



Education Officer, Jean Thomas
conducting drama education programs



Villagers participating in field surveys



Project Manager, Jim Thomas
conducting training of local villagers.



Critically Endangered Scott's Tree
Kangaroo, locally known as Tenkile.

Tenkile Conservation Alliance Report to Zoos Victoria

November 2004



1 Executive Summary



Scats collected in the field as part of the distance sampling research are examined back in Lumi.



Jim with the rabbits that form the basis of the protein development scheme



Construction of a rabbit hutch

The Tenkile Conservation Alliance project focuses on the Scott's Tree Kangaroo (Tenkile) as a flagship species for achieving broad forest biodiversity conservation outcomes in the Torricelli mountains of northern PNG. Two former ZV staff, Jim and Jean Thomas, have been responsible for the field-based component of this project for the past 18 months, with support from ZV, ARAZPA and Australian Volunteers International.

During this time this project has made significant progress including:

- Sign up of 17 of 18 village communities to a hunting moratorium zone.
- Establishment of a population monitoring programme to assess the long-term effects of cooperative conservation management on Tenkile and other wildlife.
- Training of teams from these villages to undertake population monitoring of Tenkile both within and outside the no-hunting zone.
- Successful training of villagers in the farming of rabbits as an alternative protein source, and establishment of rabbit farms in some communities.
- Establishment of broad-based environmental education programs in local schools, linked to generating understanding on sustainable resource use (eg. Wildlife) and forest management.

This programme provides an excellent model of how effective conservation outcomes may be achieved and assessed in developing communities when they are coupled with development of sustainable resource and economic alternatives

2 Background



Critically Endangered Scott's Tree Kangaroo *Dendrolagus scottae*, locally known as Tenkile

The Tenkile Conservation Alliance (TCA) is an established Non-Government Organisation (NGO) which means TCA is recognized and permitted to work in Papua New Guinea. TCA communicates regularly with government bodies and has established relationships with the local level governments of the Aitape/Lumi and Yankok/Nuku districts, Sandaun Provincial Government and the Department of Environment and Conservation.

Populations of people in the Toricelli Mountain Ranges have nearly trebled in the past 50 years. Traditionally a hunter/gatherer society this has led to a dramatic increase in the need for people to hunt and eat native wildlife for food. Together with changes in traditional beliefs and hunting methods this has led to the decline in wildlife within the area. Most species have reduced in numbers and distribution and there have been many local extinctions of various species. The two most endangered species in the area – the Torricelli Mountain range are the Scott's Tree Kangaroo, locally known as the Tenkile (*Dendrolagus scottae*) and Golden Mantled Tree Kangaroo (*Dendrolagus goodfellowii pulcherimus*). Their distribution has probably been reduced by 70-80% within the last 30-50 years

This decline in wildlife is also compromising the health and well being of the people in the area, who traditionally depend on this wildlife for their protein. This has contributed to low levels of nutrition in their diets, which is particularly deficient in protein.

The project aims to conserve the Tenkile through:

- Protection of Tenkile habitat through the establishment of a conservation area;
- Reduction of hunting of the Tenkile through a hunting moratorium;
- Improving the food security of local communities through the introduction of an alternate source of protein, alleviating hunting pressure on wildlife in the area;
- Raising awareness of the significance of the Tenkile and other wildlife within local community schools and villages, enabling them to make informed choices on the use of their natural resources.
- Developing the capacity of local communities to manage their natural resources sustainably, through education and training;

The success of TCA's action will be monitored and evaluated through:

- Population monitoring and research to assess future changes in the Tenkile population and other wildlife within the project area.
- Monitoring social impacts within the communities including affects of rabbit farming on hunting patterns, workloads and health status.

3 Activities

3.1 Hunting Moratorium and Conservation Area



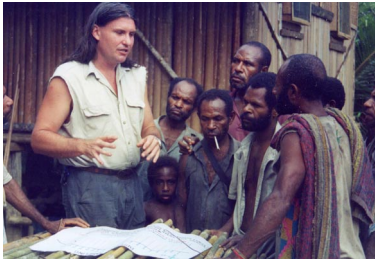
Traditionally hunting of wildmeat has supplied protein for the villages

TCA has an agreement with villages that have Tenkile on their land whose village leaders have signed a hunting moratorium on their behalf. Previously this meant everyone agreed not to hunt Tenkile. Presently all 18 villages within the moratorium have agreed to:

- Not hunt Tenkile
- Not hunt the Golden Mantled Tree Kangaroo
- Not hunt any wildlife at the seven research sites TCA has established in the mountains
- Not hunt with dogs in the mountains

TCA aims to establish a conservation area with the villages. If successful this will be a recognized protected area under PNG legislation and therefore ensure the legal protection of the habitat and fauna within the Torricelli Mountains from commercial and local exploitation.

3.2 Research



Training local villages in distance sampling techniques



Preparing for field surveys.



Jim, demonstrating the use of the GPS unit

With the full support of the landowners and surrounding villages, the TCA has established seven research sites within Tenkile's habitat. Each site is located on the ridge of a mountain and is 3-6 hours walk away from the nearest village. Each site is protected and maintained by two or three villages.

TCA has begun distance sampling to determine the population density of Tenkile via scat counts. A 1km baseline is established with 20-30 transect lines. Each transect line consists of 1-30 points with approximately 200 points at each site. Each site is surveyed for scats by a team of 12 people which takes 5 days to complete. All seven sites have been surveyed in 2004. TCA has trained two people from each of the 18 moratorium villages as Distance Sampling Officers. These people are now able to record data, use some research equipment and work efficiently in the mountains. TCA aims to improve each research site by building huts at each site. This will mean safer housing in the mountains, basic equipment can be stored, surveys can be for longer periods of time and the needs of other researchers, visitors etc is facilitated. This idea has the full support of the landowners and villages.

Initial data collection and methodology will be reviewed over the next three months. Some refinements to the methodology will be incorporated to ensure that sound density estimates are made.

TCA aims to include scat counts and analysis of other mammal species therefore giving a bigger picture to the overall conservation being achieved at the seven research sites and by TCA in the Torricelli Mountains. This research would deliver a clear picture to the changes in human hunting practices as well as researching many more species which have received little or no attention from science. TCA aims to continue with the training of Distance Sampling Officers and to improve working standard by purchasing more research materials needed for work in the Torricelli Mountains.

In 2002 an anthropological team came to Lumi and visited many of the moratorium villages. During their stay Nancy Sullivan and her team from Divine Word University produced a report on the culture and beliefs of the villages TCA works with. This report also gave TCA an insight to what the people thought of the program. TCA would like to implement a follow up report from Nancy Sullivan (Divine Word University-Madang) to assess the impact of TCA's work in the last 2 years and to make valuable comparisons

3.3 Education



Students learn the principles of ecology through a food web game



Jean conducting nutrition courses with local women



As part of the nutrition training, children are weighed and their development monitored

TCA's conservation education program reaches three major audiences: schools, villages and Sandaun Province.

Schools

During 2003 TCA's education program consisted primarily of school visits. TCA conducted a 3-day conservation education program in 5 community schools (primary) and 2 high schools. This 3-day program outlined the work of TCA, included some scientific principles and addressed local conservation issues. The program used interactive activities, discussion and debate and art as a means of teaching and learning. Students learned about classification, tree kangaroos, Tenkile, biodiversity, conservation, symbiotic relationships and rainforests. The program was altered to suit each academic level.

During 2004 TCA continued conducting the 3-day education program to schools and aims to do so in 2005-2006. In 2005 TCA also aims to conduct a one week teacher in-service training course. TCA aims to provide teachers with a manual outlining the 3-day program with relevant background information on the scientific principles and conservation issues and how this relates to the PNG curriculum. TCA's goal is to make this conservation education program sustainable for future generations.

TCA has established a link with an Australian High School. This school has produced conservation books for TCA which will be delivered to the PNG schools in 2005. Some pen pals have also been established between students. TCA aims to expand on this to include representatives from all schools in the Lumi area. TCA will be providing schools with other conservation literature such as books, posters and wall maps from Pearson Education. TCA is in the process of producing local language books and posters for elementary schools.

TCA also aims to establish a scholarship award for students that attend the St. Ignatius High School (the only high school that provides year 12 in Sandaun Province). This would promote and encourage students to follow a career in science and hopefully establish a long-term benefit within their community and TCA.

Villages

TCA has developed and implemented a drama based education program to six out of 18 villages and will complete this program by the end of 2005. This program has proven to be very popular. Songs about Tenkile, conservation and Distance Sampling have been composed by villages and recorded. These songs now feature in TCA's weekly radio program. Locals have expressed interest in forming a TCA theater group that will perform to nearby villages. TCA aims to establish a theater group by the end of 2005 and conduct performances in 2006.



A new radio program, focusing on the conservation of the Tenkile, has been developed, and aims to reach a greater proportion of the community.

Sandaun Province

In 2004 TCA established a weekly conservation education program on the local radio station-Radio Sandaun. TCA's radio program, which is aired every Friday night at 7.30pm, features the animal characters: Timmy the Tenkile, Rick the Rat and Clemen Cookie. These animals provide the basis to each week's conservation topic. The radio program allows TCA to reach a wider audience and can begin to address other conservation issues concerning the marine environment, pollution and rubbish which are relevant to the entire province. As most villages do not have radios and/or batteries, TCA aims to purchase solar short wave radios. These would then be distributed to the villages thus ensuring TCA's radio program is accessible to people at all times.

In 2005 TCA aims to include the Radio program animal characters in a puppet show for elementary schools and villages.

TCA produces a quarterly newsletter in Pigeon English (or Tok Pisin). This newsletter is distributed to each village, school and relevant government departments. It includes TCA's aims and work minutes of meetings and various conservation topics.

3.4 Community Development



Nutrition classes aim to address protein deficiency, a major health consideration within the community.

TCA has been conducting nutrition courses in each of the moratorium villages to provide women with information on alternative protein sources found in the garden and various cooking methods available to them.

TCA aims to increase its Community Development program by employing a full time agriculturalist to provide awareness and assistance on sustainable land management and a community development worker to address the issues of family planning, women and children's rights, health and HIV awareness. Both these positions would compliment the AVI program.

3.5 Protein

Farming



Rabbit farming has now been introduced to the moratorium villages as an alternate protein source

TCA is providing support, education and materials for establishing alternative sources of protein. To date TCA has conducted courses on rabbit farming, has established a rabbit farm in Lumi, has distributed materials such as wire, nails, hinges etc for villages to build rabbit enclosures and has distributed 102 rabbits to the villages of the moratorium.

In 2004-05 TCA will provide more equipment and livestock to the villages as well as training on rabbits, gardening and water supplies. TCA aims to introduce chickens, duck and fish farming as part of TCA's Protein Farming program as well as maintaining the momentum that has been gained with rabbit farming.

3.6 Research Station - Lumi



Tenkile Conservation House at Lumi

Infrastructure

TCA has use of approximately 2.5 hectares of land in Lumi. Presently TCA's infrastructure consists of a bush material house with two 1000 gallon water tanks, tin roof, a small solar power unit, storage boxes, filing cabinet, laptop computer, satellite phone and stationary. In Lumi TCA also has a rabbit breeding facility, garden and tree kangaroo enclosures. TCA aims to have a septic toilet and bathroom with permanent living quarters built for its staff members

TCA also aims to purchase more solar equipment so that its energy requirements are met and living conditions improved. Solar refrigeration is deemed a necessity. Security is an ongoing concern and so TCA aims to have a cyclone fence surrounding its entire infrastructure.

TCA has a small base in Wewak where staff stay when ordering and purchasing equipment and food, writing newsletters and reports, emailing and telephoning. TCA has a good relationship with another NGO – Help Resources, who own this facility in Wewak. TCA aims to improve this facility by renovating the living quarters and office space.

3.7 Administration



Local planes are one of the main sources of transport, particularly during the wet season when many of the roads are impassable.



Tenkile Conservation House at Lumi.

In order for TCA to function efficiently it requires certain operation costs such as insurance, PR, Website, communication cost etc. These are all outlined in the budget table.

Travel

TCA staff presently travel from Lumi to Wewak and back again every six weeks. TCA also travels to Lae, Aitape and Vanimo intermittently throughout each year to facilitate various components of its work. TCA staff return to Australia each year for at least a four week period. The cost of travel is considerable both in transport of staff and transport of equipment, food and sundries to Lumi.

Lumi can be accessed by road to Wewak. TCA has transported most of its cargo on the Wewak/Lumi road (or Sepik Highway) via 4 WD or 6 tonne truck. TCA aims to purchase a 4 WD utility to make transport of its staff and cargo more efficient and cost effective.

Staff

Currently TCA has three full-time staff

1. Mr. Jim Thomas – Project Manager
2. Mrs. Jean Thomas – Education Officer
3. Mr. Francis Elpiti – Caretaker Lumi

TCA aims to maintain these three positions for at least the next three years and also plans to employ three full time carpenters and a gardener for at least 12 months. Two new positions will also be considered when funding becomes available (an agriculturalist and community development officer).

