

A pack of African wild dogs is shown in a savanna landscape. The dogs have mottled brown, black, and white fur. One dog in the foreground is in sharp focus, looking towards the left. Other dogs are visible in the background, some out of focus. The ground is dry and dusty.

Going to the dogs

Fighting bush fires, dealing with wild dogs on the runway, removing a snare from a radio-collared lioness and collecting scats for a ground-breaking project... It's all in a day's work for the researchers based at Dog Camp in Santawani, a small research station outside Moremi Game Reserve in northern Botswana. **Emma Borg** caught up with their unassuming, but no less legendary leader, John 'Tico' McNutt. ▶

TEXT BY EMMA BORG



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ABOVE The sparkling waterways and fertile savannas of the Okavango Delta harbour an astonishing richness of animal life. The inter-relationships between its predator species – African wild dog, spotted hyaena, lion, leopard and cheetah – form a key focus of the Botswana Predator Conservation Trust (BPCT).

OPPOSITE, ABOVE PhD student Gabriele Cozzi is studying how lions, hyaenas and wild dogs ‘share’ a landscape. GPS collars on individuals within each study population record coordinates several times a day, information that is then overlaid on vegetation and distribution maps.

OPPOSITE, BELOW From their rustic home base at Dog Camp, Tico and Lesley McNutt have overseen the growth of the BPCT into a comprehensive and long-running research programme.

When John ‘Tico’ McNutt first arrived in the Okavango Delta in 1989 to complete his PhD on the behaviour and ecology of African wild dogs, not a lot was known about the species outside the Serengeti National Park (where it had been relatively well studied). Indeed, much of the available information was at best inaccurate and at worst downright myth, fuelling the persecution and eradication of populations in many areas. In the two decades that have passed since then, Tico has charted the life histories of more than 1 000 individual dogs spanning eight generations, compiling data that have contributed significantly to changing public perceptions of this intriguing canid.

With an estimated 700 to 900 wild dogs in northern Botswana and no more than 5 600 remaining in total, the species is under serious threat, due primarily to habitat loss and conflict with expanding human populations. Keenly aware of the dogs’ predicament and the need for more information, especially about the other predators that share their territory, Tico eschewed

a prestigious academic post in the US and, after completing his PhD in 1995, chose to remain in Botswana. Together with his wife, Lesley Boggs McNutt, he established the Botswana Predator Conservation Trust (BPCT), increased the area under study, enlisted a rotating team of researchers and solicits funding for an ever-expanding list of research programmes. Using the wild dog as its flagship species, the BPCT has become one of the most comprehensive and longest-running field projects in Africa.

The BPCT team includes international graduates and local students, who carry out studies on wild dogs, leopards, cheetahs, spotted hyaenas and lions. Individual animals in each study population are radio-collared, with the aim of increasing the understanding of social behaviour, habitat use, interactions within and between species, foraging patterns and population dynamics.

With the help of several volunteer vets, many of the older VHF radio collars have been replaced with hi-tech GPS versions that can be programmed to record coordinates at specific times

in time-honoured bushcamp

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each day. They also continuously log activity data, which can be downloaded from up to a kilometre away, using a handheld UHF transceiver specifically designed to communicate with the new collars.

Recognising the need to develop advanced qualifications in wildlife research and management among the citizens of Botswana, the programme aims to have at least one Mswana MSc student for every PhD student involved in its projects. The thoroughness and quality of the research carried out here have led the Botswana government to entrust the BPCT with conservation and study initiatives on large carnivores and their associated habitats across the country.

Flying over the Okavango Delta in a four-seater Cessna would be the perfect introduction to this awesome paradise. For me, though, it was something of a homecoming, as I lived and worked in northern Botswana during the 1990s. The rainfall in 2008 had been high, almost double the average, so there was plenty of water in the numerous pans and meandering waterways that snaked through the delta’s sandveld floodplains. We skimmed areas thick with mopane trees and others with mixed woodland, and saw herds of elephant, giraffe, zebra, wildebeest and any number of buck species.

Tico, a qualified pilot whose laid-back Californian aura belies a deliberate and measured personality, flew us to the Santawani area. En route, he pointed out the boundaries of the Moremi Game Reserve, the surrounding wildlife management areas (which include photographic and hunting concessions) and the veterinary cordon fence that protects domestic livestock from disease-carrying buffaloes (but not from predators). Increasingly mindful of the challenges facing predators in this area, my thoughts turned to a quote from the McNutts’ book *Running Wild*: ‘Success in any conservation effort anywhere in the world, whether directed at an endangered species or tropical forests, will depend on the social and

economic security of the people who live directly in its shadow.’

Tico and Lesley spend as much time as they can at Dog Camp, which has been their home for nearly two decades. Their sons Madison and Wilder are growing up here and it is comfortable, yet rustic. At first light, everyone eats breakfast together under an old, majestic camelthorn, then meets up again for dinner. In time-honoured bushcamp tradition, the circle of chairs around the fire provides the setting for many a discussion as researchers share their thoughts, experiences and observations of the day. It soon becomes clear that in his deceptively relaxed fashion, Tico is keeping a close eye on things. Often, some or all of the team work through the night, returning to camp in the early morning for a meal, a shower, a de-briefing and bed.

For those researchers involved in wild dog studies, the denning season from June to July is exciting and busy as they are able to spend time in known locations, where they can reliably monitor the pack’s activities and pup survival rates. The latter calculation is particularly important as it is one of the ►



EMMA BORG



BPCT



wild about sport

Lesley Boggs McNutt has a Masters degree in Development Anthropology and is the director of Coaching for Conservation at the BPCT. A forceful, driven bundle of energy and ideas, she is heavily involved in the local community, where she is striving to encourage respect for wild animals. This is no small task in an environment where statements such as 'Wild dogs have no value to me, I can't eat them or sell their skins – they only eat my cows,' are prevalent.

She says, 'As a conservationist, I went to anthropology as a way to speak for animals by working with the people. After all,

conservation is really about people as much as it is about wildlife.' Lesley's research has focused on human-wildlife conflict and the relationships people have with protected areas. She aims to help provide human-friendly solutions for the management of Africa's large predators and their habitats. 'It's all about having the most impact with our conservation efforts,' she says. But with conservation absent from Botswana's school curriculum, education needs urgent attention.

Lesley's 'Coaching for Conservation' or C4C is an innovative step in the right direction and I was lucky enough to be in Maun to see it in action. By participating in a programme of organised sports, primary school children learn to 'respect yourself, respect others, respect Botswana', core values that Lesley believes lay the foundation for generating a conservation ethic. With the help of professional coaches from the US, who volunteer their time and expertise, she has devised a curriculum that combines sports and conservation education. And what a success it is! I only had to look at the faces of the hundreds of Botswana children involved to see that by engaging with them in their comfort zone, the key messages had a good chance of hitting home. As Tico says, 'When kids are having fun, you can teach them anything.'

C4C was short-listed for the 2009 Beyond Sport Foundation Awards in the 'Environment' category. Enjoying the official support of the head of primary school sports in northern Botswana, it is now being expanded to become a year-round programme.

Lesley also leads the C4C's partnership with the Maun Animal Welfare Society (MAWS), which aims to help control unwanted domestic dogs by offering free spaying and neutering in rural villages. Now, thanks to its involvement with the BPCT, the MAWS programme includes vaccination and disease surveillance of domestic dogs as well as focusing on villages that border the protected and wildlife management areas of the Okavango Delta. This initiative may prove vital to controlling the spread of diseases in free-ranging large carnivore populations.

ABOVE Lesley McNutt's 'Coaching for Conservation' or C4C is addressing the dearth of conservation education in Botswana primary schools – through the medium of sport. In June 2010, Prince William paid a visit to one of its camps.

OPPOSITE, ABOVE Since 2007, wild dogs reintroduced to the Northern Tuli Game Reserve have been successfully managed using translocated scent marks. This bodes well for mitigating conflict between the species and livestock farmers.

OPPOSITE, BELOW At a hi-tech laboratory in Maun, Peter Apps and Lesego Mmualefe have developed specialised methods for analysing wild dog scat and urine samples. Identifying the chemical compounds present in these scent marks is at the core of the innovative BioBoundary project.

The objective ... is to study the species' ability to communicate via scents deposited in scats and urine, and apply this knowledge to manage conflict between wild dogs and livestock farmers

primary indicators of the health of the wild dog population. With eight known packs in the study area, managing the wild dog database is no mean task – in 2008, 59 pups were born in six packs with 47 surviving as the year drew to a close.

Despite 21 years of monitoring wild dogs here, Tico continues to be surprised. A while ago, three females from within the study area disappeared for nearly two months. Their whereabouts was a mystery until he received photographs of the animals, taken 225 kilometres away at the Zimbabwe border. What was remarkable was that the images were dated just 10 days after the dogs had been collared in the study

area. They have subsequently retraced their steps to their original location, where they appear to be forming a new pack with four males.

While the dogs' ability to range over such distances (and at such speed) is physically remarkable, it does present conservation challenges. Lack of habitat causes the animals to leave wilderness and protected areas in search of prey, bringing them into often lethal contact with their human neighbours, who are understandably anxious about the safety of their domestic herds. But how do you contain such an animal? The BPCT is currently in the second

phase of its exciting BioBoundary project, with research partner Peter Apps, who operates from a hi-tech lab in Maun.

The objective of this project is to study the species' ability to communicate via scents deposited in scats and urine, and apply this knowledge to manage conflict between wild dogs and livestock farmers. It's based on the hypothesis that the dogs' ranging behaviour is dependent on looking for neighbouring packs; if there are no neighbours, the dogs have no reason to curtail their movements. Collecting and redistributing these scent marks strategically could send a 'keep away' message to resident dogs.

Five years of preliminary research by PhD candidate Megan Parker successfully demonstrated the critical role that chemical signals play in wild dog territoriality and communication. Her findings strongly suggested that it would be possible to manage wild dog populations by using their natural chemical communication.

The theory was put to the test in the Northern Tuli Game Reserve (NTGR) in Botswana's far eastern corner, where wild dogs were reintroduced in 2007. For well over two years now, the pack has been successfully managed using translocated wild dog scent marks. In September 2009, however, the dogs and 13 pups left their den in the NTGR and crossed the Limpopo River (where no scent marks had been placed owing to flooding and the importance of riverine habitats to the species) into South Africa. The river had dried up during the denning season, making it easy for the dogs to investigate the opposite side.

GPS collars on the alpha pair enabled Tico and Northern Tuli Predator Project manager Craig Jackson to keep track of their movements periodically, but after six weeks 'at large' they decided to lay down scent marks to try to guide the dogs back to Botswana and the relative safety of the reserve. During the following three days, the pack moved north in a straight line for 28 kilometres, crossing the river into the NTGR.

Their sojourn was not without cost – three puppies and one adult male didn't make it back. It also appeared that six yearling males remained in South Africa, perhaps to find new females and start their own pack.

Back at Dog Camp, the task of monitoring the dogs and collecting scent marks while recording ever-increasing



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details of behaviour continues. At present, the focus – in the lab and in the field – is on identifying how scent marks differ from one another in a range of social and spatial contexts (between dominant and subordinate dogs, for example). The ultimate goal is to isolate the components of scent marks important to territorial boundaries and to reproduce these synthetically for use as a management tool along the boundaries of wildlife areas.

Even though my visit to Dog Camp was short, it enabled me to see that the work of the researchers at the BPCT is exciting, dynamic, forward thinking and problem driven. The information being collected is constantly being applied to promote solutions for the preservation of Africa's large predators and their habitats. By combining pure and applied research with education, training, community involvement and conservation strategy, the trust may just hold the key to enable the people of Botswana to be their own conservationists and wildlife custodians. ■

Partners of the BPCT include Wild Entrust International, Paul G. Allen Family Foundation, Tusk Trust, Woodland Park Zoo, Ashley's Soccer Camp and Painted Wolf Wines. Find out more at www.bpctrust.org



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