NOTES FROM THE FIELD

— WINTER 2022 —

RESTORING PEACE BETWEEN CHEETAHS AND FARMERS

DISTURBANCE IN THE DEEP

ADAPTING TO AGRICULTURAL SPRAWL

20 YEARS
Wildlife Conservation Network

Restoring Peace Between Cheetahs and Farmers

Left to right: Ashton recovering in CCB's rehabilitation facility. Protecting livestock from carnivores is critical to promoting peaceful coexistence between farmers and cheetahs. Gin traps are primarily used for hunting, often causing serious and even fatal injuries to wildlife. The CCB team moving Ashton to be released in the Central Kalahari Game Reserve.

Lucas Meers

Lucas Meers

The farmer's wife greeted Cheetah Conservation Botswana's (CCB) rapid response unit as they approached the homestead, heralded by a choir of bleating sheep. Her husband had reported that he'd caught a cheetah prowling near his livestock that September morning. This cheetah, Ashton, was one of several GPS-collared and monitored by CCB. His GPS location had not moved in the past day, so they were relieved to know he was still alive and not another casualty of Botswana's rising human-cheetah conflict. But as the team examined the farmer's catch, their relief evaporated under the midday sun—Ashton had been snared in a gin trap, and his wound looked severe.

Livestock are the very livelihood of farmers, who often kill any carnivores that might target their herds. Botswana contains more cheetahs than any other country, yet 77% of these cats live outside of protected areas with their range overlapping farmlands. In portions of the Ghanzi District, where Ashton was captured, poor cattle management has led to overgrazing and unproductive rangelands. This leads to fewer wild prey and weakened livestock, and thus more livestock predation from carnivores. To mitigate human-cheetah conflict, which had increased significantly since July 2022, CCB monitors collared cheetah movements daily to anticipate where they might clash with farmers and intervene before blood is shed.

While cheetahs do sometimes prey on livestock, they can also be blamed for incidents perpetrated by other carnivores—because they hunt during the day, cheetahs are more commonly seen by farmers and assumed to be culpable. CCB sets up camera traps on farmlands experiencing livestock predation to determine if cheetahs are responsible, and if so, they intervene accordingly.

Ordinarily, CCB assists the Department of Wildlife and National parks with relocating and collaring cheetahs caught in humane cage traps on farmlands. But this farmer had unfortunately used gin traps—metal contraptions that snap like jaws around an animal's leg, often causing serious injuries—without CCB's knowledge. The CCB team quickly moved Ashton to their rehabilitation facility so a veterinarian could treat his lacerated paw. Thankfully, the wound was less serious than originally thought, with no major damage to his bones or tendons. Ashton was given antibiotics and released in the Central Kalahari Game Reserve after 10 days of observation. His collar allowed CCB to continue monitoring his movements, which returned to normal after a few days. Ashton seemed to have recovered, until his GPS position stopped moving again. Worried, CCB's response unit ventured deep into a remote corner of the Reserve to locate him. Despite receiving proper care, Ashton had succumbed to infection from the injury.

It's unclear if Ashton was responsible for the 19 killed sheep that caused the farmer to set gin traps on his land, but CCB knew the only way to prevent further cheetah losses was to help this farmer save his sheep. They returned to his land, helping him improve his farm management practices and sheep enclosures to deter predators. Since September, these interventions have prevented any further livestock predation.

This year, **funds raised by WCN** allowed CCB to **purchase farmland** to house their livestock guarding dog training program and a rehabilitation facility for cheetahs injured from conflict.

The farmer has also removed all gin traps from his land and has committed to never use them again. CCB intends to give the farmer a dog from their Livestock Guarding Dog program, which has proven very effective at protecting livestock from cheetahs and making peaceful coexistence possible.

With the memory of Ashton ever present, the CCB team continues to provide Botswana's farmers with mobile workshops that teach cheetah-friendly farming techniques and sustainable land management. By keeping their farms safe and productive, CCB hopes to protect farmer livelihoods and the lives of cheetahs. ■

Disturbance in the Deep

Below, left to right: Noise pollution created by tourist watercraft and fishing vessels can be very disruptive to marine mammals. Dr. Saliza Bono taking notes while recording underwater sounds with a hydrophone.

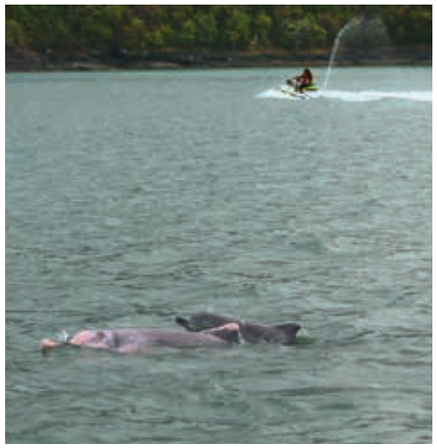
An Indo-Pacific humpback dolphin and her calf swimming in Malaysia's waters.

With the scream of a passing jet ski filling her ears, Dr. Saliza Bono watched the dolphins' fins cut through the glittering waves 50 yards away. As the boat rocked with the current, she raised the pole and lowered the recording device into the water. She lives out her childhood dream as the Bioacoustics Officer for MareCet, studying the communication behavior of Malaysia's marine mammals. Saliza has led this innovative program since 2018, analyzing the underwater noises of cetaceans like this pod of Indo-Pacific humpback dolphins swimming nearby. But beyond better understanding of dolphin communication, MareCet's bioacoustics program has revealed something troubling—Malaysia's oceans are getting louder, and it's harming marine mammals.

Oceans are vast and often devoid of light, making visibility challenging. Marine mammals must rely on sound to communicate, navigate, and hunt throughout the deep blue. MareCet's bioacoustics program helps shed light on how marine mammals function without depending on their vision. Saliza's team tows hydrophones—underwater microphones—beneath their boat as they follow the dolphins. These hydrophones record all underwater sounds, meaning MareCet can pick up every dolphin click and whistle. The recordings are later analyzed by Saliza, who visualizes each sound on a spectrogram to determine the frequency levels used by dolphins.

Marine mammals use a wide range of frequencies to communicate, and some are so high that they become ultrasonic, meaning humans cannot hear them. Bioacoustics research provides a visual representation of these ultrasonic sounds, which conservationists use to gain a better understanding of marine mammal behavior and their conservation needs.

Spectrograms also display the clamor of ship motors, propellers, and sonar. Tourist and fishing boat traffic is increasing throughout Malaysian waters, and sound from these vessels travels far across the ocean, even into marine protected areas, confusing and disrupting marine mammal behavior. Dolphins must communicate continuously to avoid being separated from each other and to detect nearby predators. When a container ship passes above



two communicating dolphins, the noise—which is equivalent to a jet engine's roar—drowns out their whistles. To compensate, the dolphins must increase their volume, similar to humans shouting at a loud concert. This is stressful for the dolphins, damages their larynxes and nasal sacs, and can lead to hearing loss. Noise pollution can even upset dolphin migratory patterns or cause mass strandings on beaches as they flee the painful, unbearable din.

MareCet's spectrograms are key to identifying the negative impact of noise pollution on marine

mammals. They share their bioacoustics data with the Malaysian government to influence policy to combat noise pollution, as currently few regulations exist. MareCet proposes reducing boat traffic, setting boat speed limits, and creating marine vehicle noise standards to help lessen the racket on and under the water. They also want noise pollution to be officially classified as marine pollution. Such legislation takes time to achieve, so MareCet also runs a mobile community outreach program to teach people about the threat of marine noise pollution.

One of WCN's newest Conservation Partners, MareCet is the first and only Malaysian nonprofit dedicated to the research and conservation of marine mammals. This year marks MareCet's 10th anniversary as the country's marine mammal conservation leaders.

As a fishing boat sputtered behind theirs, Saliza set her jaw and readjusted her grip on the hydrophone pole. MareCet's bioacoustics research is crucial to marine mammal conservation, and next year they plan to expand the program to run 24 hours a day for several months. With luck, the data they gather will sway policymakers to protect dolphins and their habitats from the invasive drone of human activity. ■

HUTAN

Adapting to Agricultural Sprawl

The baby's grip tightened around shocks of her mother's red hair as they descended from the high tree limbs. It was rare that they visited the world below, for orangutans are Earth's largest arboreal mammals. Here in Malaysian Borneo's Lower Kinabatangan Wildlife Sanctuary (LKWS), Hutan, one of WCN's newest Conservation Partners, monitors and protects orangutans like this mother and infant. Their work is instrumental to understanding the relationship that orangutans have with the strange territory where this pair was now headed—a neighboring palm oil plantation.

LKWS is home to one of the world's oldest tropical rainforests and harbors hundreds of Bornean orangutans. Since 1998, Hutan has used LKWS as an intensive study site for these great apes. Orangutans are solitary, elusive, and give birth once every eight years, making their populations sensitive to threats like habitat loss. Across Borneo, orangutans have lost half of their original range in the last half century due to large sections of lowland forest being cleared for agricultural development, particularly palm oil plantations. Only 800 individuals—20% of their former number—remain in LKWS today. Scientists once believed that these apes depended solely on intact forests to thrive, but after decades of research, Hutan discovered that these ginger primates were more resilient than originally thought.

Mosaic landscapes—where wild forests are found alongside palm oil plantations—are suitable habitat for orangutans so long as the small forest patches within the plantations are maintained for them to travel between while in search of mates.

Orangutans regularly venture into palm oil plantations adjacent to their forests, both for food and to reach other untouched forest patches floating like islands within the palm fields. With ample fruit, palm fronds to build nests, and suitable mates to be found among these fields, orangutans have adapted to travel through this mosaic landscape of wild forest and agricultural land. Hutan's data also shows that the majority of Borneo's remaining orangutans live outside of protected areas like LKWS and inside these forest patches; of the 25 patches that Hutan surveyed in Kinabatangan, 20 of them regularly housed orangutans. This makes these patches essential to maintaining connectivity between orangutans for breeding. Without this connectivity, fragmented groups will remain permanently isolated, eventually disappearing.

While translocation to protected areas was once considered a solution to orangutan population fragmentation, research shows that orangutans do not do well when moved to unfamiliar areas inhabited by unfamiliar orangutans. This makes the preservation of mosaic landscapes, and the forest patches found within them, essential to the stability of orangutan populations.

To protect these vital islands, Hutan engages with willing palm oil companies to maintain and create new forest patches and corridors within their plantations. This enables wandering orangutans to connect with others across the palm fields without disrupting the production of this lucrative industry. Hutan's team patrols the plantations to make sure no one is interfering with the orangutans' progression. Their forest restoration program improves the quality of these patches, planting over half a million new trees in the last 20 years. Hutan also works with the Malaysian government to acquire land for new forest patches and improve land management practices to prevent further habitat degradation.

As they continued their journey across the field, the mother orangutan plucked a ripe fruit from a budding palm and passed it over her shoulder to the baby on her back. Thanks to Hutan's dedication to understanding orangutan behavior and promoting peaceful coexistence between them and palm oil growers, this brave pair will reach their next destination among the trees without incident. ■

Clockwise from top left: Hutan's studies revealed that orangutans and their young are highly adaptive to changing habitat conditions. A corridor of untouched forest surrounded by palm oil plantations. An orangutan in a palm tree. Members of Hutan's forest restoration program planting a sapling.

Happy Holidays from WCN!

WCN protects endangered wildlife by supporting conservationists who ensure wildlife and people coexist and thrive.

Invest In Wildlife Conservation

We greatly appreciate your dedication to protecting wildlife. Your generous support is what makes wildlife conservation possible.

WAYS TO GIVE

- Donate by mail, phone, fax, or online
- Become a monthly donor
- Give a gift on behalf of someone else
- Include WCN in your estate plans
- Donate stock or other securities

WCN maintains Charity Navigator's highest possible 4-star rating. Charity Navigator is America's leading independent charity evaluator, and rates over 8,000 charities on their Financial Health and Accountability & Transparency.

CHARITY NAVIGATOR
Four Star Charity

EIN # 30-0108469 • CFC # 63038

If you prefer to receive the WCN newsletter in electronic form, please let us know by calling 415-202-6380 or emailing info@wildnet.org.

NONPROFIT ORG.
US POSTAGE
PAID
OAKLAND, CA
PERMIT NO. 259

WCN
Wildlife Conservation Network
209 Mississippi Street
San Francisco, CA 94107, USA
Ph. (415) 202-6380
wildnet.org