

**Report on the behalf of the Collett Trust for Endangered Species,
Estancia Don Luis, Corrientes.**

Background

The Esteros del Ibera is an area wetland area of global important in North east Argentina. This area is a National Park of some 13000km². In addition the Lagunas y Esteros del Ibera totalling 245.5km² are also designated as a Ramsar site. Whereas this area has protected status, in essence the land is not exclusively managed for the endemic wildlife. Owners of land are free to graze cattle and to plant forestry plantations, all of which diminish the quality of the land and though the ensuing habitat fragmentation, inhibit the free movement of the local fauna within the region.

Estancia Don Luis is a former working cattle ranch comprising of 1600 hectares of wetland which was purchased by the Collett Trust for Endangered Species in April 2010. Part of the land owned by the Trust is part of the Esteros del Ibera National Park, and it also shares common boundaries with land owned by the Conservation Land Trust. The Collett Trust is working to restore the land to more of a natural state in order to encourage local flora and fauna. This restoration work has so far included removal of non-native forestry plantations and control of some of these tree species that have become invasive and removal of cattle from the land.

Although the land of the Estancia itself has not previously been formally surveyed for either flora or fauna the Head of the Collett Trust, Miranda Collett, is both a photographer and skilled bird identifier and so bird species were omitted from the initial scoping study looking for possible survey techniques. Species focused on in this study included bats amphibians and reptiles (report by Kate Shama), as well as mammals caught on camera trap and direct trapping for small mammals.

Small mammals (rodents, insectivores) are often species which are overlooked in species surveys of areas with people choosing to concentrate on larger, more charismatic species such as maned wolves (*Salvatori V et al*), foxes (*Funes et al*) or jaguars (*Soisalo et al*). Small mammals are also subjects that are difficult to survey using non-invasive methods such as camera traps and as such live trapping (Richter & Azous) as well as looking for signs of small mammals such as faecal material (Nams & Gillis), footprints (Palma & Gurgel-Gonçaves) or by looking for road casualties.

This report will focus on the small mammal trapping methodology and possible future work.

Field Workers

The Study was conducted by Dr Amy Louise Hall CBiol MSB MIEEM and Kate Sharma BSc (Hons). Photographs were taken by Gregory Guida. The work was undertaken between the 10th and 26th March 2011.

Study Site

The study site lies in the Corrientes region of Argentina near to the border with Paraguay, with the nearest town being Ituzaingo. The land at Estancia Don Luis is a mix of marshland, grassland, woodland copse, permanent pools, seasonal pools and drainage channels.

The area of the site chosen for the small mammal study was the area immediately surrounding the Estancia itself. This was in part due to the convenience of being able to bait and check the traps at ease (and also multi task by mist netting for bats at the same time), but also because a number of habitat types occur within this area.

Methodology

A variety of traps (Folding rabbit traps, large Sherman's traps, small Sherman's traps and a rat sized traps) were used. Five station points (Figure 1) were selected both around the edge (4) and within (2) the wooded copse. At five of six points one rabbit trap, one rat trap, one large Sherman's trap and one small Sherman's trap were placed within a 2 metre radius and if possible in areas which looked as if they were animal movement tracks. At the 6th site, due to a lack of traps only one large rabbit trap and two large Sherman traps were located. For the first trapping session the traps were set in a pre-bait mode (baited but not set to catch) for a day and night. For the rabbit traps and the rat traps this meant using cable ties to disable the door/trapping mechanism and for the Sherman traps (small and large) it meant placing food both in and around the traps, but leaving the trap door down. Bait used was a mixture of sardines, crunchy nut cornflakes, carrots, seeds, nuts, grain and cat/dog food.

The traps were set in the late afternoon and were checked at 2200 and 0000 and closed for the night. For technical reasons these traps were only set and checked for two days, with total trap nights totalling 46.

For the second session of small mammal trapping 6 station points were selected (Figure 1), each being on a straight line transect with a distance of approximately 10 metres from each other. For this trapping session the rabbit traps were not used due to the high likelihood of catching grey foxes, which were not a trapping target species. Station points 1 – 5 each had a rat trap, two large Sherman's traps and one small Sherman's trap located at them (within a 2 metre radius). Point 6 had five large Sherman's traps.

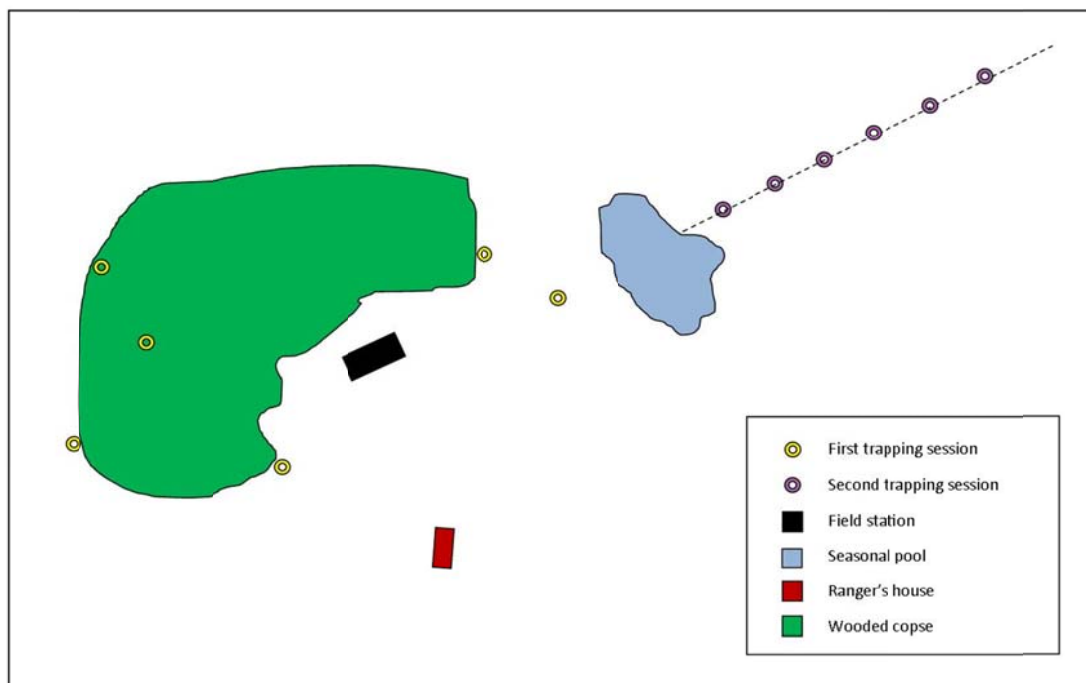


Figure 1: Site map and trap locations

The traps were placed in the field and were immediately set to trap. The traps were baited with carrots, seeds, nuts and grain. The traps were set between 0700 – 0730 and checked 1100 – 1200, 1500 – 1600, 1900 – 2000 and then 2300 – 0000 where they were closed for the night. This protocol was followed for 2 nights. For the next 4 nights the traps were left set for the full 24 hours and were checked at 0700 – 0730, 1100 – 1200, 1500 – 1600, 1900 – 2000 and then 2300 – 0000. Total trap nights totalled 150.

Results

No small mammals were caught during trapping sessions in the two different areas. During the first trapping session, at the second station point, one juvenile male grey fox *Lycalopex griseus* was

caught in one of the rabbit traps (Figure 2). This animal was visually inspected, photographed and released as it is possible to study its species via non-invasive camera trapping.

Conclusions

Given the presence of grey foxes within the area it was not at all surprising that no small mammals were caught during this brief trapping effort. Traps during trapping session one were disturbed by the grey foxes, with the larger traps often being triggered and the smaller traps chewed and moved.



Figure 2: Grey fox *Lycalopex griseus*

During the second trapping session it was decided to omit the sardines and cat/dog food from the bait mix as it was assumed that this smell was attracting the foxes. In addition the foxes had food provided for them by the field station in an effort to distract them. However, the traps in the second trapping session were sometimes disturbed by, and other times obviously scent marked by the foxes.

Total trap nights from both sessions was 196, which is a very low number. With a larger number of traps, and trapping occurring for a larger number of nights then the likelihood of catching animals would increase. It is noted from small mammal trapping efforts in other areas of Argentina that trapping rates for a marsh rat can be as low as 0.090/100 trap nights (Richter & Azous).

It is obvious from the health and variety of predators within Estancia Don Luis that there must be an abundance of small mammals forming part of the prey source. As a nest of rodents (to be identified) was also located within marsh area close to the house it is also known that members of this family are breeding.

Further Work

As no small mammals were caught, it is difficult to suggest way to improve the methodology used within the pilot survey. It is perhaps the lack of traps and time spent trapping that lead to no captures, but the biggest factor is likely to be the disturbance caused by the recent fox population. One suggestion would therefore be to set up larger trapping grids and trapping lines within the property hoping that increasing the trapping effort will lead to captures. If this was undertaken then the traps should be tied down so that they are not moved by foxes.

The weather could have also influenced the lack of captures. With the land being so dry during the pilot study the small mammals had far more area in which to forage than would have been available during the wet season, there was also an unlimited availability of food making trapping more unlikely. It would be useful to try live trapping within the wet season.

Non- invasive methods of studying for the presence of small mammals could also be undertaken, either in advance or in conjunction with a live trapping regime. Non-invasive methods are useful to find out basic presence/absence of small mammal species and are advantageous as they are less field worker intensive than live trapping, and can be carried out by un-licenced non-experts.

Such methodology would include walking transects along the roads in the area looking for footprints (Palma & Gurgel-Gonçalves), using tunnel traps (baited drain pipes with a muslin cloth over the end) to look for faeces (Nams & Gillis) using bait sticks to look for presence/absence and searching for dead bodies along the sides of roads.

Statistically prey populations can also be deduced from the number of predators within an area, and indeed a co-ordinated grid of camera traps recording predator numbers could help to calculate prey abundance. This method could be used if the direct sampling methods fail.

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