landholders.

- Areas chosen are generally low in the landscape with some form of natural barrier like greener fuels or creek lines.
- Areas of Spinifex are not directly targeted as part of the early burn program but some are included.
- Pastoralists do target Spinifex and try to implement a 3 to 4 year rotation as part of their fire regimes.
- Spinifex species in the Kimberley will burn at age 3 especially if the previous fire was mild and the regrowth is from mature plants

There is much more work that need to be done within Spinifex vegetations in both sporadic rainfall zones and within the Monsoon belt.

- We knew that the large areas of Spinifex between the Pilbara & Kimberley were prime to be lost to lightning fires at any time this dry season.
- The general age was>4 year old but not sure how diverse beyond that age.
- Considered too young to have a general fire but needed some break-up by mosaic lines supported by natural fire barriers within the area.
- An attempt was made between agencies to

Areas of Spinifex & grassland associated with sandstone Ranges require a lot more monitoring work year round to better understand the biocoenosis of these rich areas.

- Little is known of the stocking level and diversity of critical weight range mammals that these areas support year round!
- More information is required on what is the rate of accumulation of mass by species of the Spinifex within our Regions.
- What is the optimum fire frequency to ensure specie seed stores are enhanced because values from 5 to 17 years are quoted!