

Palm Cockatoo Conservation in Papua New Guinea

Community involvement at Crater Mountain

By PAUL IGAG and STEVE MURPHY

Located in the southern central ranges of Papua New Guinea, the Crater Mountain Wildlife Management Area (CMWMA) is a massive area intended for the protection of natural systems. The area covers some of the world's most pristine lowland rainforest to mid-montane cloud forest habitat, and supports many species endemic to New Guinea, such as birds of paradise, tree kangaroos, the long-beaked echidna and the dwarf cassowary. A number of recent studies on frogs, bats and plants in Crater Mountain revealed several species totally new to science, and there are sure to be more insects, reptiles and fish waiting to be formally described. Of those species that are described, often so little is known about them that even the most basic questions about their biology, such as feeding or reproduction, cannot be answered. Three of the most spectacular species falling into this category are Palm Cockatoos (*Probosciger aterrimus*), Pesquet's (or Vulturine) Parrots (*Psittichas fulgidus*), and Eclectus Parrots (*Eclectus roratus*).

The one thing that sets Crater Mountain apart from many other protected areas around the world is that people are still living a more or less traditional lifestyle within the forests. But with looming outside influences their lifestyles are gradually changing, and the implications of these changes for the three large parrots, and the local ecology in general, are potentially profoundly devastating.

In terms of land area, the CMWMA spans over 2,700 km² which covers the tribal lands of the Gimi and the Pawaia speaking people. Together, these groups comprise more than 20 clans who are mainly subsistence hunter-gatherers, with the exception of some clans in the highlands who have recently ventured into coffee and peanuts as cash crops. This trend is becoming quite common in the highland communities of Papua New Guinea.

For the Pawaia clans, the last decade has brought them great changes in the way that they have lived in the forest. One significant change is the improvement of medical services available to the people, which has increased the average life expectancy. Consequently, over the last decade or so, their lifestyle has changed from being small, semi-nomadic units (mainly comprised only of

immediate family members), to relatively bigger, more sedentary groups, which form more long-term communities.

In the past, Palm Cockatoos, Pesquet's and Eclectus Parrots had been hunted by the local people for various uses. All three parrots were hunted for food, but the Pawaia also hunted parrots for bride price payments, and in some cases the feathers or the whole bird was exchanged for dogs or pigs, or sold for cash to the neighbouring highland tribes. In particular, the red and black feathers of the Pesquet's Parrot are highly sought after by neighbouring tribes, who combine the feathers with Bird of Paradise plumes to make colourful head-dresses used in ceremonial events.

The introduction of coffee as a cash crop, the increased population and the shift to a more sedentary lifestyle has had major implications for the way land is used by both communities who live in CMWMA. In the Gimi communities, the monetary benefits gained from cash cropping has

stimulated more and more forest to be cleared for coffee gardens. In some cases, the land-ownership system is also changing from being clan-based to being individual-based. For the Pawaia, increases in family size and the trend towards more sedentary communities has meant that bigger forest patches are being cleared for gardening and also that the hunting pressure on the local wildlife is increasing dramatically. All of these changes have already had a significant impact on the environment and the wildlife in CMWMA. But there are other, potentially far more devastating threats looming. In the late 1980s, logging activities emerged in the clan-lands just outside the southern boundary of CMWMA. Unfortunately, logging in Papua New Guinea often involves companies who use unscrupulous tactics starting with government ministers and officials, and ending with the local landowners. Local people are often paid logging royalties years ahead of the actual logging operations which makes it difficult to choose more sustainable, yet



Paul Igag.



Steve Murphy.



Palm Cockatoo.

Photo: Roland Seitre



Looking northwest along the Nimi River Valley in Crater Mountain. A visually spectacular and biologically important area.



With all the gentleness and care in the world, Sopè Tawali measures a mature Palm Cockatoo chick, while Jawai Swai looks on.

less lucrative uses for their traditional lands. Felled trees are often taken that are below the loggable size limits, above government imposed quotas and within areas set aside for conservation or cultural significance. Then, in 1997-1998, mining exploration began in the northern part of the CMWMA. These outside forces are potentially so devastating that they threaten to damage irreparably both the precious ecosystems, and traditional lifestyles of the people within CMWMA.

In the face of these challenges, the conservation of Palm Cockatoos, and Pesquet's and Eclectus Parrots required a two-pronged approach. In the first case, a two year study was started in CMWMA in January 1999. The specific aim of this study was to look into the breeding and feeding biology that is so poorly understood for these species. Any other information about the parrots' ecology that emerged was also of interest. By gathering this information, the study hopes to point out to conservation authorities some of the critical factors that affect the survival of the parrots in their natural environment.

The second and equally important aim of the study is to involve the local people so that they can appreciate alternative uses for their natural resources. By actively participating in the project the local people learn about the long-term benefits of conserving their natural resources. From these insights it's hoped that the traditional owners will choose conservation over offers from the so-called large scale 'resource developers' which currently threaten the environment.

In 1999 four local assistants were trained to collect basic breeding and feeding data for the three focal parrot species. The assistants were young men who had had experienced working as



Seven Trained Local Observers (TLOs) take a well earned break from fieldwork. Hearing these men speak about their desire to conserve their forests gives great hope for the future.

trained local observers (TLOs) in previous research that had been conducted in the area. Their job was to help in conducting nest monitoring, and taking nest and growth data of the parrot chicks. Finding an adequate number of nests to study was a daunting task, which has only succeeded by relying on the traditional owner's intimate knowledge of their land. A reward system was initiated which was designed to encourage the search and reporting of nest trees. As the study progressed the number of nests steadily increased with most new nests being located further and further away from the main base village of Haia. The furthest that we have travelled to check a nest was three full days walking distance! It soon became obvious that more local assistants were needed to visit the growing number of nests. But before additional TLOs could be employed they needed to be trained. Basic training involved monthly demonstrations about the use of the field equipment such as tape measures, callipers, scales, rulers, altimeter and compasses, which were the main equipment used in the study. Those TLOs already experienced in using this equipment also assisted in the workshops.

Monthly monitoring

So far, the number of TLOs has grown from four to 12 in September 1999 and by early 2000 the Parrot Project, as it came to be known, was employing about 23 TLOs. This small army of dedicated conservation workers were organised into four groups, each led by an experienced TLO. There were three teams each of whom were responsible for monthly monitoring of the three focal species in designated areas. The fourth group was a parrot food processing group who prepare fruits for nutritional analyses, and included five young women - the first time female traditional owners from the area had ever been employed in field research. Their task was to measure, dry and pack the parrot foods that were collected and brought back to the small base-camp village of Haia. Even at this stage with the more than 20 TLOs working for the parrot project, still more requests were received by both the male and female members of the Pawaia and the nearby Daribi tribal communities to become involved in the parrot conservation project. They could see the social and economic benefits of conservation and wanted to become part of it. Even though the project desperately needed these additional offers of help, the people had to be turned away due to limited funds.

One important aspect that has emerged from this work was the respect that the TLOs have gained from other community members. Being involved in the Parrot Project has increased their social status because they are seen as skilled and valuable members of the community. The project has also gained widespread support from the entire Pawaia community and not just the TLOs. The vast area needed by the study meant that many more clans were now involved. This meant that for the first time, the economic and social benefits of conservation work (e.g. sleep fees, nest finder's fees etc.) were reaching many more people.

Although we have come a long way, as we come to the end of the first two years of the Parrot



A first for the Parrot Project in the region was to include local women in the work. Here, Lucy Soho (standing) and Magreth Yapi prepare fruits for nutritional analyses.

Project, the gaps that remain in our knowledge of the three large parrots have been revealed. One important finding from the research is that Pesquet's Parrots and Palm Cockatoos have a low breeding frequency and density compared to Eclectus Parrots. These sorts of trends have obvious conservation implications, but the factors which cause them are still unclear. It is possible that they're related in some way to the degree of dietary specialisation (Pesquet's Parrots and Palm Cockatoos being highly specialised, compared to Eclectus Parrots which have much broader diets), but much more work is required before we can answer these sorts of questions.

Over the past two years, the Parrot Project has instilled in the traditional owners an appreciation and desire to conserve wildlife and habitats. The intense and ever increasing interest in conservation work from the clans now means that the people-power exists to make long-term conservation within CMWMA a very real and achievable goal, despite the threats from outside forces. But it will come at a cost. The local people want to use conservation work as a way of establishing a long-term and sustainable life-style on their traditional lands. Our dream over the next few years is to generate enough funding for the Parrot Project, and similar projects, so that offers of help from the local people never have to be turned away ever again.

Acknowledgements

We would like to take this opportunity to thank the Wildlife Conservation Society of New York who provided the funds and the Research and Conservation Foundation of PNG for facilitating the research. Thanks also to Drs Robert Heinsohn and Sarah Legge who provided funding, climbing equipment and invaluable field experience. Thank-you to Stewart Metz for donating funds towards the climbing equipment which has greatly boosted the local assistants' interest in the field work. Dr Stephen Garnett had a very significant role in the initiation of this project in CMWMA, and without his input, the project might never have even started. Finally, thank-you to the traditional land-owners at CMWMA for allowing the research to be conducted on their land, their assistance in nest finding and all in manner of logistical support.

For further information or if you would like to send a donation please contact either WPT UK or Email steve.murphy@anu.edu.au.

