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EXPLORERS

JUN / JUL 2017



MOJO IN THE WILD

Joe McDonald,

**MOUNTAIN GORILLAS:
THREATS,
CONSERVATION
AND ECOTOURISM**

By Peter Hudson

D5



At the heart of the image



Outperforming the vision

Getting the shot with the Nikon D5

The Masterpiece Maker

With the new Nikon D5, you hold the culmination of decades of refined optical innovation in your hands. Redesigned from ground-up, the Nikon FX-format flagship challenges the limits of professional imaging performance for acquisition speed and low-light performance.

Next-generation Autofocus

Incorporating three times the number of autofocus (AF) points from its predecessor is the new Multi-CAM 20K AF sensor module. This sensor module alongside the latest dedicated AF engine complement one another to achieve superior and reliable AF performance with 153 focus points,

99 being cross-type sensors, with over a third of these points selectable for quick and easy framing of any shot. The advanced AF system is coupled with a new 180K-pixel RGB metering sensor, alongside an Advanced Scene Recognition System, to achieve optimally balanced exposures and accurate white balance in challenging lighting conditions.

Defy Darkness

The Multi-CAM 20K AF sensor module provides a detection range as low as -4 EV¹, and boasts the widest ISO sensitivity in the history of Nikon cameras with the range of 100 to 102400². With both the AF sensor module and wide ISO range working in tandem, what was previously considered difficult in low-light conditions can now be captured whether shooting stills or recording video.

Going to the Extreme with Professional 4K UHD

For the first time in Nikon's FX-format line up, video recording in 4K UHD is introduced, together with Full HD and



HD videos. Combining dot-by-dot information readout with the advanced processing of the EXPEED 5, the D5 delivers detail-rich, high-resolution 4K UHD videos.

Changing the Way Professionals Shoot

Career-defining work demands the highest levels of reverence for image quality at extremely high sensitivities. With that in mind, Nikon designed an all-new 20.8 megapixel FX-format CMOS sensor and EXPEED 5 image-processing engine for the D5 to produce pictures with rich tonal gradation, and a refined signal to noise ratio. For wildlife adventures or critical moments of sporting triumph, the D5 is capable of shooting at speeds of 12 frames per second³ with AE/AF tracking, capturing up to 200 frames⁴ (14-bit lossless compressed RAW) in a single high-speed burst.

Designed Around Your Work

Built around the needs of professional photographers, both on the field and in the studio, the D5, with its range of connectivity options, both speeds up and streamlines workflows. Enveloped in a magnesium alloy body, the DSLR remains light and strong in any surroundings, while protecting internal elements with comprehensive dust and water droplet resistance. Its high-resolution, 3.2 inch touch-screen monitor caters to a speedy change of focus points during live view, and quick viewing during playback. To cater to diverse preferences, the D5 is also available in two versions supporting either XQD cards or CF cards with its dual card slots.

The new Nikon D5 comes with:

Effective pixels: 20.8 million
Image sensor format: FX
ISO sensitivity: ISO 100 – 102400. Expandable to ISO 3280000 (Hi 5)
Focus point: 153 points, with 99 cross-type sensors
Dimensions (W x H x D): Approx. 160mm x 158.5mm x 92mm
Weight: Approx. 1405g, with battery and two XQD memory cards but without body cap and accessory shoe cover; approx. 1235g for camera body only

NEW:

EXPEED 5 image-processing engine | 4K UHD video recording support | Multi-CAM 20K AF sensor module | 180K-pixel RGB metering sensor

¹ For the central focus point, and at -3 EV with all focus points, at ISO 100 and 20°C/68°F. ² Expandable up to Hi 5 for an ISO 3280000 equivalent. ³ Possible in Continuous High Speed (CH) release mode with shutter speeds of 1/250 s or faster. ⁴ When using a Lexar Professional 2933x XQD 2.0 memory card.

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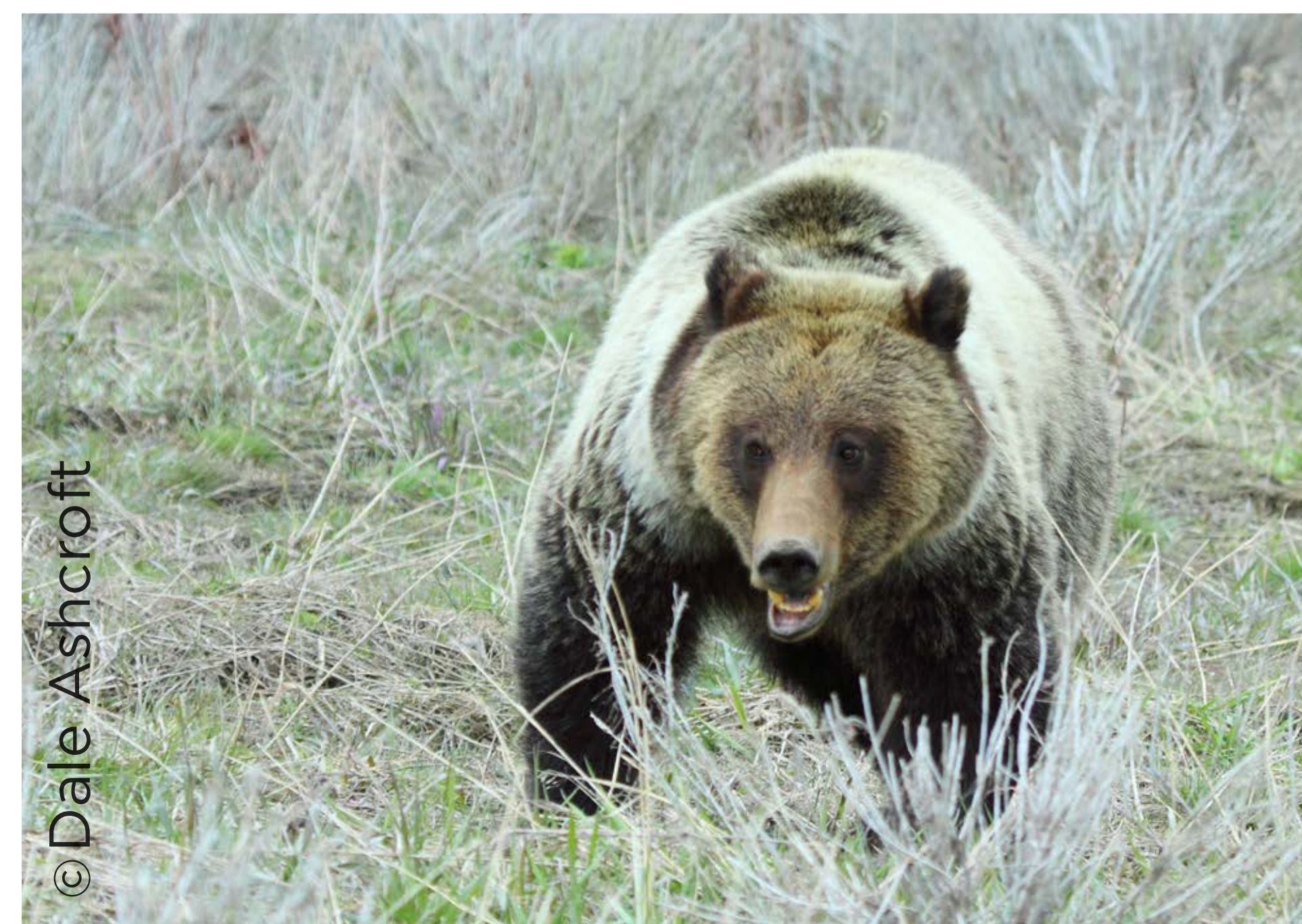
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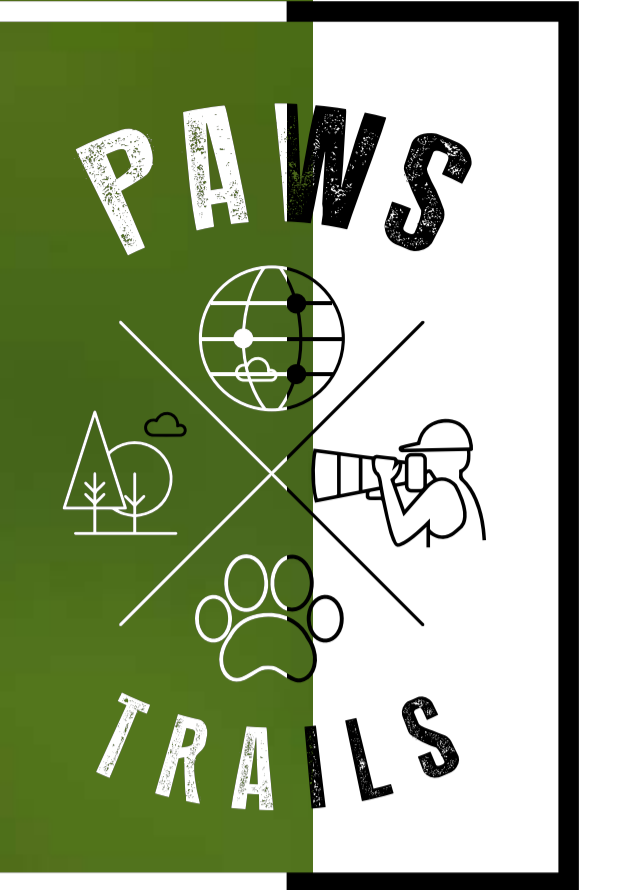


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076

Travel - Kamchatka
By Hermis Haridas



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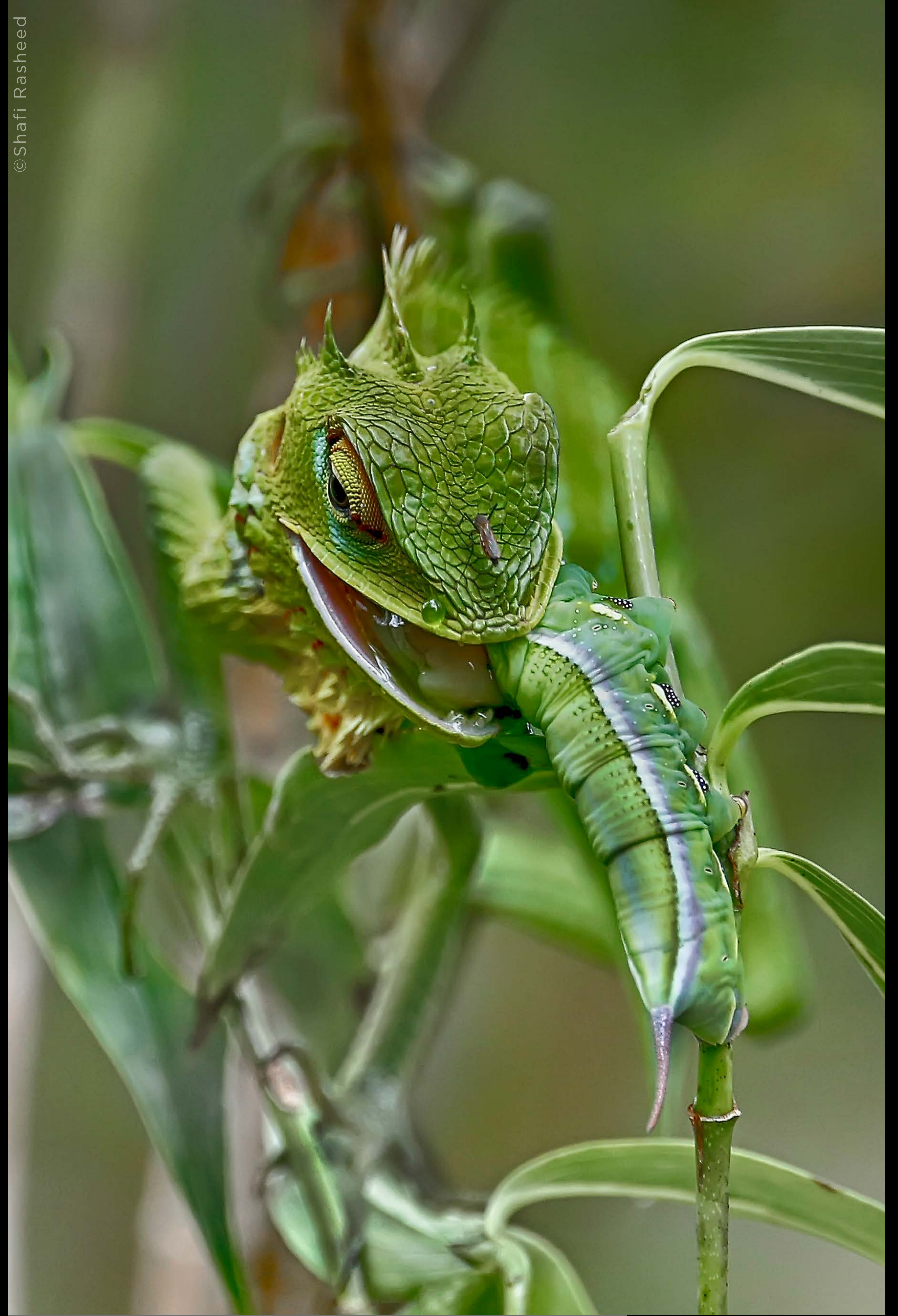
Hank Tyler
Editor

Grab your camera and walk around in nature finding and selecting your subjects. Cell phones, point and click, or a higher end digital camera can all capture amazing images. PT Explorers is proud to present outstanding photographs. We look forward to you sharing your photos with us, our readers and viewers.

Endangered species around the world are a prime focus of PT Explorers. Wayne Kasworm tells a fascinating story of following a number of generations of Grizzly Bears in Montana, US. Peter Hudson reports on the threats facing the Mountain Gorillas in central Africa. Both species struggle to survive in the face of loss of habitat and human encroachment.

Chandi Prasasd Bhatt is India's living environmental hero. C.P. Bhatt's insight and creation of the Chipko Movement in the 1970s sparked India's modern day environmental movement. Bhatt organized non-violent actions by women to hug trees to prevent them from being cut down. This movement of environmental actions by women has spread worldwide. In 2013 Bhatt received the Ghandi Peace Price for his dedication to protecting India's environment. In 1986, my family enjoyed the company of C.P. Bhatt when he visited our home in Maine, USA. PT Explorers is planning to feature articles on an environmental hero in each future volume. Community leaders often play a significant role in protecting the environment.

PT Explorers is for you, our readers and viewers. We welcome your ideas, suggestions, new contributions and photographs.



PHOTOGRAPHY DIRECTOR'S CHOICE

Shafi Rasheed
Green garden lizard &
Oleander hawk caterpillar
Sinharaja rain forest,
Sri Lanka

FOUNDERS' NOTE

Our latest exhibition - **UAE Wild Trails** was another success story. The exhibition showcased 15 images of 15 species, photographed from the UAE region by 15 different photographers. UAE and the Middle East in general are not associated with wildlife in the minds of the general public. After all, the combination of deserts and concrete jungles are not considered conducive for wildlife to thrive. For this very reason this exhibition was shocking and eye-opening for many a viewer who visited us. For the seasoned wildlife enthusiast and photographer it was another opportunity to enjoy stunning imagery and set new targets for species they have not captured yet. One of the central objectives of this exhibition was to drive home the point that wildlife thrives even in seemingly the most unlikely places. Hence conservation is also universal. It is not just the tropics and great reefs that need protection. Ecosystems exist also in cold and dry deserts, icy mountains and the frozen poles. All ecosystems are important and all of them deserve protection from harmful human interference.

Our exhibition along with portraying stunning imagery, introducing upcoming photographers and familiarizing new species to the public, aimed at showcasing the desert as an exciting space, home to many species. The two interactive sessions on conservation and photography were very lively with amazing participation.

The best news - this event is just the curtain raiser. The same exhibition along with interactive sessions will be held at different educational institutions across UAE. The upcoming generation needs to be aware of the many ecosystems, the different species that co-exist with us and the myriad problems faced by mother earth today. We need our sons and daughters to preserve the earth for our grandchildren!

Another success story for the central theme of all our exhibitions.

Encourage photographers

Inspire viewers

Create Crusaders

Protect Nature

www.pawstrails.com

**Hermis Haridas &
Nisha Purushothaman**

Founders - PT Explorers





COVER STORY
MOJO IN THE WILD

Joe McDonald, Interviewed By Peter Hudson



Joe McDonald is one of the best known and much loved American professional wildlife photographers. He is charming, interesting and really has taken some exceptional photographs. Joe was one of the first people to run successful photo safaris, starting in Florida and Africa and he has gone on to lead tours to every corner of the world. Just in the last year he did his 100th trek, photographing mountain gorillas in Rwanda and managed to photograph all 6 of the large cats including snow leopards and Pumas. Joe has won many awards in Wildlife Photographer of the Year and Nature's Best. Many will know him for his clever use of flash and camera traps to capture flying squirrels at night and other rare nocturnal animals in their natural setting. Joe has published numerous books, his most recent being the "World's Deadliest Creatures," and he is currently working on an e-book on flash techniques with wildlife that will be greatly appreciated by many photographers and a companion to his flash photography courses he runs at Hoot Hollow each summer.

Joe is a generous and knowledgeable photographer with a deep understanding of animal behavior and biology. I caught up with him recently just before he was off to photograph frogs and Bats in Puerto Rico.

hoothollow.com/index.html
facebook.com/hoothollow/

Joe, please tell us when and how you got started in photography and what it is that drives you to carry on?

I was one of those kids with a great interest in reptiles and I started painting them. Then my father bought me a Yashica rangefinder camera. This opened my eyes to possibilities, although one of my first photographs was of a groundhog and since the lens was just a 50mm the

photo was nothing more than a speck in a field. I worked on my dad and convinced him that what I really needed was an SLR and I got hold of a Canon FT with a built in meter - what a breakthrough that was, totally transformed wildlife photography. My dad was a simple hard working blue collar worker and was very supportive of me but when I told him it was not the camera but the lens that captured the photo, he almost threw me out of the car. My first big lens was a 400mm Vivitar and then my photography took off.





At that time I found an advert in a magazine from the National Wildlife Federation offering initially \$6 for a photo and later a staggering \$11 for every transparency they accepted. In just a short time I was getting checks for \$300 and then I started writing articles; the first was for the magazine on terns and skimmers and I guess that's really when I became a professional photographer.

Were there any specific photographers that inspired your work?

The first was Frederick Kent Truslow, a National Geographic Photographer who wrote an inspiring article about wildlife photography that appeared when I was in my junior year at college. His article showed me how important it was to plan and have patience and be prepared to just sit in a hide for days until the light and conditions were perfect. One photo he took that inspired me was of a pileated woodpecker feeding young after the nest tree had broken off and the young were just looking out of the top.

How did you get into flash photography and running photo safaris?

Ron Austing was another National Geographic photographer who was taking superb images of owls and he inspired me to develop expertise in flash photography. So I was working on my skills when, in the early 1980s, Popular Photography published an article by Greg Dale, the inventor of the Dale-beam, an infrared camera trigger that provided

the opportunity for taking photographs remotely. I was writing my first book at the time on photographing American Wildlife and I asked him for a free infrared trigger if I mentioned the trigger in the book. This got me really excited and I started using high-speed flash techniques of frogs leaping, owls, bluebirds, wrens, and other birds in flight. I now use the triggers sold by Cognisys such as the Sabre, which is really robust and easy to use.

Frederick Kent Truslow's article showed me how important it was to plan and have patience and be prepared to just sit in a hide for days until the light and conditions were perfect.

I worked hard to get the book reviewed in multiple newspapers such as the LA Times and The Baltimore Chronicle as well as multiple magazines. Then one day this guy just rings up, compliments me on the book, and asks me if I could take him out in Florida and teach him wildlife photography. The first trip I did was with a popup tent with two guests in the Everglades and it went really well and then the whole business of photographic safaris just snow balled from those early days. Initially I used to charge the guests for our brochures! It was a seller's market and there were hardly anybody else doing these photo trips, but now things are much more competitive.



What do you feel are the important qualities and attributes that are needed to make a successful wildlife photographer?

First patience. Just let things happen and persevere with multiple visits, think about the light and conditions and keep working on it until you get the shot you seek. I do pre-visualize the photograph to some extent and have a saying “Pre-visualize and Post execute.”

Second, knowledge of the subject, how do the animals behave, what are they going to be drawn to, what are their interesting behaviors. For example recently I have been taking photos of Woodland Jumping mice and the image must really show their incredible ability to hop great distances.

Third, equipment competency. Know your camera and how to use it without having to think about what you are doing. The great thing about digital is you get instant feedback on your images so you can see what you should change and improve. Do not become intellectually lazy with your camera but keep pushing the camera and what you can achieve with it.

Fourth, and the most important rule of all, Do No Harm. Watch your animals, photograph them but don't push it and disturb them - be slow, get them used to you. Your real aim should be to take a photo and know no harm was done - the animal did not change their behavior because of you.

You have captured many amazing photographs in your career; would you like to throw some light on what settings and light you prefer to use?

I always shoot manual - I want to be in charge of what I am photographing and telling the camera the shot I seek. A good picture evolves, rarely if ever is it just a one off shot so you must work it to get the best shot in a sequence. The important thing is knowing when to stop shooting, when you have the best shot you are going to get and then cease - I call this negative shooting. When my Jaguar shot won a Wildlife Photographer of the Year class I was interviewed on stage and asked how I had managed to get this special shot. I had to say it was quite simply good luck, being in the right place at the right time and then working the shot until the male was a bit too amorous and she whacked him. The shot wasn't my first in the sequence and I got it because I was watching the animals and what was going on. Obviously you must spend time in the field and when you see the opportunity make sure you get the right shot. I like cloudy bright light, fast shutter speeds and do it all in manual.

You are fairly unique in the photography world in that you work very closely with Mary Ann, your partner. How does this work for the two of you?

Mary Ann and I got together in the late 1980s when Mary was working in Hershey Medical Center and we did some trips together, then we realized the future



© Joe McDonald



really was in photographic tours so we went all in as a partnership to give the best experience for our guests. Mary added a new dynamic and together we believe we provide really great service for our guests. I do the development of techniques and she does the detailed trip plans and runs the business. I am the dreamer and she is the executioner. I think it is important I take photographs on the trips, so I can show people what I am doing rather than setting up their cameras and effectively taking the shots for the guests. Mary and I are very similar and equal in our photographic capability and between the two of us we have won 15 Wildlife Photographer of the Year accolades. I think she has won seven and I have won eight. We have similar styles but we are different and we work to be complimentary and at the same time somewhat competitive with each other to encourage the other to take really great photos.

What do you consider the most challenging aspect of wildlife photography today?

The real challenge is taking a photograph that has not already been taken and to do this you must push the envelope and capture images that are special and unique. People are currently looking for new angles and its really interesting seeing the novel shots that are being taken from drones. We have also been using GoPros in some cool locations to get special shots from special angles and now the high ISO cameras are allowing us to get phenomenal dusk and night time photographs.

The world for a professional photographer has changed dramatically over the past 20 years so what other skill sets do you need and you might do in the future?

I am exploring more of the e-book market. One thing is for sure there are some really bad e-books out there with little content and yet some that are very good indeed. Since there is no publisher there is simply no editing and vetting so people are getting away with weak stuff, I want to be known for books of quality and interest. I feel the trick with photo tours is to provide lots of variation and keep the tours fresh and exciting. One thing is for sure, it is important to keep the fun of taking photographs an important component and be paying homage to the wildlife.

Among the innumerable experiences you've had in the wild, can you share with us the most memorable moments?

We were in the Mara, late January and there was very little about, the plains were empty and then we stumbled on a single male lion on the first morning. We stayed with him and then half a mile away a single black spot appeared on the skyline and this male buffalo started walking towards us. He kept coming until he was about 100 yards from where we were. The male lion wouldn't usually have stood a chance and he just raised his head to watch the buffalo, and then two more lions popped their heads out of the grass, and then a couple more until there seven male

lions. They took the buffalo down, right in front of us and I was just whizzing through film canisters, my leg was shaking and I got some fantastic shots, one of which won BBC and another Nature's best. These were my favorite shots taken with film.

While you have won multiple awards what would you want your legacy to be?

I think and want my legacy to be the way we have opened up ecotourism and photographic tours that have really benefitted the wildlife. Our groups were the first into the Pantanal for jaguars, we were some of the first groups to photograph snow leopards, pumas in Chile and I have done more than 100 visits to the gorillas in Rwanda.

This means land owners can see the value of the wildlife on their land and be prepared to encourage people and tourism. I feel this is a critical and important component of conservation photography.

If you were allowed just one last place to go, where would that be and what animal would you want to photograph?

Two places. First, Madagascar - I have been there once but would love to go back again. Second, if I had two months to spare, then I would like nothing more than that time in India. The place is so diverse, the animals amazing and the people wonderful.

If it was just one animal to photograph



©Joe McDonald

then I would love to photograph clouded leopards in the wild - such beautiful cats and so difficult.

What kind of equipment do you use and is there a specific reason why you chose it over other

similar ones?

Any good DSLR with a good quality and high ISO is just the best place to start. I really like the 100-400mm II lenses that Canon and Nikon have. I also like to have a great macro lens such as the 100mm or a good 180mm macro.





CONSERVATION

Mountain Gorillas:

**Threats,
Conservation
& Ecotourism**

By Peter Hudson



P

Peter Hudson is a professional biologist who studies the ecology of wildlife diseases including those infections that spillover from wildlife to humans. He is passionate about Biology and intrigued about how we can capture behaviour and interactions between animals using photography.

Peter is The Willaman Professor of Biology and The Director of Life Sciences at Penn State and also a Professor at the Nelson Mandela Institute in Tanzania. He is a Fellow of The Royal Society.

www.peterhudsonphotos.com





Mountain Gorillas (*Gorilla beringei beringei*) - will they Persist in the Mist?

Anyone who has ever watched a Chimpanzee (*Pan troglodytes*), Gorilla (*Gorilla beringei beringei*) or Orangutan (*Pongo pygmaeus*) will admit that these non-human great apes are fascinating, you can't take your eyes off them and feel blessed when they recognize your very existence. They exhibit so many of the social behaviours that we perform, the parent-offspring bond, the camaraderie, tolerance and yet family feuds - so similar to our day to day lives that we get an insight into ourselves and our social roots. Capturing these natural behaviours in photographs is even more special, in particular when you are close and the animals behave so normally.

Primate conservation issues

The great apes and the larger group of primates are very special species to us culturally and historically and yet a recent study identified that 60% of all primates are seriously threatened with 75% currently in decline. An international group of 31 scientists recently published a paper in *Science Advances* (Estrada et al. 2017) that provide evidence of escalating anthropogenic pressures impacting primates directly and indirectly via the loss and damage of habitats. The most pressing issue is demands on land by industrial agriculture, large-scale cattle ranching, logging, oil and gas drilling, mining, dam building, and the construction of new roads that fragment and destroy primate habitat. Bush-meat hunting and the illegal trade of primates as either pets or body parts for oriental

medicine are direct impacts and cause further problems. There is a dire need to raise global awareness of the plight of the world's primates and consider the long term costs of their loss to our well-being, the loss to ecosystem functioning and our heritage.

Where have been the successes? - and can we look at the successes to help other primates? One success story to date has been the case of the Mountain Gorilla, a species that is still critically endangered and yet is one of the few primate species where the population is actually increasing. This has been happening because of extreme

Where have been the successes? - and can we look at the successes to help other primates?

conservation practices and a cultural shift in the way gorillas are perceived by the local people.

Dian Fossey & Conservation of The Mountain Gorilla

The Mountain Gorilla exists in two vulnerable populations, one in the Biwindi Mountains of the Biwindi National Park in Uganda and the second in the Virunga Mountains in the Virunga National Park that is in the trans-boundary area between Rwanda, Uganda and the



© Peter Hudson

Democratic Republic of the Congo. Mountain Gorillas were not discovered until 1902 and were then hunted and persecuted and perceived as a dangerous and scary animal that needed killing. George Schaller, one of the most dedicated and careful conservation naturalists, studied the gorillas on the Congo side in the late fifties and showed how wrong our preconceptions were. Here is a gentle loving animal who lives in a social family group and males defend their females against other males through their chest beating and charges. They do get defensive when threatened and both males and females will fight to save their young. Schaller's studies were followed in 1967 by Dian Fossey, whose life story was portrayed in the book by Farley Mowat "**Woman in the Mists**" and later in the book and film "**Gorillas in the Mist**".

Initially, Dian worked on the same populations as Schaller, but the politics and turmoil in what was then Zaire, the country of President Mobutu Sese Seko, made life and studying difficult. Mobutu was an extreme despot, he led a one party state with pervasive corruption and a cult, based on glorification of his personality where women would wear clothes emblazoned with his face and sing songs of loyalty. I was working in Zaire at that time and even met and talked zoology with Mobutu in his ridiculous and opulent palace. Times were strange and his behavior unpredictable - allegedly he had every one wearing a tie in the town of Kisangani murdered and thrown in the river for supporting the symbols of colonialism and not supporting his campaign of **authenticité**.

The dire situation in Zaire meant Dian had to move her gorilla studies to Rwanda, and like Jane Goodall and her studies of chimpanzees at Gombe Stream National Park, she was faced with unhabituated animals that she could not get close enough to observe their natural behavior. Each time she approached a group, they would simply disappear into the forest. Eventually she managed to get some of the groups habituated; in her previous life as an occupational therapist, she had worked with autistic children and this experience may well have given her the patience to mimic their browsing behaviour. She followed George Schaller's technique and used "nose-prints" to identify every individual within a group - she would sketch the shape of the nasal entrance and the way the wrinkles formed that were unique to each individual. Detailed and longitudinal studies of identifiable individuals that record parentages, breeding success and mortality have been remarkably useful in providing insights into the biology and behavior of many animals, including the gorillas.

Dian experienced multiple and complex conservation issues during her studies and bit-by-bit the conservation issues dominated her science. Licenses for baby gorillas were sold to animal catchers and when they came to take a baby from a mother gorilla; the catchers would end up killing up to 10 of the adults and effectively destroying the whole gorilla group. Added to this, adults were killed in snares and their hands and skulls sold to tourists as ashtrays or for oriental medicine. Dian was so incensed, she started an anti-poaching scheme and

in her study area alone she destroyed 987 traps and snares in just 4 months while during the same period the official rangers removed none. Then in 1978, Dian's favorite gorilla, a silver back called Digit was killed by a group of poachers who were checking their deer snares. They stumbled into the group and Digit defended his females, taking 5 spears to the body and killing a dog before eventually dying and having his head and hands cut off. Dian was exasperated, she worked to make the world aware of what was happening, started the Digit Fund to support anti-poaching and instigated a vigilante style of anti-poaching where she captured and humiliated poachers, ransomed their cattle and burnt their camps. This was a campaign at the local, national and international level that she ran with huge energy and passion. In the early hours of December 27th 1985, Dian was murdered in her cabin with a machete strike to the head. At the time, the person responsible was considered to be a tracker that she had sacked several weeks earlier although her then research assistant Wayne McGuire was tried in *absintia* in a court in Rwanda and convicted of her murder. McGuire himself denies the accusations and claimed that it was a cover up by the former local governor, Protais Zigiranyirazo, - known locally as Monsieur Zed. Monsieur Zed was later accused of creating death squads during the Rwandan genocide although he was later acquitted of these charges. Dian is buried in the hills close to her research camp. Her last words written in her diary were: *"When you realize the value of all life, you dwell less on what is past and concentrate more on the preservation of the future."*

Mountain Gorillas - the cost of ecotourism

In 1981, when Dian was actively patrolling the gorilla population in the Virunga Mountains there were just 254 individuals, by 2003 this had increased to 380, in 2012 to 480 and while we wait for the latest 2016 estimate, the indication is that there are now probably more than 600 gorillas in the Virunga mountains. A phenomenal rate of recovery for a threatened ape population - and the reason is simple, this is a consequence of extreme conservation funded by wildlife tourism. There are at least 880 Mountain Gorillas alive in the world right now and I suspect a more accurate count will have this over a thousand.

Dian was against all forms of wildlife tourism; primarily because she knew that humans brought infectious disease with them that the Gorillas were vulnerable to but also because she really didn't like other people disturbing her gorillas. In 2008 an outbreak of Human Metapneumovirus (HMPV) infected 5 of the groups in the Hirwa group, at least 12 individuals were infected and 2 died - an adult female and a baby. Most of those that survived had been treated with antimicrobials that clearly saved their lives and yet antimicrobials don't work against viruses like HMPV. What happens is that the primary infection of HMPV predisposes the gorillas to bacterial pneumonia and by treating them with antimicrobials, the vets were able to save many of the gorillas. Other cases of flu, cryptosporidiosis, ebola and measles have also occurred and caused significant gorilla mortality. So what should we do?





©Peter Hudson

Should we provide intense veterinary management or leave the animals to their own fate? In the USA and many countries the approach in national parks is to do nothing – unless it is an introduced pathogen – but in Virunga the gorillas were approaching extinction and they went for intense veterinary care.

Mountain Gorilla – The benefits of ecotourism

Gorilla conservation in Virunga is now based around an approach of extreme conservation practice. A ranger protects each group of gorillas, there is continual

veterinary care of individuals who get caught by illegal snares or exhibit symptoms of a respiratory disease or anything that is life threatening. I spent five days in the Virunga mountains with a group of seven photographers last November – ably organized by Joe & Mary Ann McDonald (<http://hoothollow.com/index.html>) – and on one of those days we were accompanied by a veterinary officer who checked a couple of individuals, they were concerned about in the Hirwa group. They came with us – watched the gorillas they were concerned about and once satisfied they were doing well quietly withdrew

themselves. These extreme conservation measures have resulted in the habituated groups increasing at a rate of 4.1% per annum compared to the unhabituated groups that continue to decline at -0.7% per annum. A rate of increase of 4% is far from trivial – this means the populations will double every 20 years and if representative of what has been happening since 2003 then we should see a 2016 count of about 632 gorillas. Population biologists estimate that up to 40% of the recovery is due to veterinary care and the remaining amount mostly through the protection from people directly.

The park and associated NGOs employ more than 50 people to help protect the Virunga gorillas and these people need support. This is a big enterprise. I was fortunate enough to visit the Sabinyo group with the truly wonderful guide Francois Bigirimana, indeed one of the greatest highlights of the whole trip for me was spending time in the field with a guide who really – and I mean really – understood and can predict the behavior of the gorillas. At the Sabinyo group, he introduced us to Ghonda, the silverback who in 2016 was 44 years old and Francois had known since he had been a baby. At that time he was employed by Dian to monitor and habituate this group. As we arrived old Ghonda welcomed him as a brother and friend – it was very touching. How did Ghonda get to such an old age? Extreme conservation is the answer.

How is this level of extreme conservation paid for? Each year more than 20,000 tourists visit the park. There are ten

habituated gorilla groups and the park lets up to 80 people visit each day, in groups of eight and each group is allowed 60 minutes with the gorillas. You are allocated a group to visit and then the hike can be anything from an hour to four hours each way, although most tourist parties are back in time for a late lunch. Gorilla watching permits in the Virunga high season cost \$750 a day and fall to about \$450 during the low season. There is a rumour about increasing this to \$1000 a day. You are expected to take a porter to carry your bag, waterproofs and cameras and of course you should provide tips for the two guides that accompany you and the guards that protect the group you visit. On top of this you will be staying



©Peter Hudson



in a nice, and hopefully dry hotel like the charming Mountain Gorilla View Lodge – which costs about \$300 a night. This generates a good amount of money that in essence funds the conservation effort and supports the local economy. It's not cheap but the gorillas are really special and I for one am proud to have given the support to the gorillas and the local people. The Rwandan people are really special – I have visited many African countries and Rwanda has banned all plastic bags and bottles so this is the cleanest country I have ever been to and embarrassingly cleaner than my home

The Photography

Initially I found gorilla photography some of the most challenging and exciting photography I have ever experienced.

Exciting because you are sitting close to these huge powerful primates. They differ from chimpanzees in that they are relaxed and have an easygoing life while the chimps are tense with complex alliances and troop interactions. Challenging because you are in deep and rich wet forest trying to photograph a black animal where the highlights are so very strong and the shadows very dark and exposure almost difficult. Exposing on the shadows and you burn out everything else, so you must expose the highlighted areas and take this into account for your composition. Alternatively select only the animals in even light – or even better make sure the day is cloudy with even and bright light. We found the days started sunny with strong light and were raining by the end of the day, so rather than rushing up

the mountains to start the 60 minutes of photography as soon as we could when the subjects were full of contrast, we walked slowly and watched the clouds and started with nice even bright light. I was with a group of friends and after the first day, a number of things were not going right. I talked with my good friend Amatria and decided to shoot manual with a good shutter speed and about f9 but with automatic ISO – and it worked well for me. I had a Canon 1DX mk2 – which I have to say is fabulous with high ISOs capability and helped hugely when the light was poor. You can't take tripods – and it would be daft since the guests must all be standing very close together, your tripod would be caught in vegetation and both the gorillas and your friends would hate you. Most of us used monopods and occasionally worked

hand held. With the monopod you must take care how you use them not to make it appear like a gun or stick to the gorillas – I used the Really Right tripod and monopod head that meant I could close the monopod up small when needed and run to keep up with the guide when needed.

The ideal lens I guess would be like the Canon 28-300mm f3.5-5.6 which would allow you to take photos of the animals within the environment and allow you to focus in on the close-up shots of hands feet, eyes etc. I have to say when the light was difficult; focusing on close up shots still gave me many that worked. The 28-300mm that Canon sell just now is really past it's sell by date and if the rumours are true they may be bringing out a version 2 soon; I for one would be more



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than happy to buy this as my “gorilla lens”. Don’t even think of taking a 200-400 mm or a 300mm fixed aperture lens, they are just far too big and clumsy.

I shot with two cameras, one around my neck with a 24-70mm and another on the monopod with a 100-400mm. I was fine with it and once I got over the initial excitement, I was pleased with most of the photographs. Some people used a 70-200mm, which was a good all round lens but really they didn’t get the wide-angle shots of the animals in their environment. I tried to use an 80mm portrait lens – since it seemed a good idea when I was packing my bag – but it was not versatile enough. Some used the 24-105mm and got some great shots, several of which they could crop later although they weren’t really getting those detailed close ups. If you shoot aperture priority, make sure you keep the shutter speeds high.

The Future

Will Mountain Gorillas go extinct in the wild? No, I don’t think during my lifetime – but they may well disappear during my granddaughters lifetime. Rwanda has the highest density of people of any country in Africa and has a growth rate of 2.5%. The pressure from people for fuel and access to forest is high and while the forest is protected, packs of feral dogs and people searching for meat are increasing and causing problems. Agricultural efficiency is still poor so the obvious solution is to improve education, improve the technology while producing more food from less land and increase the protection of the key and important

habitats for wildlife. Encourage more wildlife ecotourism and photographic trips, give people the experience of their life and make them pay for it.

One serious threat for the gorillas is a loss of habitat as a consequence of global warming. Slight changes in the climate could wipe out these dense wet forests and the food source of the Mountain Gorillas. There are some 21 global climate models – called Global Circulation Models – each of which take the data from oceans and atmosphere and attempts to predict what will happen in the future. Most of them agree that places like the Sahara and South Africa will get hotter and drier although when it comes to precipitation and central Africa, half the models predict it will get drier and the other half that it will get wetter. You can’t take the average of the models – the models are different and the seasonal and annual variation in the predictions is both fascinating and challenging. In reality we just don’t know what will happen with the climate so the future of the Mountain Gorillas really is unpredictable.

What we do know is that with the number of people visiting these wonderful animals and taking photographs, coupled with the intense conservation efforts then we have a recipe that is working well at the current time. In doing so they help to conserve the habitat for other species and indeed the endemic Golden Monkey (*Cercopithecus kandti*), a primate only found in the Virungas, has probably survived relatively well to date because of the protection offered to the Mountain Gorilla.



SPECIES

Grizzly Bears

By Wayne Kasworm

Image Credits: Daniel J. Cox, Mohan Krishna, Dale Ashcroft & Peter Hudson





Worldwide, Grizzly Bears (*Ursus arctos*) or brown bears are believed to number approximately 200,000 and have a circumpolar distribution with populations scattered throughout much of the northern hemisphere. Grizzly Bears were thought to number about 50,000 in the lower 48 states at the time of the Lewis and Clark Expedition. Current numbers are about 2,000. Declines in numbers and distribution of the species led to listing under the Endangered Species Act in 1975. Grizzly Bears or their habitat occur in six separate areas as defined in the Grizzly Bear Recovery Plan. The Yellowstone population, in and around Yellowstone National Park, numbers approximately 700 individuals and is currently considered stable. A proposal to delist that population was announced in 2016. The Northern Continental Divide population numbers around 1,000 individuals in and around Glacier National

W

Wayne Kasworm is a US Fish and Wildlife Service Bear Biologist working in Western Montana with over 30 years of experience with Grizzly Bears. Wayne works primary in the Cabinet Mountain Wilderness Area where he follows a number of generations of bears.



Park and the Bob Marshall Wilderness of North Central Montana is considered increasing at a rate of 2-3% per year. A conservation strategy is being prepared for this population and this document would provide the management framework if the population were delisted.

The other four remaining populations or habitat are less well known. The Bitterroot area of central Idaho and western Montana contains suitable Grizzly Bear habitat in or around the Selway-Bitterroot and Frank Church Wilderness areas. The last verified instance of a Grizzly Bear occurred in 2007 when a Grizzly Bear was killed by a black bear hunter in a case of mistaken identity. There were few verified reports of Grizzly Bears in that area during the previous 30 years. The North Cascades area of north central Washington is another area where Grizzly Bears are quite rare. The last verified Grizzly Bear occurred in the U.S. portion of this area occurred in 1996, but there have been at least two photographs of bears immediately north of the international border near Manning Provincial Park during the past five years. Early in 2017, a proposal was released by the National Park Service and the U.S. Fish and Wildlife Service to consider restoration of the Grizzly Bear population in the North Cascades by transplanting additional bears into North Cascades National Park.

The two remaining areas where small Grizzly Bear populations occur are the Selkirk Mountains and the Cabinet-Yaak. Both of these populations are transboundary in nature across the





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international border with Canada as are the Northern Continental Divide and the North Cascades. And even though we can't agree on how to spell the names of the primary river systems (Kootenai or Kootenay and Yaak or Yahk), the two countries agree on the need to conserve these small populations of bears. The Selkirk Mountains are located in northeast Washington and northern Idaho and extend into British Columbia to approximately the town of Nelson. The international recovery zone encompasses about 2,200 square miles and currently holds about 70-80 Grizzly Bears. The Cabinet-Yaak area is located in north Idaho and northwest Montana and also extends into British Columbia. Both of these areas lack National Parks or large designated Wilderness areas as anchor unlike other U.S. populations. Much of the landscape is public land in the form of state or National Forests, but there are smaller areas of private forest lands and small communities either within or on the periphery of these areas. These lands have a history of timber and mineral production and the associated road building needed to accomplish these resource extraction activities. This landscape necessitates somewhat different management actions to achieve recovery of these small populations.

I have been involved with Grizzly Bear research in the Cabinet-Yaak since 1983. During the first five years of the program were focused on the Cabinet Mountains and identified a small population that was believed to be fewer than 15 animals and declining. Though only three bears were captured during five years of intensive research efforts, each one presented

some unique stories. One bear was 12 year old male that was shot twice by a hunter with a 30 caliber rifle at close range, but survived. Another 27 year old male was killed by bowhunters in a reported case of self-defense. The third was a 28 year old female that wore a radio collar for six years before the collar fell off. Three year later bones and claws from a Grizzly Bear were found in the Cabinet Mountains which genetic analysis identified as this same individual. Her death at 37 years of age set a record at the time for Grizzly Bear longevity in the wild. Furthermore, genetics confirmed that all three bears had a relationship of mother, father, and offspring. The mother and father were born in the Cabinet Mountains in the mid-1950s at a time when the Cabinet Mountains were a much different place having fewer roads and people.

The Cabinet Mountains research effort concluded that population would require special management attention if it would be expected to survive. In addition to greater habitat protection the study recommended augmenting the population with bears from another population. While bears that have been in human conflicts have been relocated away from the location of those conflicts this effort would be the first to take bears with no history of conflicts in a donor population and augment another population. The effort was exceedingly controversial in northwest Montana. The small logging and mining community expressed concerns for human safety and economic effects to local industry. After several years of negotiation and

education an agreement was reached where the US Fish and Wildlife Service would release 4 female bears in a test of the augmentation concept. Four young females aged two to six were captured in the backcountry of southeast British Columbia and released in the Cabinet Mountains during 1990-94. The test of augmentation had two criteria for success.

Preliminary success was achieved by having bears remain in the target area for at least one year while finding spring range, late summer foods in the form of huckleberries, and denning habitat. Ultimate success would be achieved by producing offspring through mating with native Cabinet Mountains male Grizzly Bears. Though all four females were radio collared, those collars would have to come off to avoid constricting the animal's necks as they grew. Collars had break-away spacers inserted that would last approximately one to three years. Female Grizzly Bears in this area do not typically produce cubs until they are six years old. Bears breed in June and give birth in late January or early February inside their winter dens. Typical litter size is two cubs but can vary from one to three. Only one of the transplanted bears still wore a collar at the age of six and though she produced a cub the spring after she was released, this event was not judged a success because this bear had bred with a male prior to her move in July and therefore the cub was not a product of breeding with a native Cabinet Mountains male.

All of the initial transplanted bears had lost their radio collars by the end of 1995 and the loss of our ability to track the



success of the program by telemetry. There was considerable effort expended to attempt capture of the animals by foot snaring, but these attempts were unsuccessful. In 1999 a new genetic technique in animal identification was becoming more widely available. The use of hair snagging and DNA extraction from the roots of that hair was becoming a common technique for bear monitoring. We used the technique accompanied by trail cameras in the Cabinet Mountains beginning in 2000 and by 2004 had collected a number of samples that were analyzed by Wildlife Genetics International in British Columbia by Drs. David Paetkau and Michael Proctor. The technique not only allowed identification of individuals but also included parentage of individuals among the collected samples. Through this technique, we were able to identify one of the bears (286) originally released in 1993 and several of her offspring living in the Cabinet Mountains. This information signaled success of the program by at least for one of these individuals and gave us the opportunity to continue the program. Between 2005 and 2016 we have released an additional 15 bears into the Cabinet Mountains. In 2010, we began adding males to the Cabinet Mountains to improve genetic diversity. A few of the remaining native males or their offspring have been responsible for most of the breeding and the addition of unrelated males was expected to eventually expand the gene pool.

Since that time we have identified a second breeding female from the bears added to the Cabinet Mountains. The genetic information has allowed us to

track the contribution of specific individuals in the growth of this population. The figure digram is a family tree representation of the offspring and mating patterns arising from the two known augmentation females that have reproduced. We have identified at least 10 first generation offspring and at least 14 second generation offspring arising from bear 286. In 2015 we are able to identify a third generation offspring which points to success of the program. However, one must recognize the realities of animal transplants or augmentation – “they don’t all stay where you put them and they don’t all live”. Managers and the public must recognize the risk to the individuals involved and balance that risk against the potential success for the species. Of the 19 bears released, six have left the target area, but two of those returned. One of the bears wandered northeast about 185 miles into Alberta before returning to den within 3 miles of her release site in the Cabinet Mountains. Five bears have died during the first 14 months after release. Three of the deaths were human caused and 2 were believed to be natural causes. Bear 286 was killed in 2009 at the age of 18, but not before contributing 25 descendants. This slow but steady approach has resulted in a population increase from what was probably a single digit in 1990 to about 25 individuals today. The Cabinet Mountains augmentation program is the main reason we have bears remaining there today.

The concept of transplanting bears to restore populations has recently been proposed for the North Cascades population by the National Park Service

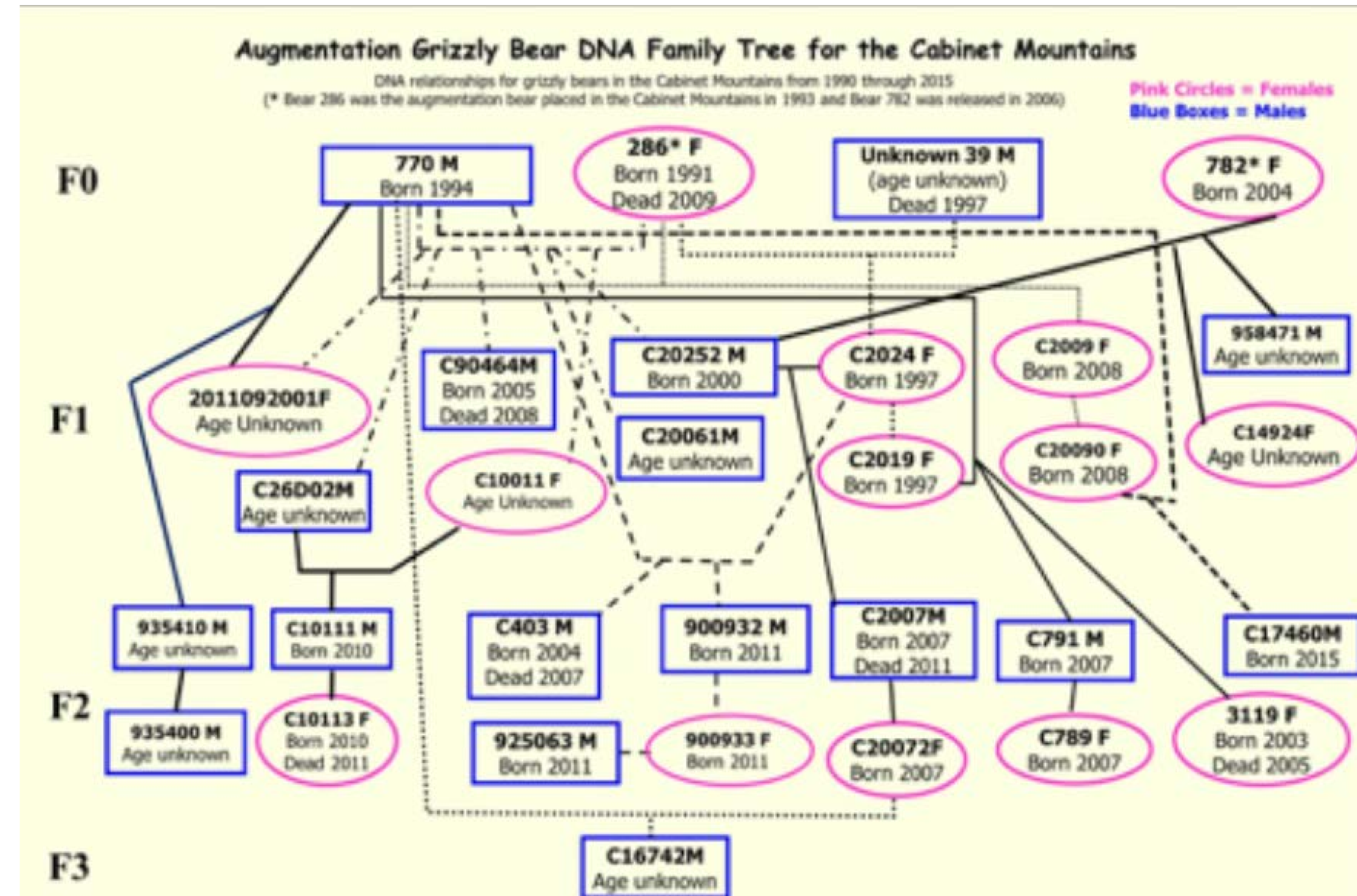
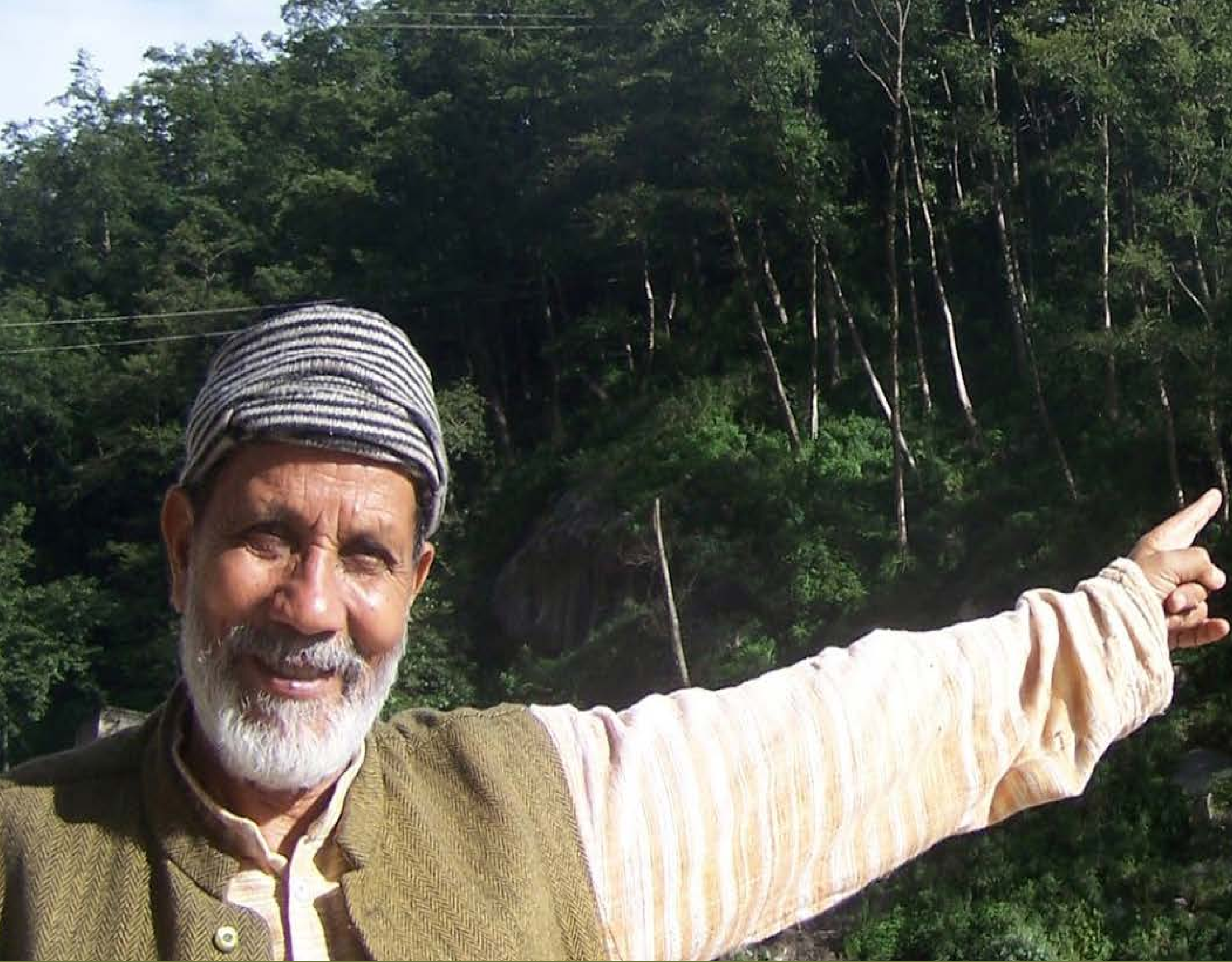


Figure 8. Most likely pedigree resulting from translocated female grizzly bears 286 and 782 in the Cabinet Mountains, 1993–2014. Squares indicate males and circles represent females. Lines indicate a parent-offspring relationship. F0 is the initial generation, F1 is the first generation of offspring for translocated female 286 or 782, F2 is the second generation and F3 is the third generation.

and the US Fish and Wildlife Service using the Cabinet Mountains effort as a model. In the case of the North Cascades the selection of bears would be similar (young bears with no history of conflicts with people), but the numbers moved each year would be greater. There have been only four confirmed detections of Grizzly Bears in the last ten years, all of which have occurred in British Columbia

and may comprise only two individuals. Therefore the starting point for restoration of this population may be lower than in the Cabinet Mountains. Most action alternatives for the North Cascades involve the release of five to seven bears per year. The public comment on this proposal ended in March 14, 2017 and a decision by the agencies is expected in 2018.





India's Environmental Hero: Chandi Prasad Bhatt

By Hank Tyler

C.P. Bhatt is recognized as the founder of modern environmental activism and pioneered many constructive environmental work in India. Bhatt has been well recognized for his environmental leadership. Indian government has honoured him with the prestigious Padma Shri and Padma Bushan awards. In 1982 he received the Magsaysay Award and in 2013 the Ghandi Peace Prize. With the prize money of Gandhi Peace Prize a trust (C P B Center for Environment and Development) was created. Saving Alpine meadows, Creating forests near schools by active participation of School students were taken up. At 83 years old, Bhatt continues his active life as an environmentalist and has authored many books including Parbat Parbat Basti Basti (Full list - https://en.wikipedia.org/wiki/Chandi_Prasad_Bhatt#Publications). Bhatt lives in Gopeshwar, Chamomoli, Uttarakhand.

www.facebook.com/chandiprasadbhatt

The action of one leader in the 1970s inspired the creation of India's modern environmental movement. Chandi Prasad Bhatt (C.P. Bhatt) along with Gaura Devi, Batti Devi, Govind Singh Rawat, Baswanand Nautiyal, Jagat Singh enlisted women and men in local villages in the northern Indian hill country of Uttarakhand to protest illegal tree-felling and to protect forest lands in their communities. There was massive flooding of the Alaknanda in 1970. It was the realization of the link between forests, water resources and land that was the driving force behind the movement. Women became active because deforestation deprived them of their source of fuel-wood for cooking. In addition, deforestation destroyed sources of fodder for their cattle and adversely affected water supplies for agriculture.

Chipko movement had a parallel in history and it can be traced to the 1700s in Rajasthan when local villagers protested the maharaja felling trees. Today Chipko Movement continues to be one of

India's major environmental movements. Employing Mahatma Gandhi's non-violent protest techniques, citizens concerned about environmental degradation, pollution and deforestation started taking action to protect Mother Earth. Initially eco-groups formed to protest deforestation in northern India's hill country.

In 1964, Gandhian social worker, Chandi Prasad Bhatt established "Dasholi Society for Village Self-Rule" in Gopeshwar. One aim was the establishment of small industries utilizing forest resources. Antiquated colonial forestry laws prevented local people from access to trees. At the same time, increasing human population in the hill country began causing environmental problems.

Because of deforestation, erosion and destruction of hill and mountain habitats and ecosystems, local citizens of the Garhwal Himalyan regions became active in protesting the destruction of their environment. In the early 1970s local

communities became more active in protesting commercial timber harvesting operations. In April 1973, in the village of Mandal, villagers beating drums and protesting drove logging company employees away from the forest. After Mandal, the movements took shape in





Fata and Rampur near Ukhimath. This was first time women (like Shyama Devi) took part in the movement.

In 1974, C.P. Bhatt with his associates, motivated women in the Reni region to hug trees to protest and save them from being cut down by commercial loggers. The loggers who tried to enter the village when the men were away were caught by surprise by a group of women lead by

Gaura Devi, who guarded the trees and did not allow a single one to be felled. The loggers were forced to leave. The UP government had no other alternative but to form the Reni Chipko Andolan Committee under the chairmanship of Dr. Virendra Kumar from Delhi University with many scientists along with Govind Singh Rawat and C.P. Bhatt. On the recommendation of the committee

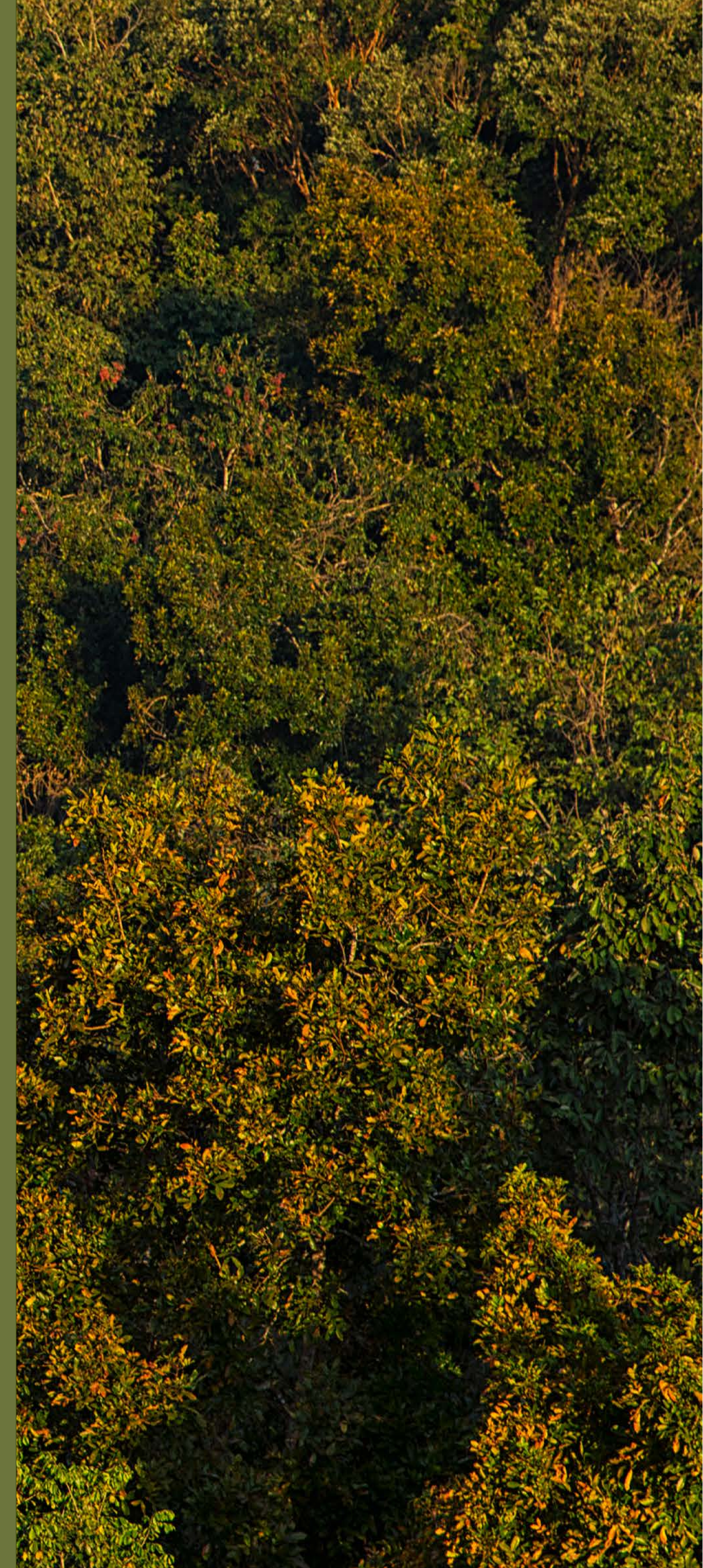
1200 sq.km of area not only in Reni village but also in the Alaknanda watershed area, tree logging was stopped.

The modern day Chipko Movement was born and over decades grew into major environmental activism by women.

Movement has spread throughout India and around the world. Tree felling was protested and stopped in the Western Ghats in the State of Karnataka In the 1980s, protests were held at the Vishnu Prayag Hydro project on Alaknanda River. C.P.Bhatt encouraged women movements in Bhyundar valley, downstream of Valley of Flowers and at Dungri-Paitoli in Narayan Bagar in Uttarakhand..

Chipko leaders started eco development camps which are active and organized to this day in villages and women, students, scientists, farmers, forest/govt officials and activists still join it and open to all. The United Nations has recognized the role of women in the Chipko Movement, promoting environmental and social improvements in their lives and villages.

C.P.Bhatt travelled widely through and around the rivers of Ganga, Bhramaputra, Sutluj, Indus, Godavari and Tungbhadra to understand them, the culture, environment and to raise awareness that these rivers are vital lifelines of South Asia.





Ramesh Kallampilly is a native of Kerala, India. Nature enthusiast and passionate photographer, he works as a logistics executive in Dubai, UAE.

According to conservation biologists, Lion-tailed macaques (*Macaca silenus*), also known as Wanderoo, are endemic to the Western Ghats of South India. As per ICUN conservation status Lion-tailed macaques are declared as endangered.

According to conservation biologists, there are no more than 4,000 Lion-tailed Macaques in the wild, divided into nearly 47 population groups spread across isolated fragments of forests.

The natural habitat of the Lion-tailed Macaques is the Anaimalai Hills in the Western Ghats, a world heritage site. They are also found in Kerala and Karnataka in the upper canopy of primary tropical evergreen rain forests.

The monkeys love to gather fruits or insects in these forests, but over the years, native trees have been either chopped down for timber or the wild forests has been replaced with exotic plantation such as tea, coffee and eucalyptus.. The macaques have also been forced to feed not on

Lion-tailed Macaque, Lions of the Anaimalai.

By Ramesh Kallampilly



the wild growing berries but man-made fruit forests such as guava, jack-fruit, passion fruit and others.

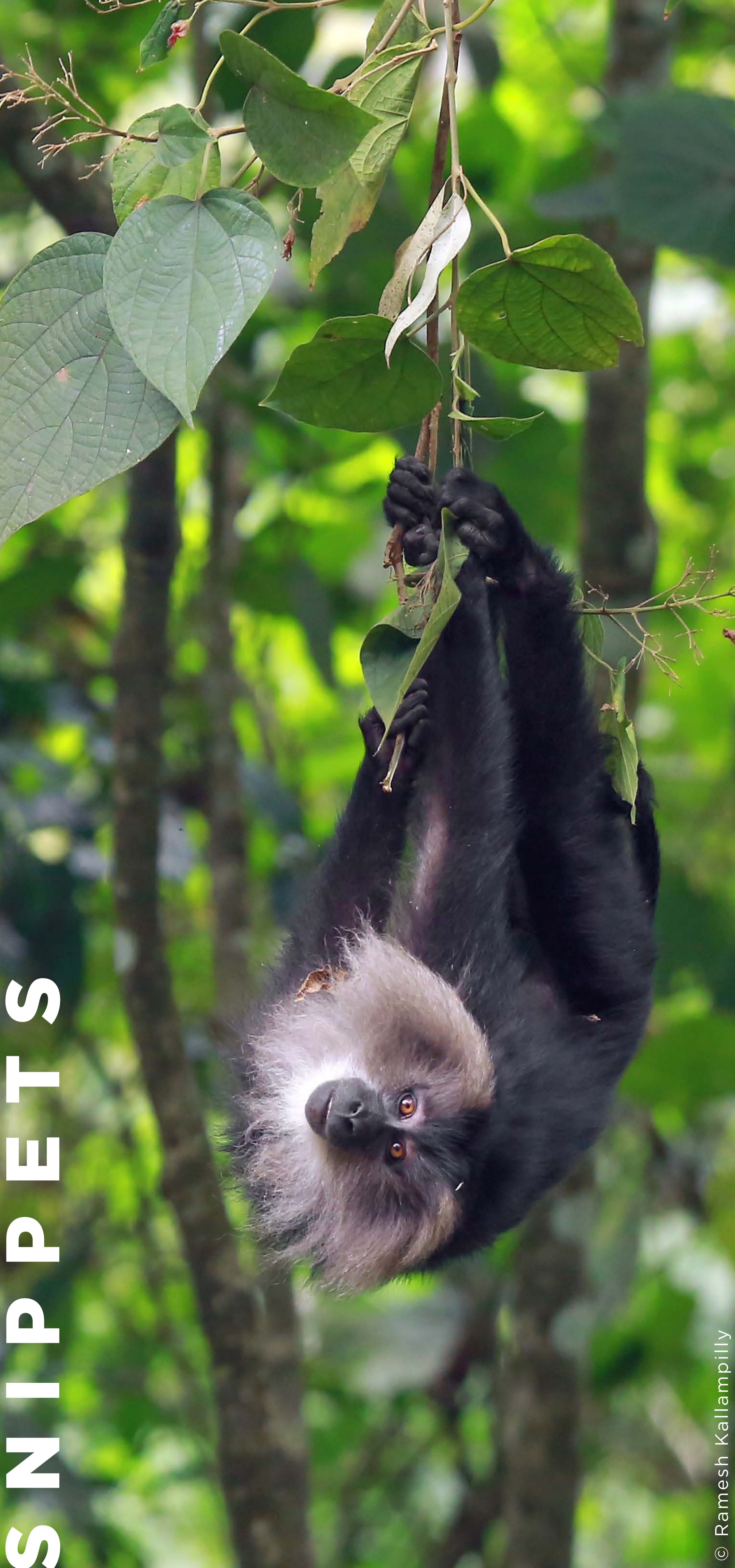
It is this distorted living and feeding behavior that is the root cause of what the scientists now find worrying.

Although the range of the macaques seems quite large, the species survives in small pockets and one population is hardly in contact with the other population due to rapidly vanishing

canopied area between their homes.

The Western Ghats is among the most fragmented and densely populated biodiversity hotspots. This latest study throws light on how one little damage done by humans has multiple repercussions.

Man-made clearing of the forests has led the endangered Lion-tailed macaques first to move out of their homes, forcefully lose the habit of arboreal living,



© Ramesh Kallampilly

feed on human produced fruits and food, and now becoming more vulnerable to infections that may further threaten their existence in the human world. As the number of pathogens and parasites attacking the animals grow, it can be one of the reasons why birth rate of the species has declined and young ones are dying easily.

These macaques can benefit from ecologically informed and sensitive actions.

It is essential to safeguard their habitat from further deterioration and prevent feeding of macaques by tourists.

Enabling canopy connectivity of native forest trees above roads will enable their movement. In other places, specially made rope bridges can help bridge the gaps.

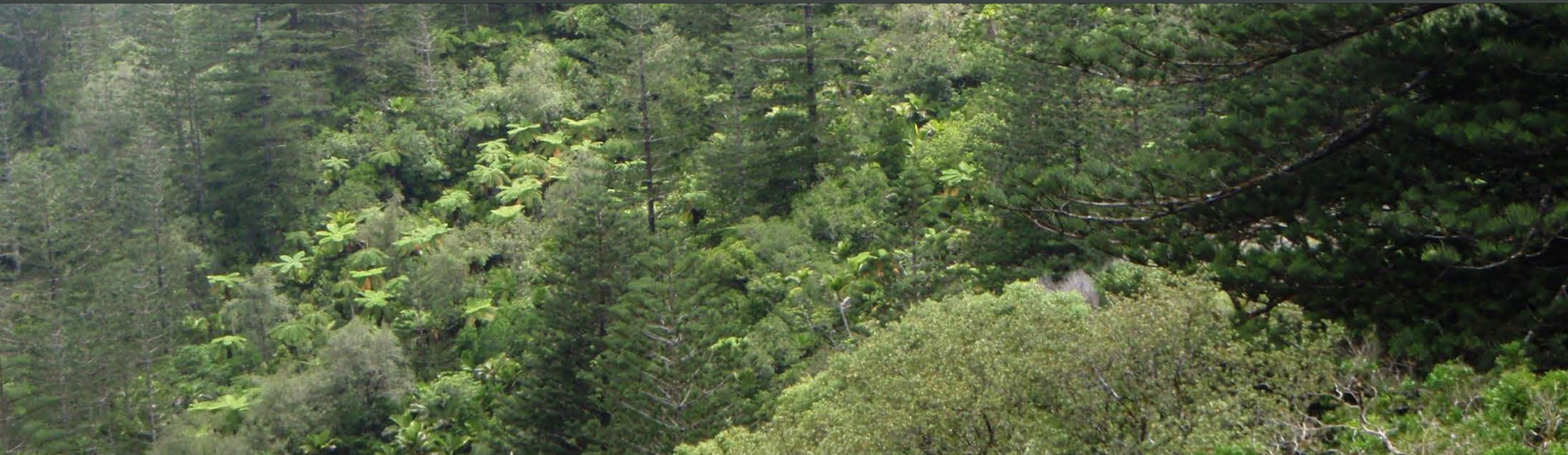
Restoring their degraded habitat by planting native tree species of the mid-elevation tropical rainforests typical to that region, creating corridors between fragmented forest patches, and preventing and controlling illicit woodcutting are some of the long-term solutions that can help conserve this remarkable and endangered species.



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Managing our landscapes & ecosystems for ecological & social resilience

By Richard Thackway



Richard Thackway, an Australian biologist worked for Australian Government for 28 years as a science-policy analyst, and now is an environmental consultant and Adjunct Associate Professor at University of Queensland, Brisbane.

Australia developed VAST (Vegetation Assets, States and Transitions) in 2005 as an analytical approach to evaluate the transformation of natural landscapes under historic and contemporary land use and management regimes. Changes in land use and management, over time, results in observed and predictable effects on the ecological function, structure of the vegetation and the composition of the natural vegetation. By compiling a detailed chronology of land use and management practices and assessing their effects on indicators

of native vegetation, this provides insights into the pathways that an area or landscape 'has travelled' e.g.: degradation, maintaining an area in a condition or state, recovery, rehabilitation and restoration relative to a baseline or a fully natural reference state. These condition and transformation insights are invaluable for decision-makers, investors, researchers, land managers, educators and the public.

Our land use choices can have a major effect on our natural environment, which in turn can affect a local and regional community's ability to sustainably produce food and to maintain and protect biodiversity and ecosystem services. The way land is used has a profound effect on local-climate, soil, water, vegetation and biodiversity resources.

Decision makers need simple tools to understand how and when indicators of ecosystem function are being, or have been transformed. This includes when and where deliberate and /or inadvertent land uses changes have led to loss of ecological function over space and time. Where these changes in ecological resilience are not ameliorated, and restored, or allowed to regenerate, this can lead to long-term declines changes in productivity, profitability and resilience. Left unchecked, ecosystem transformation and the lack of landscape regeneration can also lead to a loss of biodiversity at broader regional scales, as well as loss in social resilience.

Why the framework was developed?

An understanding of how Australian land management regimes change our terrestrial ecosystems is essential for land managers, local and regional communities to develop regenerative approaches for improving the ecological and social resilience of local and regional communities.

Knowledge of how land use changes our ecosystems is key to learning and adapting to complex cultural and biophysical interactions and developing the capacity to handle natural variability of climate, climate change and to manage enterprises in the face of various natural hazards and disasters. However, not all land managers have an ecological training, so there is a need for simple tools to inform their management activities.

To meet this need, a framework was developed to assist land managers and

planners and other communities of interest to track these changes, and be informed of what they can change for ecological and social resilience. Based on assessing changes in ecological function, from a natural reference state, the VAST framework uses observed effects that land management and management regimes have on indicators of soil, water, vegetation and biodiversity resources. Key to assessing changes in ecological resilience is the interactions between long term seasonal rainfall patterns and how land management regimes effect the natural regeneration of components of ecosystems.

How the framework developed?

The framework was developed through extensive consultation with land managers, researchers and ecologists from 2005. This followed an extensive and rigorous review of the scientific and populate literature. To ensure that the framework is relevant to all terrestrial ecosystems, the method was rigorously tested across Australia's agro-climatic regions comprising tropical, sub-tropical, arid, temperate and cold alpine and sub-alpine regions.

How the framework has been applied

The framework has been applied to grasslands, shrublands, woodlands, forests and rainforests throughout Australia. In rangelands and forests it has been used to assess the effects of production of food and fibre; in defence lands that are used for military training it has been used to evaluate the effects of regular training; in conservation reserves that were established on former farming

lands it has been used to assess the recovery to the original vegetation; in mined sites that are being restored to the locally indigenous plant communities it has been used to evaluate progress to predefined targets; in areas that were cleared and converted to exotic tree plantations and are now being rehabilitated it has been used to evaluate progress to predefined ecological targets. Examples of who has used the framework Applications of the framework include public and private land management agencies and as part of training landholders in ecological literacy during field days. Government agencies responsible for state of the environment reporting have used the report card to illustrate sustainable forest production and the recovery of sites that have been logged. Universities have used the framework as part of undergraduate and postgraduate coursework, comprising national and international students. Government environmental regulatory agencies have used the framework to establish and evaluate progress, pre and post sand and coal mining, relative to predefined ecological benchmarks. Grazing land managers have used the framework to identify how their ecological functions have been transformed over time and what indicators they can ameliorate, restore, regenerate or rehabilitate to improve production and biodiversity outcomes.

While the system was developed in Australia for Australian terrestrial ecosystems, the system is relevant to any terrestrial ecosystem anywhere in the world, provided the essential information required to operate the system are available. For, example, the system has recently been applied to

the transformation of Torehape peat dome mine site, Hauraki plains, North Island, New Zealand, where most of the surrounding landscape has been converted to pasture for intensive dairying.

Other examples where the VAST framework has been applied include: Restoration of the original tropical and cool temperate rainforests that were previously converted to, and managed for decades as dairy pasture in north Queensland and northern New South Wales;

Rehabilitation of the original desert chenopod shrubland that was very highly degraded by prolonged grazing and trampling by sheep in central eastern South Australia;

Rehabilitation and restoration of the original coastal Eucalypt open forest on a high sand dune that was mined once for mineral sands in central New South Wales

Rehabilitation of the original mountain Eucalypt open forest that was converted to, and managed as a *Pinus radiata* pine plantations in the Australian Capital Territory;

Rehabilitation of the original tropical savanna Eucalypt woodland that was very highly degraded by prolonged grazing and trampling by cattle in the Northern Territory;

Rehabilitation of the original cool temperate rainforest that was logged once for old growth rainforest timbers in north eastern New South Wales;

Rehabilitation of the original Themeda

temperate tussock grassland that was modified by prolonged grazing and trampling by sheep and kangaroos in the Australian Capital Territory;

Assessing the potential for rehabilitating and restoring the original grassy Eucalypt woodland and open forest on an area which is used for prolonged horticulture and cropping, cattle grazing and recently used for low impact Defence training.

Phillips Island, an example of VAST analysis

VAST technique was applied to the 250 hectare Phillips Island that is located about six kilometers south of Norfolk Island, (29 South, 167 East)about 1,412 kilometers east of mainland Australia. Phillips Island's vegetation cover was severely destroyed and degraded by early Polynesian and European settlers.

Photograph, taken in 1906 shows a severely denuded sub-tropical island landscape found on Phillip Island, South Pacific. Since the 1980's, and following the removal of European rabbits, passive and active methods have been used to restore the island's ecosystems. These management interventions have resulted in obvious improvements in the ecological function of much of the island. Photograph, taken in 2008. These changes, over 102 years, are testimony to the natural resilience of the Island's ecosystems. Phillips Island is now incorporated into the Norfolk Island Nations Park system. Feral predators have been removed allowing nesting seabird populations of Sooty Terns, Masked Bobbies, Australian Gannets and Red-tailed Tropic Birds to expand.

1906



1979



2008



Building resilience through adaptation in Nepal

By Deependra Joshi

Mr. Joshi is a biologist and biodiversity specialist and the CEO of HECT Consultancy, Kathmandu, Nepal.

Nepal harbours one of the richest biodiversity resources in South Asia that encompasses a wide variety of ecosystems, including some of the most diverse protected areas and a large variety of plant and animal species. Biodiversity conservation lies at the heart of the Government of Nepal's commitment intended to preserve for the benefit of present and future generations. Nepal has a long history of wildlife conservation having enacted various policies, legislations and regulations to enable conservation and management of wildlife.

Over the past two decades, Nepal has experienced political, economic and environmental transformations. Despite making strides in environment protection, wildlife population clings to survival in some of the few remaining homes that sustain them. The future of

these spectacular creatures is clearly at risk, for they live in a rapidly changing environment that they must share with humans struggling for sustainable livelihoods. Consequently, much of the biodiversity is under threat due to a combination of factors: high population growth, unplanned development and unsustainable exploitation of natural resources.

Climate change vulnerability

Nepal's environment is also susceptible to multiple factors. According to the National Adaptation Plan of Action (NAPA) report, the impact of climate change on the health of ecosystems is a key risk to Nepal. Increasingly frequent extreme weather events and rapidly changing climatic pattern has posed serious threats to agricultural productivity and food security in Nepal. Climate change has threatened ecosystems, biodiversity and people's livelihoods in a number of ways. This has resulted in serious vulnerability to biodiversity and

is a threat to the people who depend on biodiversity for their livelihoods.

According to a study conducted in 2013 by WWF Nepal, many wildlife species are under threat from extinction because of the conversion, fragmentation and degradation of forests and grasslands. Of the 180 species of mammals recorded from Nepal, 59 species are listed in the National Red Data Book of Nepal, including large wide-ranging species such as Tiger, Rhinoceros, Asian elephant, Snow leopard, Common leopard, Sloth bear and Black bear. The ecology and behavior of these species require large spatial habitats and landscape approaches for their conservation. Several other threatened mid-sized mammals such as Wild dog (*Cuon alpinus*), Hyena (*Crocuta crocuta*), Marbled cat (*Pardofelis marmorata*) and Golden cat (*Catopuma temminckii*) also require habitat connectivity because of their territorial behavior or large home range requirements. There are also several large to mid-sized species such as Greater

one-horned rhinoceros (*Rhinoceros unicornis*), Gaur (*Bos gaurus*), Wild water buffalo (*Bubalus arnee*), Red panda (*Ailurus fulgens*), Musk deer (*Moschus leucogaster*), Clouded leopard (*Neofelis nebulosa*), and Fishing cats (*Prionailurus viverrinus*) that are habitat specialists.

The preferred habitats of these species are already fragmented with extensive loss from anthropogenic forest clearing, especially in the lowland areas of the TAL. The climate projections indicate that more habitat conversion and transition will occur in the lowlands and mid-hills, increasing the level of threat. Although the habitat in the higher elevation forest zones—the temperate and conifer forest zones—seem more resilient, it is important to identify climate macro-refugia for species such as red panda and musk deer, which have very specialized habitat requirements.

Core commitments

Realizing the dire need of protecting critical wildlife habitats not only in the

designated protected areas but also along the wildlife corridors in order to ensure connectivity between protected areas and contiguous ecosystems that transcend national borders, the Government of Nepal has prepared several wildlife conservation action plans and reiterated strong commitments in conserving them in international fora. During the Global Snow Leopard Conference held in Kathmandu in January 2017, the Prime Minister of Nepal pledged USD 5 million for the conservation of snow leopard in Nepal.

Nepal is rich in biodiversity at all levels disproportionate to the area of the country. The threats to biodiversity are also alarming at all levels. The current knowledge for the prediction of climate change impacts on wildlife and biodiversity is inadequate in Nepal, which calls for establishing long-term monitoring mechanism through systematic research on species richness representing different ecoregions of the country. The weaknesses, gaps, difficulties and other problems in conserving biological diversity in Nepal are attributed to socio-economic causes (poverty and population growth); natural causes (landslides, flood and drought); and anthropogenic causes (pollution, fire, over-grazing, introduction of alien species, illegal trade and hunting).

In recent years, the Government of Nepal is working to comply with its global commitments by formulating policies and guidelines, establishing institutions, and developing frameworks for climate change adaptation. However, although various policies and frameworks have been developed by different ministries,

there has been inadequate coordination among the ministries responsible for different aspects of climate change adaptation and wildlife conservation.

Way forward

Nepal is beset with multiple gaps in addressing climate change issues. Although the government has made strong commitments to climate change adaptation in terms of policy documents, it has not been translated into action because of constraints in meeting institutional capacity needs. This is the core of the 'governance' argument. Political economy and institutional analysis suggest that the governance of financing the fight against climate change is important in Nepal. Finances need to be used effectively because of severe threats of climate change and its subsequent impact caused by climate-induced disasters to the vulnerable communities.

As Nepal's economy is predominantly based on agriculture, scaling up climate-smart agricultural practices need to be prioritized, which require well-articulated knowledge management system and improving farmers' access to financial instruments, resources and markets. Capacity building, creating incentives through social, legal, institutional and market mechanisms, long-term strategic investment in infrastructure, productive capacity, improved products and services and public-private partnerships will go a long way in improving people's livelihoods thereby reducing human-wildlife conflict and conserving the country's pristine biological diversity.



Kamchatka, The Land of Fire and Ice

By Hermis Haridas



© Hermis Haridas

TRAVEL & PHOTOGRAPHY



A

By Hermis Haridas,
United Arab Emirates

An autodidact wildlife photographer who got deeply involved with nature and wildlife photography and found himself traveling around, hunting for and trying to capture moments hitherto uncaptured. Hermis believes in the adage that “practice makes perfect” and there isn’t a day in his life without peeping at the world through his “third eye”. His trips to exotic wildlife locations including Russia, Arabian deserts, Sri Lanka, India and African continents, gave him the opportunity to understand the subtle nuances of wildlife photography. Hermis is living in Dubai since 10 years and doing wildlife photography since 8 years. He does photography workshops in different exotic locations around the globe.

His works has been published in various international publications.

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Hidden in the far east of Russia, Kamchatka, the remotest territory where the volcanoes erupt and brown bears play around is a UNESCO World Heritage Site. Kamchatka is one among the few places on earth which human beings are yet to explore widely.

Kamchatka is one of the world's most volcanically active regions, periods of active eruptions occurred in the late Pleistocene between 45 and 39,000 years ago and between 30 and 25,000 years ago with an additional period of enhanced activity in the early to mid-Holocene between 9500 and 7000 years BP.

Kamchatka is known for the amazing diversity and abundance of its wildlife. Sable (*Martes zibellina* L.), Snow sheep (*Ovis nivicola nivicola*), Kamchatka brown bear (*Ursus arctos beringianus*), Crab and Salmon are all found in large quantities.

My trip was specifically to Kurile Lake where brown bears rule the forest, situated in the southern part of the Kamchatka Peninsula, and is one of the most impressive volcanoes there. On a clear day the surface of the lake becomes a mirror that reflects volcanoes, creating landscapes of unimaginable beauty. A large number of carnivorous birds like Steller's sea eagles, White-tailed eagles and Golden eagles gather here during winter months.

Kurile Lake is one of the largest locations of salmon spawning (Pacific salmon, genus *Oncorhynchus*) and this mainly happens during June to March. Salmon







population varies from 2 million to 6 million. The long salmon spawning period and the high population of salmon attract many brown bears to the lakeshore. Many rivers and streams fall into the lake, but only one river flows out of it, the Ozernaya River.

July, August and September is the most “delicious” time to visit Kurile Lake. Hence I chose to visit the place in September. To my surprise the weather was warm and it drizzled at times.

The Journey

The flight duration from Moscow to Petropavlovsk-Kamchatskiy is almost 9 hours. The flight was at 5PM from Sheremetyevo International Airport and arrived at Petropavlovsk-Kamchatskiy, the capital town of Kamchatka by 10 AM. I was promptly transferred from the airport to a comfortable hotel (Hotel Petropavlovsk). The rest of the day was spent roaming around the city and visiting the market to buy some food items and gumboots which were essential for the rest of our expedition.

The second day early morning I was taken to the helicopter and the flight lasting an hour took me to the Ksudach Volcano. We landed there and walked into the crater lake of Schtubelya, which is situated inside Ksudach Volcano. By afternoon, we arrived at our lodge at Grassy Point, which affords a magnificent view of Kurilskoye Lake, the place was surrounded by lakes and mountains. I was welcomed by the sighting of a small group of brown bears fishing near the camp I stayed.



©Hermis Haridas

After a delicious lunch I met the ranger Konstantine, who accompanied us to Kurile Lake. We had a good conversation about the lake and the bears. From his words I could define him as the protector of the bears in Kurile Lake. According to him it is the bears that need to be protected from humans and not the other way. He got in depth knowledge about the bears, their behavior and the habitat. Even though he mentioned that the bears are not aggressive until unless provoked,

they had protective ammunition with them while we explored around. Most often the ranger's powerful stare was enough and almost always chased the bear away from us.

The Salmons in the lake tell a fascinating story. They are born in the same lake and the new born Salmons move to the Ocean and live there adult life there. Again during the spawning season they come back to the same lake and dies there after

spawning, their bodies providing all the necessary nutrition to the offspring. For the next three days, we explored salmon-spawning places to photograph interesting moments of brown bears. We enjoyed a trekking through the dense forest with local wardens where bears feed on wild berries while in parallel fishing just a few yards away.

The last day we took another walk to the bear-viewing platform and later in

the afternoon, a helicopter took us to the Khodutka River for a blissful bath in Kamchatka's largest natural hot spring. This is a perfect place to take a dip in 40-degree healing water after the long four days in this paradise. At the end of the day, we returned to Petropavlovsk-Kamchatskiy and stay over for the night.

I didn't want to leave Kurile Lake. Where else could we experience so much thrill enjoying the raw wilderness...





An Inherited Passion

By Abisek Ahamed

CUB'S CORNER

CUB'S CORNER



Abisek Ahamed is a 13 years old from Coimbatore in Tamilnadu, South India studying Class X at St.Judes Public School & Junior College at Kotagiri. He is also a basketball player but what interests him more is the wilderness and the experience he gets there.

Accompanied by his parents to all his trips, he believes in presenting nature in its true colours and is open to experimenting and exploring various options in photography. He believes that there is no right & wrong in photography and all it matters is how he likes to present it.

Pity the child born to a set of parents, who would prefer jungle to movies, camouflage clothing to flashy wears, stream water to cool drinks? We expect that such children will be aloof and uninterested but such is not the case in the young talent we would like to introduce this time. Born to wildlife photographers Gaythri Devi & Mansur Ahamed, Abisek Ahamed.M.G started going to the jungle along with his parents at a very young age. Getting the children interested in nature has its own set of advantages. Very high are the chances that they adopt it as their passion for life and hence not getting deviated by trivialities in life. The same happened to Abisek who slowly followed his parent's interests and got into wildlife photography.

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My childhood memories are more in various jungles than in any movie theatres or hotels. My dad works for a telecom firm and also into wildlife photography & mom is a full time wildlife photographer. Every single vacation, discussion at home will only revolve around which wildlife sanctuary to explore and hence I never had any other options. Though I was not that interested at the start, the very thrill & the fun pulled me into it. I used to be the star spotter when we used to go birding. Though I wanted to lay my hands on the camera, I never expressed it. It was on my 10th birthday that my parents gifted me my first camera a Canon Powershot SX30 and asked me to

shoot at will. An entire family having the same interests has its own advantages and each trip was a huge learning which continues to this day.

I have visited many wildlife & bird sanctuaries across India which includes Tadoba Andhari Tiger Reserve, Kabini National Park, Bandipur National Park, Mudumalai Tiger Reserve, Anamalai Tiger Reserve, Sathyamangalam Tiger Reserve, Indira Gandhi National Park, Nilgiri Biosphere Reserve, Thattekkad, Salim Ali Bird Sanctuary & Koonthankulam Bird Sanctuary. Tadoba is very close to my heart and as the saying goes, 'Tadoba never disappoints. A few months back,







we had been to Tadoba on a rather unscheduled plan. Being unscheduled, we got to do more of the buffer zone and it did surprise us with regular sightings. We were fortunate to see a live hunt attempt by a tigress right in front of our jeep. It is always said that wildlife sightings are a matter of luck but it also requires you to have a lot of understanding of animal behavior and hence being able to predict what could happen.

In this particular instant, a tigress was fast asleep and we waited for more than an hour expecting it to wake up. Many jeeps were also waiting and we were fast approaching the closing time. All the people in the other jeeps became restless and moved out of the area in search of other tigers. My parents decided to stay back as they anticipated that the tiger would come to drink water and hence moved the jeep nearer to the waterbody.

It was then that two Sambar Deer (*Rusa unicolor*) appeared from nowhere, totally unaware of the sleeping tiger. Suddenly, we found that tiger had woken up and in no time started to stalk the deer. We witnessed the entire episode, the way the tigress calmly stalked and then the chase. Lucky day for the deer, they managed to escape but the entire episode just in front of our jeep left me panting.

Photography has become a part of my life and now I use a Canon 7D Mark II. My parents have taught me never to get into unethical means while photographing wildlife. They have their rights and we should respect that. Whenever I find a bird nesting, I ensure that I don't disturb them in the name of photography by any means. I am thankful to my parents and all my teachers who support me and motivate me in my passion.







©Dr. Matrishva Vyas

Gaur Vs Tiger

By Dr. Matrishva B Vyas

THROUGH THE LENS



Dr. Matrishva Vyas is an orthodontist and practices out of the city of Nagpur in India. It was the need to keep photographic records of patients that got him into photography. His love for wildlife was natural, being from the Nagpur, the tiger capital of India.

He is a mentor for the Nikon school of photography and conducts workshops on clinical photography and wildlife photography. Recently one of his images bagged the gold at the 15th PSI international salon 2016.

facebook.com/matrishva/

Tadoba Andhari Tiger Reserve is situated in Chandrapur district of Maharashtra, India, around 150 km from the central city of Nagpur. It is the oldest National Park of the state of Maharashtra. The park covers 623 sq.km. in area, consisting of two forest rectangles of the Tadoba and Andhari Range. Tadoba is one of the India's 28 Project Tiger reserves.

I, along with two of my friends were on a week-long safari to the famous Tadoba Andhari Tiger Reserve. First three

days of safari was in the Tadoba range, 'traditional Tadoba' as we call it, because of its popularity amongst the tourists and high chances of Tiger (*Panthera Tigris*) sightings! These initial three days proved satisfactory with sightings of male Tiger named Matkasur and a leopard. From the fourth day onward, we moved to the Kolsa range of Tadoba, the zone not popular amongst tourists, thanks to its location and lack of tourist facilities. We already had information that this zone housed ten cubs to three dominant





tigresses, in a vicinity of around ten square kilometres. The fourth and fifth days proved disastrous. Forget about Big Cats, we were unlucky to not even get a single decent image of other denizens. To add to the misery my tooth started aching. Being an Orthodontist myself I quickly diagnosed it to be a case of necrotic pulpitis. Antibiotics and pain killers would not help in this condition, the only remedy being to open the root canal. I somehow managed to go for the morning safari, frustrated by the lack of luck and the toothache not letting me concentrate! I decided to go to the nearby town of Chandrapur where a student of mine, Dr. Rizwan Ali has a dental practice. There I got the root canal opened, and rushed back to catch the afternoon safari.

The afternoon safari on that eventful day will remain permanently etched in my mind. Though the safari timing was from 2 pm, we started nearly an hour late, thanks to my dental emergency. We got information at the Kolsa guest house that a tigress with cubs has been sighted at Hirdi Nallah. This place was hardly two km away. I just had a glass of milk, and skipped lunch to make-up for the delay. We drove straight to the Hirdi Nallah, a small water trench in the Kolsa range of Tadoba. Already four gypsies were present at the spot. They had witnessed the tigress and her cubs playing. By the time we reached, the cubs had moved to their resting place behind a bush, and were not visible to us as we were placed at a disadvantageous position. I cursed my toothache! But destiny had something

more fruitful in store for us. Some half an hour must have passed when a huge male gaur arrived at the scene. We all were excited at this development. For a moment, I thought that this gaur was inviting trouble, as in past I have seen gaur being hunted by a tigress of the Kolsa range. But not this Gaur - He had some other game plan in mind. He first approached and intimidated the three cubs with his huge size. The mother tigress appeared disturbed by this development. She tried to come in between the cubs and the gaur, but the gaur was committed to his job. Moments later the cubs made an escape from the scene. Now all three Cubs were scattered and this had the mother worried. She never had contemplated such things to happen. But somewhere inside she was confident that cubs will take care of themselves and there was no panic. For a while there was utter silence. The gaur also retracted and we thought that the drama was over. But after a while it reappeared on the scene.

This time it's target was the mother tigress. The relaxing tigress upon seeing the gaur approaching her, stood up and growled at the huge animal. Unpretentious, the Gaur was confident of his strength. He was committed to vanquish all in sight and moved ahead. The tigress sensed the danger and distanced herself. After a few steps, she looked back to gauge the situation. The gaur was furious, confidently following the tigress. It was persistently charging the tigress. Now the hapless tigress had no option but to quit and surrender the "territory". She took a big leap and vanished from the scene. The tables had

turned. The outcome was the exact opposite of our initial presumptions. I do not know if facial muscles of animals can produce expression as humans do, but what we could sense was great pride on the face of the gaur. The confidence oozing out was unexplainable. The time for our exit was nearing and we left the spot reluctantly. Next day morning, we reached the same spot earlier than usual, before any other vehicle. The pug marks of the tigress and her cubs were visible, moving in the opposite direction. Upon reaching the spot we saw that a large herd of Gaur was grazing.

The "territory" was surrendered as indicated by the pug marks of the cats. Probably more action had happened after we left them in the evening. In the Kolsa range it is common for the tiger to hunt the gaur. I myself had photographed tiger with a gaur kill in the past. Why then did the tigress not think of hunting? Was it only because of the size of the gaur or probably because there was the responsibility of three cubs over her. Did the mother Tigress decide not to take any risk and avoid confrontation, and in turn avoid any injury to herself which might prove detrimental to her as well as the future of her cubs? In my more than 15 years of safari this was the best experience ever. Nature is amazing, that was the only sentence which came to my mind! This episode also taught me many things. One, no matter who you are, sometimes it is better to concede a defeat for a while rather than invite a permanent loss. And two, respect the laws of nature.

website: tadobanationalpark.com





© Malcolm Arnold

A lifetime of Wildlife Art

By Malcolm Arnold

WILD ARTS SHOWCASE

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Malcolm Arnold is an Australian wildlife artist now living and working in Bangladesh. For forty years he has worked as a professional artist primarily focusing on wildlife and nature.

He has had one person exhibitions in every Australian state and territory.

I was nine years old and at school. My teacher held up a print of a famous Australian artist, Hans Heysen. That very instant my heart reacted and I just knew I wanted to be an artist. Of course at that age I did not even know what this meant or how to go about it. I have wanted nothing else with my life from that moment on. I just went ahead drawing and loving it. The love of creating has never left and indeed gets stronger as the days pass.

Drawing was my first love and in fact still is. From the late 1960's till the late

1970's, a period of ten years I spent my spare time sketching on location in the mid north of my home state in Australia, namely South Australia. I sketched the old historic buildings, old deserted farms with their interesting thatched farm buildings. It was a wonderful period. I sketched alone and got to enjoy my own company. An artist's life can be an alone one but, never a lonely one. This ten years and the exposure and successes I had led me to make the decision to leave my 'secure' government job and to follow my heart's dream.



In 1976 I started out on a lifestyle I had long desired. Yes many tough times, but I would not change a thing. I was living my promise I made to myself when I was 9 years old.

In the early 1980's I tried my hand at bird painting. Pretty clumsy works indeed but I loved doing them and a passion for wildlife started and it has never left me. I joined up with a scientist and lecturer in biology and ornithology. We traveled our remote arid areas, mist netting, tagging and releasing our native birds. It was wonderful to study, up close and personal these magic critters. To actually hold them in my hand gave me the opportunity to study the finest details. On one occasion I had an exhibition. I painted a Spiny Cheeked honeyeater. As I had seen they have a vivid orange ring around their eye. A keen bird lover and scientist approached me quietly and pointed out that this eye ring I had painted was wrong. In fact, all the old illustrations of this bird were done from Museum skins and this orange had faded to a black-gray. It turned out I was the very first artist to paint this correctly. I was proud of this achievement which was brought about by this intimate contact.

My new love of wildlife led me to travel over the arid areas of Australia. I slept under the southern sky for the next 40 years—a time I cherished and a most productive period in my art career. Many, many exhibitions followed with much success achieved. In late 1990, I was commissioned to do two small identification books of “Birds of the

Red Centre” and “Birds of the Top End,” a wonderful tropical wonderland and a bird lovers dream destination. Over 40,000 of these books were sold in Australia.

I work a design up in graphite and then add color in watercolor, gouache or acrylic. To me drawing is the most important part of any artwork. It is the foundation, design and structure. I spend a lot of time drawing the design before adding color. The very last step in my artwork is adding color to make the piece more attractive. Pencils are my favorite medium. Many pieces of my artwork begin with sketches, and after refinement the finished artwork is still in graphite...no color is necessary. I let the subject dictate the size, many are miniature while other subjects expand into major pieces of artwork. I try to draw and paint only what inspires me, not what the market dictates.

While being the artist-in-residence at Yulara Tourist Resort near the amazing Uluru monolith, I was approached by a Bangladeshi businessman. After a few meetings he invited me to his country to do a book. I had long dreamed of doing such a thing as other cultures had interested me for some time. I first went in 2001, a trip that would dramatically change both my life and the direction of my art. The people themselves are what inspired me and of course the nearly all new wildlife. Another challenge in my career.

My stay in Bangladesh has widened my outlook on not only my art but on life itself. To be witness on poverty that has

to be seen to be believed has to have an effect on how you look at what is truly important in life in general. As I stated, it is the people themselves that have captured my heart and thus my art. I have travelled throughout this country sketching and mostly using my camera. A foreigner, in fact, has not been seen in many remote areas so crowds gather in no time at all. This makes it impossible to sit in silence and draw. It is my habit when using my camera to take the shot with a painting or drawing in mind. I compose the composition through the lens. When using my images I still use them only as a crutch and put in or leave out what is. Of course wildlife is still a great love so many visits to the mangrove forests of the Sundarbans have been enjoyed. This is the home to an amazing range of fauna including the Royal Bengal Tiger. I have had close encounters but never actually seen one in over thirty visits. The Sundarbans is an amazing place that unfortunately is

very much endangered because of lack of political will to protect it.

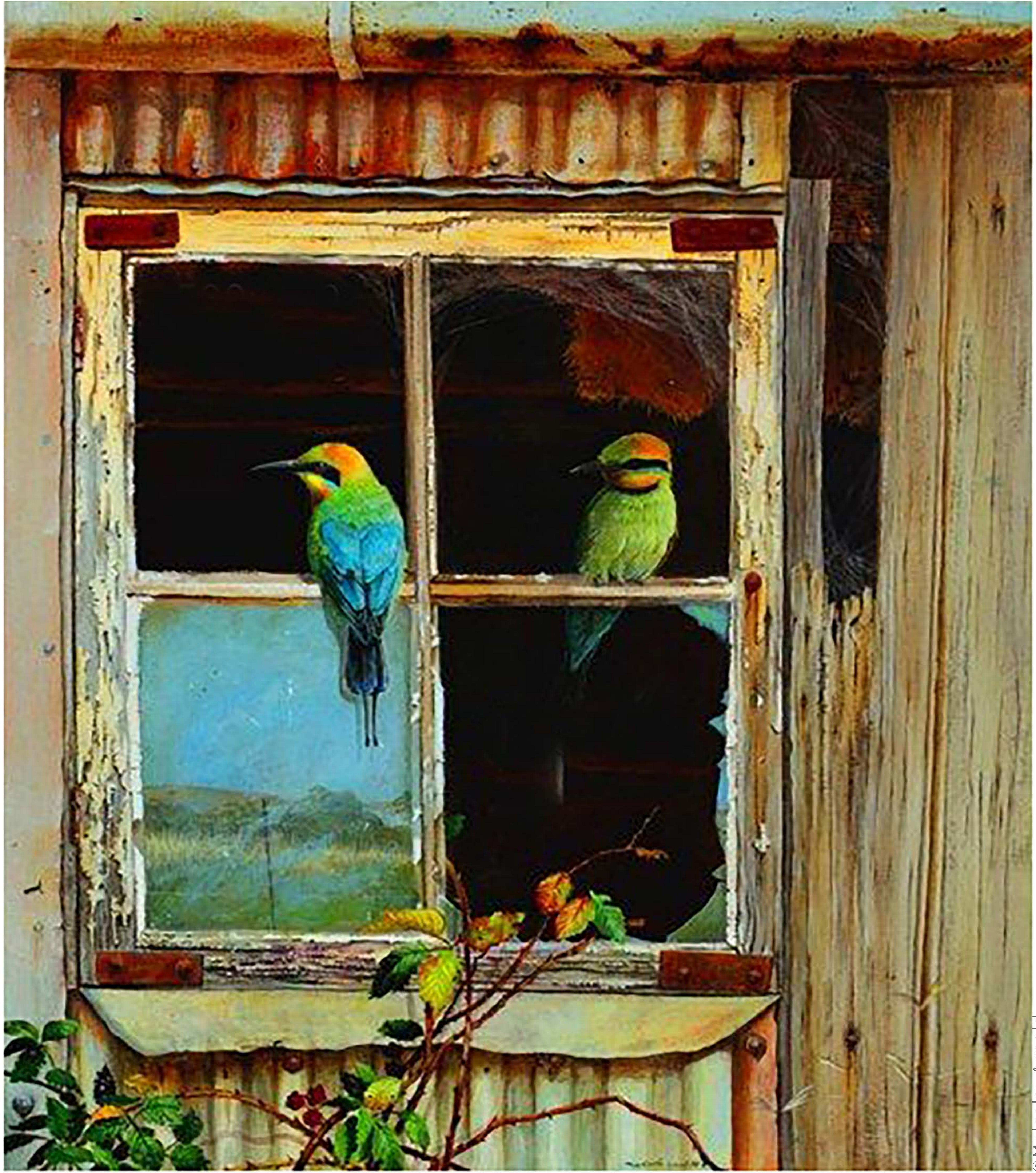
An invitation led me to be introduced to another country, another wonderful experience. In 2015, I was invited to the “Arts for Nature” symposium for artists of Nepal in the Chitwan National Park. Close encounters with elephant, the local rhinos and other wildlife and a new culture made this a wonderful time.

During my time here in Bangladesh and with the help of facebook I have had the opportunity to become great friends with a Maasai man and through him with his father, an important elder and indeed his villagers. My next adventure in life and art is to spend much time in the Maasai Mara, Kenya. Here I will with pencil, brush and camera try to capture the lifestyle and culture of the Maasai. I will be producing art for a series of soft covered books on my experiences. I look forward very much to the next chapter in my life in Africa.





© Malcolm Arnold



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YOUR GALLERY



Vipul Ramanuj

Asiatic lion (*Panthera leo persica*)
Location: Gir National Park, Gujarat, India



YOUR GALLERY

Debarpan Datta
Northern Pintail (*Anas acuta*)
Location: Mangalajodi Wetlands, Chilika Lake Backwaters, Odisha, India.



YOUR GALLERY

Dheeraj Mali
Indian Eagle-owl juvenile (*Bubo bengalensis*) and House Crow (*Corvus splendens*)
Location: Veerwara, Sirohi, Rajasthan, India



YOUR GALLERY

Arjun Anand

Asiatic lion (*Panthera leo persica*)

Location: Gir National Park, Gujarat, India



YOUR GALLERY

Agniswar Ghosal

Predator - Golden Dartlet with Prey - Pygmy Dartlet

Location: Bolpur Shantiniketan, West Bengal, India





YOUR GALLERY

Vivek Vegda

Lesser Flamingo (*Phoeniconaias minor*)

Location: Mokarsagar Wetland Complex, Porbandar, Gujarat, India



YOUR GALLERY

Nitin Shenoy

Northern Gannet (*Morus bassanus*)

Location: Ireland's Eye - Dublin, Ireland



YOUR GALLERY

Hakeem Kokkodan
Pin-tailed Sandgrouse (*Pterocles alchata*)
Location: Saih AL Salam, Dubai, UAE



YOUR GALLERY

Sanjay Kumar
Arabian gazelle (*Gazella arabica*)
Location: Al Maha Desert and Wildlife Conservation, Dubai, UAE

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**UPCOMING
FEATURES**



DANCING WITH THE WINGS

By Jari Rajanen



THE MARA-MERU CHEETAH PROJECT

Dr. Elena Chelysheva
& Salim Mandela



ZEALANDIA

By Imogen Warren
