CyberTracker Applications in Namibia

by Simon Mayes

Since Namibia gained independence in 1990 Community Based Natural Resource Management (CBNRM) has gained importance as a tool for increased rural development. In 1996 the Namibian Communal Areas Conservancy legislation was passed by Cabinet. This legislation has effectively given conditional rights over wildlife and tourism to communal area dwellers who meet legal requirements. These rights, however, also bring responsibilities and conservancies need to demonstrate to government that they are capable of managing their wildlife sustainably.

To manage these resources conservancies need to have an understanding of their wildlife resource and need to monitor it in a manner that is acceptable to themselves and the government agency responsible for wildlife conservation.

Application

West Caprivi

In 1990 the Community Game Guard (CGG) system was implemented in the Caprivi region of Namibia and the initial emphasis was to stop poaching. These CGG's were chosen by their respective communities and paid with donor funding. Besides the prevention of poaching, other duties included assisting farmers with problem animal control, community feedback meetings and wildlife monitoring.

The San CGG's in the West Caprivi were particularly enthusiastic in collecting wildlife data but it soon became apparent that a measure of effort was required as much of the data were collected during random patrols which were conducted over a few days. At this stage a consultant Dr Peter Goodman was contracted by the programme to assess and improve the method of wildlife monitoring and include an index of effort.

The West Caprivi supports diverse wildlife with buffalo and elephant the most numerous. In the dry season they tend to concentrate close to the Kwando and Kavango rivers. Anecdotal evidence from the CGG's suggested that they moved to the central woodland region during the wet season. There was also strong evidence that there was movement of wildlife to Angola in the north and even more to Botswana in the south.

Aerial censuses are conducted in the dry season and search effort is greatest in the concentration areas along the two rivers. The central area is generally subjected to less search effort. It was thus decided to implement some of Dr Goodman's recommendations and

develop a monitoring system that would address some of the shortcomings mentioned above. A census would be conducted that could measure the size and trend of the wildlife resource in the wet season. An aerial census would not be appropriate due to the density of woody plants in the wet season, while the densities of a number of smaller but important species are relatively low and aerial detection rates would be very low. It was thus decided to conduct a foot line transect census with CGG's and community volunteers playing a leading role.

A series of transects based on lines of longitude three minutes apart were calculated and individual routes chosen on grounds of accessibility (See Map A). For the first two years observations were recorded on paper forms and a GPS was used to navigate along the transect. Data were then entered into a database. In 1999 the CyberTracker was used for the first time, this increased the efficiency of the count by being able to download directly into the CyberTracker database and then exporting the data to the dedicated wildlife database. Much effort was spent by technical staff in developing the CyberTracker sequences and database, but being a once off development activity and then testing it in the field, made the effort and expense worthwhile. Map B is the record of where the CGG's walked and where each observation was recorded. The logistics of this count cannot be under estimated in terms of time and expense. A total of 560 km were walked during the five days of the census. Not only did teams have to contend with the long distance walked (between 15 and 22 kilometres) but also the thick bush and long grass as the count is always conducted in April at the end of the rainy season.

East Caprivi

During 1999 game count transects were set up in East Caprivi registered and emerging conservancies to monitor wildlife. Due to low numbers of wildlife most data collected is spoor data.

In each conservancy discussions were held with the CGG's on how best to apply the CyberTracker. It was decided that a similar system to the West Caprivi annual transect count be set up i.e. a simple system which maximises local participation. As the conservancies are much smaller than the West Caprivi it would be easier to do the counts more often. Thus counts could be done to coincide with the different seasons and therefore record the changes in distribution according to wet and dry seasons.

Transects were planned according to the size of the area and randomly placed two or three minutes apart (See Map C). Waypoints were created so the GPS GOTO function could be used to ensure the CGG's walked the same transect during each count. Training was also undertaken by technical advisors and San CGG's from the West Caprivi. Many of the San CGG's had developed a "knack"for the CyberTracker and were initially used during the first counts in the East Caprivi to do on job training.

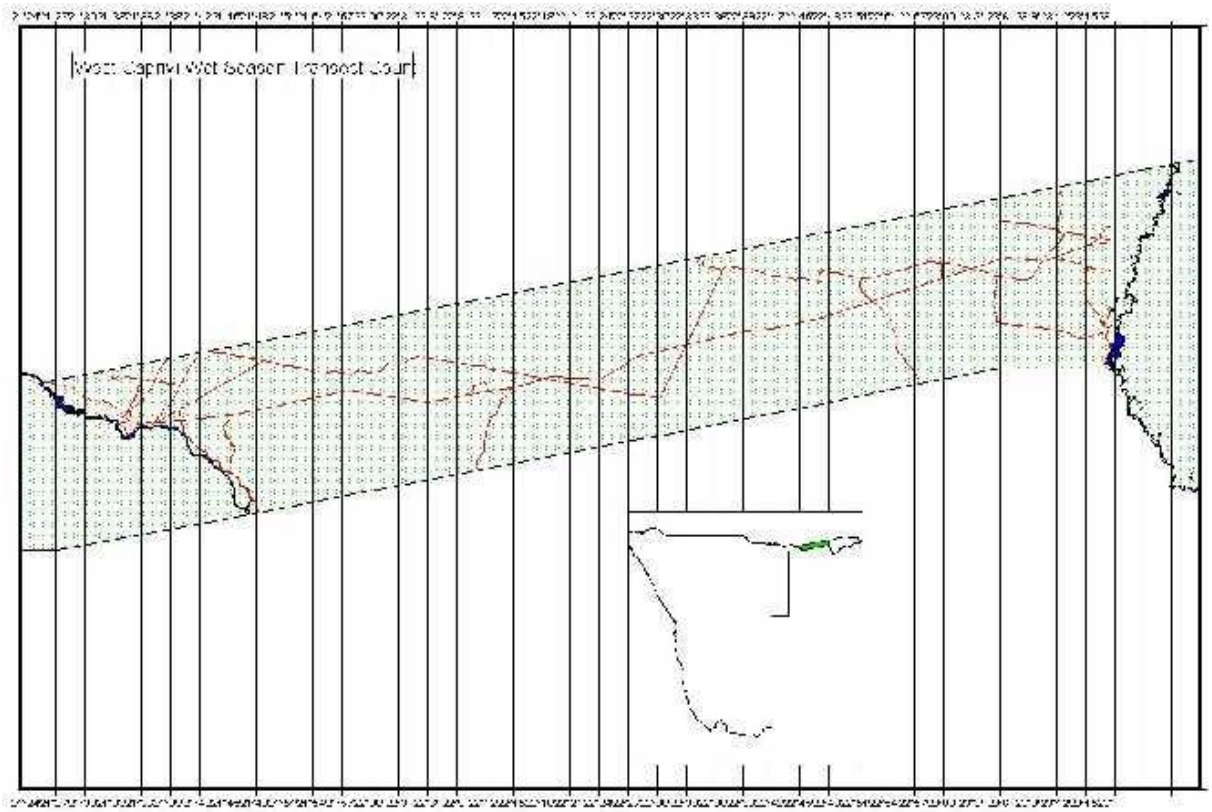
Over the past three years of successive counts individual East Caprivi CGG's have become more adept at using the Palmpilot and CyberTracker program and they are often used as

trainers for new CGG's or for demonstrating to project visitors how the CyberTracker works. An indirect spin-off of the CyberTracker is the sense of pride it has created among the CGG's (many of whom have low levels of literacy) on how they have mastered a hand held computer. The East Caprivi Conservancy CyberTracker counts have also become an important activity where all the CGG's from the various Conservancies and areas outside Conservancies come together, meet up and get involved in monitoring other areas. During these counts the CGG's are moving from area to area, camping together and generally discussing their work and building up camaraderie. Map C shows the present use of the CyberTracker in East Caprivi.

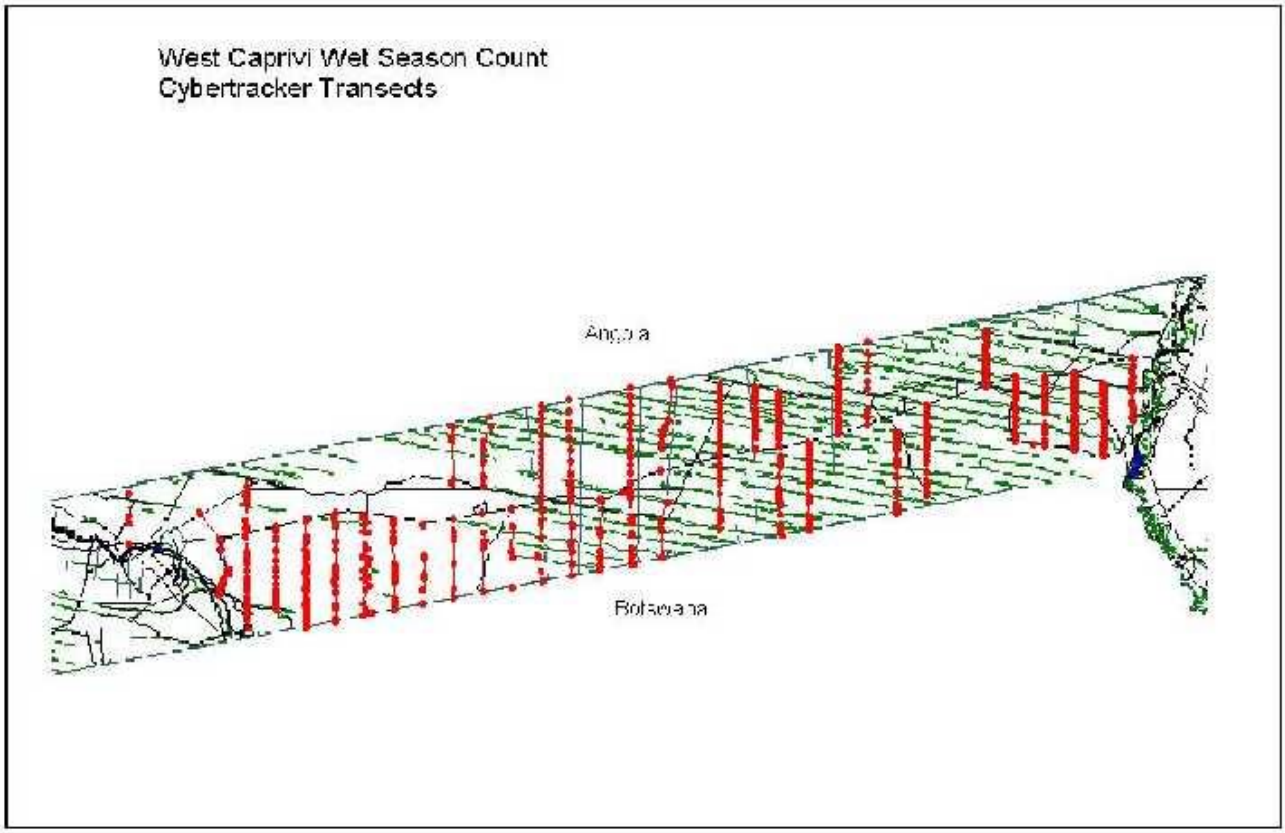
Although wildlife population numbers cannot be estimated in the East Caprivi conservancies due to the low numbers of wildlife sightings, the CyberTracker data can nevertheless be used for developing trends while important distribution data are also acquired

Further use can be made of this data in the Conservancy management plan where land-use planning and zonation are important. Trend data is also important for adaptive management. During a workshop on the formation of a management plan CyberTracker data was overlaid onto the conservancy map and the committee members used this and other data to zone their wildlife and farming areas.

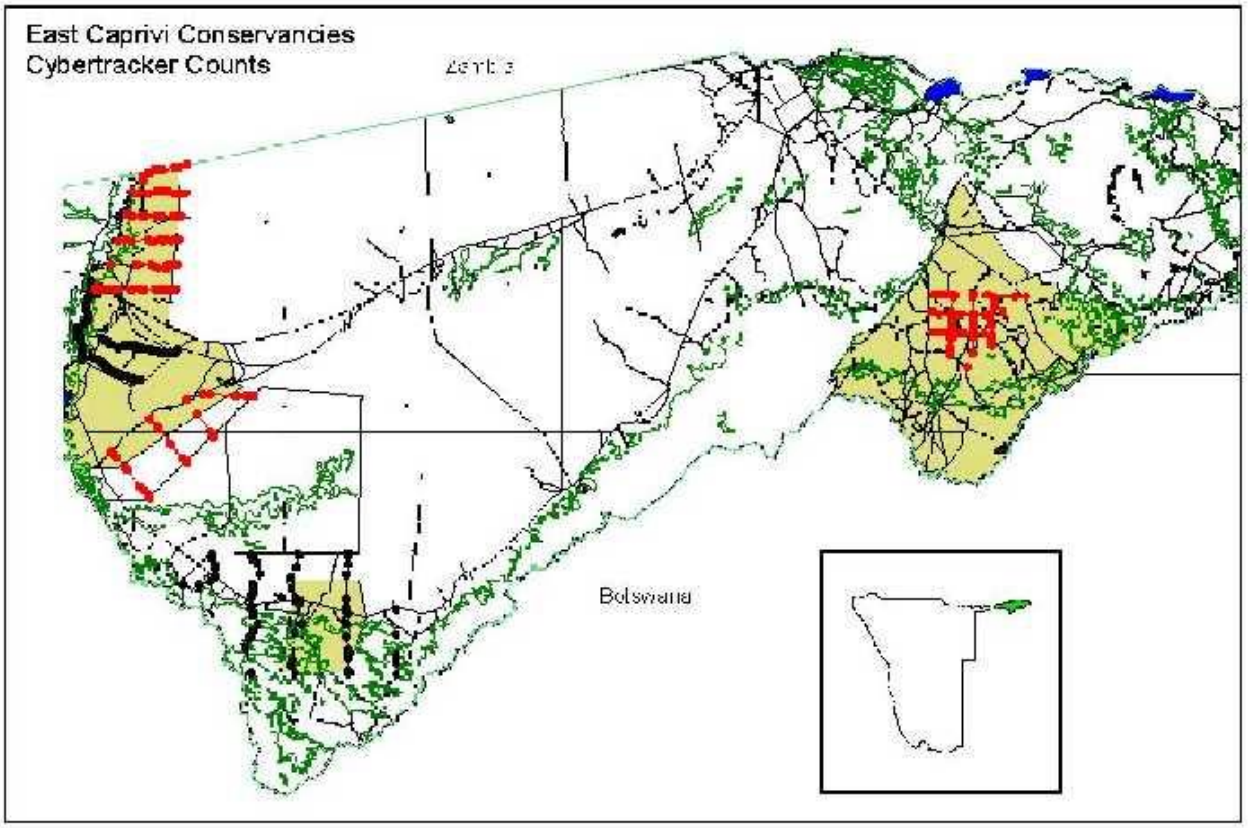
Map A



Map B


West Caprivi Wet Season Count
Cybertracker Transects
Angola
Botswana

Map C


East Caprivi Conservancies
Cybertracker Counts
Botswana

Challenges

The CyberTracker counts have highlighted the fact for many conservancy committees that large numbers of wildlife do not occur in their conservancies. Thus the importance of the national Parks in the Caprivi has increased as a reservoir of wildlife which can re-populate conservancies.

Maintenance of hardware and software in the Caprivi is probably one of the biggest problems. The laptop computer used for the downloading has had problems which resulted in it being sent out of the area for repairs. Due to this no counts have yet been conducted this year. Furthermore technical input is often required from Windhoek when problems are encountered in the field. Technical problems are a great inhibiting factor which seriously challenges the sustainability of CyberTracker counts.

Replacement costs of hardware is high and unlikely to be sustainable in the long term when conservancies shall need to cover their own costs.

While there are the challenges of technical and financial sustainability, there is also a major challenge facing technical advisors who need to ensure that data are managed and analysed optimally and that conservancy management bodies are able to use these data to make better informed decisions. This challenge is being confronted a d creative ways to deal with it are presently being sought.

Simon Mayes

2002