

Where have all the breeders gone?



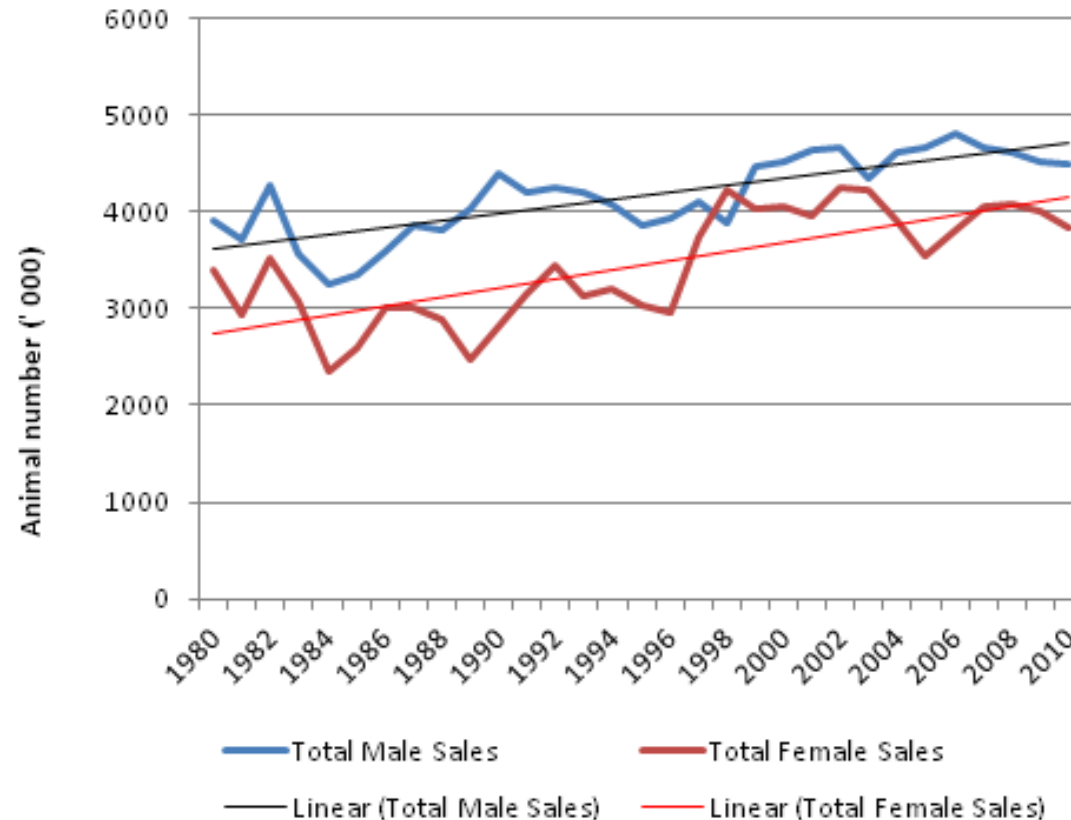
Telemetric monitoring and detection in
cattle for extensive production
Scott Norman and David Swain

Trend in national turnoff over a 30 year period – comparison of males and females

- Data from MLA project code B.CCH.2032
- Between 600,000 and a million females are missing from the national beef herd annually



Image – G.E. Niethe



So....our selected pathways for monitoring parturition

1. An intravaginal "always on" wireless transmitter using Taggle technology

- This answers the switching question since the difference between detection and no detection is attenuation of the signal while within the vaginal vault
- It also answers the battery power requirements as low-energy wireless transmission isn't power hungry

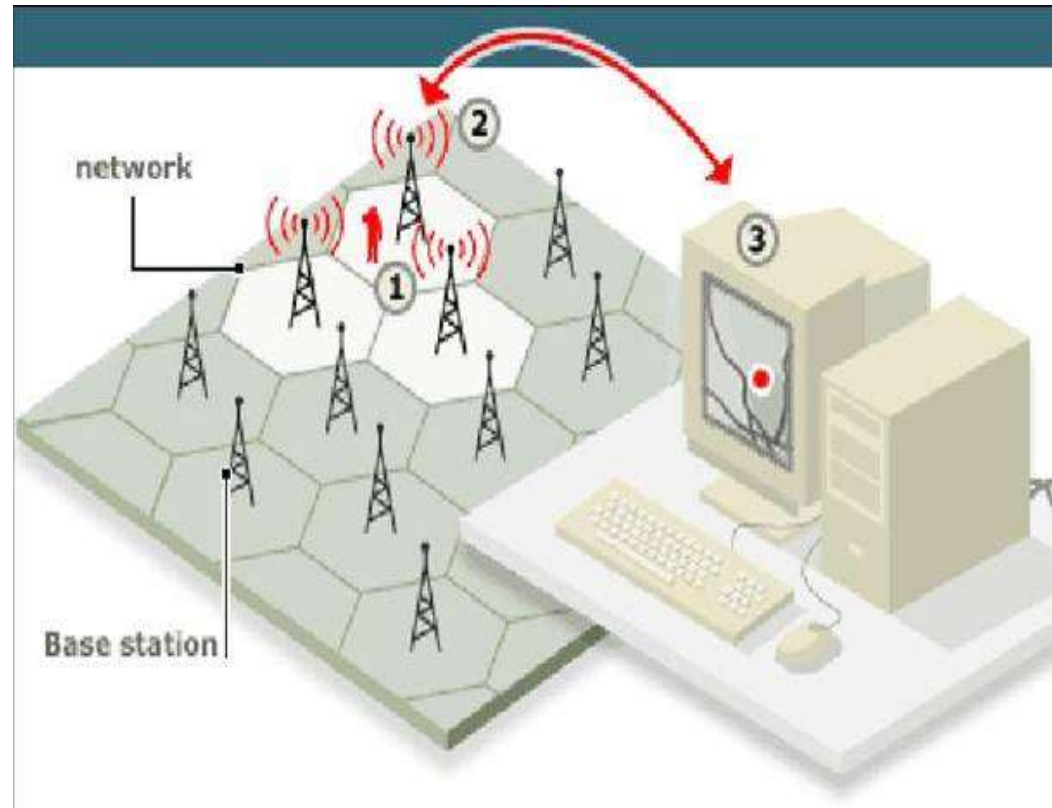
2. Periparturient behavioural algorithms using wireless transmitter ear-tags

- Low power requirement as above
- The "switch" is not dependent on the device, but a computer-base algorithm



The MLA Calf-Alert / Taggle Wireless Network System

The Taggle location detection system. A network of radio receiver towers triangulates the location of the Calf-Alert transmitter device, sending data to a base station for analysis



Calf Alert in Action



This is what a basic antenna set-up looks like



The Calf Alert Signalling an Event

Telemetric Options for Cattle Production Based on this Technology – all using the same antennae

Detection of Oestrus

Monitoring bull activity

Bull/cow proximity - potential breeding dates and parentage

Maternal behaviour monitoring

High resolution rainfall monitoring

Dam level and water reticulation monitoring

Quantifying metrics such as days to calving

