— SUMMER 2022 —

NOTES FROM THE FIELD

FINDING ANSWERS FOR GREAT GREEN MACAWS

INVESTIGATING LORIAN'S LIONS

CLEARING THE WAY FOR SEA TURTLES

WCN SCHOLARS AROUND THE WORLD

20 YEARS

Wildlife Conservation Network

Marta Piskorek

Finding Answers for Great Green Macaws

Left: Mario's team fits a young great green macaw with a tracking collar. Right: A great green macaw in a nest. Below: Mario climbing up a mountain almond tree to find macaw nests.

Simon Tollington

Mario's harness released a pained creak as he climbed one of Costa Rica's towering mountain almond trees. Dangling 130 feet above the forest floor, he peered into a tree cavity and found two pinkish chicks, bald except for sporadic fuzz. As the Great Green Macaw Field Leader for the Macaw Recovery Network (MRN), one of WCN's newest Conservation Partners, Mario Jiménez regularly scales trees in search of macaw nests. Together with his team of volunteers, he was carrying out a study to track young macaw movements and analyze their genetics to find what might be preventing them from flourishing in the wild.

Great green macaws have been declining for years throughout Central and South America, falling below 1,000 individuals. Habitat loss is the primary threat inching them closer to extinction, and although MRN has recorded 18 nests with 36 chicks this year—high numbers for this Critically Endangered species—Costa Rica's wild great green macaw population has not been growing much over time. MRN's 2021 census recorded nearly 340 great green macaws in Costa Rica, including plenty of chicks and fledglings, but it's unclear why this hasn't translated into significant population growth this year. Once the birds leave their nests, they seemingly fail to reach adulthood, fail to breed, or vanish entirely.

To determine what's happening, Mario's team spent this breeding season scouring over 460 sq. miles—nearly the size of Los Angeles—of dense forest for as many nests as possible. Once found, MRN fitted the chicks with lightweight radio collars, which will track each bird's movements once they leave the nest. This is the first time MRN has ever used collars to track macaws. Data from these chicks will tell Mario if these macaws are venturing out with their parents, how far they travel in their first weeks, and if they're wandering into dangerous areas. While deforestation is an ongoing threat, it alone can't be responsible for this stymied population growth. Mario is hopeful that his telemetry project will shed light on this mystery and help MRN reassess conservation strategies.

In addition to collaring the chicks, Mario also carefully collects their blood samples for a first-ever genetic study of great green macaws. The results will reveal any undiscovered health issues that are hindering the survival of new adults. It's important to catch such threats within a small population's genetics before they spread, so these samples are tested in a lab while Mario's team tracks the macaws in the field. If any diseases or maladaptive traits are becoming prominent within the great green macaw gene pool, MRN will decide how to best address them.

As he peeked into the almond tree nest and saw the chicks blinking back at him, Mario felt

determined to solve this population problem. Breeding season was winding down, making these some of the last chicks to participate in MRN's landmark study. Through methods never before used on macaws, MRN is confident that they can uncover what is blocking great green macaws from increasing in the wild and improve their chances at recovery, so that next year's nests will contain more tiny eyes staring back at Mario. ■

Costa Rica's communities play an important role in MRN's work. They participate in reforestation efforts, and local landowners help MRN locate macaw nests and give Mario's team access to their land to carry out their study.

Macaw Recovery Network auspiciously became WCN's 20th Conservation Partner, joining our Network in our 20th year of operation.

Investigating Lorian's Lions

Crawling on hands and knees, Thomas Ekiru turned away from a branch choking the bushy pathway. The thick Mathenge bushes form near-impenetrable barriers across Lorian Swamp, which lies at the terminus of Kenya's Ewaso Ny'iro River. Until recently, this region was unfamiliar to Ewaso Lions (EL), who promote coexistence between lions and people. But reports that lions were killing livestock in Lorian prompted Thomas, EL's Regional Coordinator, to investigate in hopes of identifying this new pride and avoiding potential human reprisals.

Despite being a swamp, there is little water in Lorian. The prolific, invasive Mathenge consumes most of the water in Cherab Community Conservancy, where Lorian is located. Humans have a difficult time venturing into the Mathenge, as Thomas discovered firsthand, but lions find the safety of this thick foliage very desirable. Lorian is a good home for the pride, but the lack of water brings them into conflict with people. Cherab communities must dig deep holes in the barren riverbed for water access, using donkeys to ferry water containers back to nearby villages. But the lions also use these holes, often emerging from the bushes to attack the unsuspecting donkeys.

The Northern Rangelands Trust, a regional conservation organization, was conducting a wildlife study with the Wildlife Research and Training Institute in the region at the time. Because human-lion conflict was high in Lorian, they invited EL to join that portion of the expedition. Thomas and his colleagues would gather data on the lions to understand conflict at the water holes, but first they needed to find them. A ranger informed Thomas of a narrow pathway into the bushes, so his team followed it, eventually discovering a lion carcass deep in the Mathenge. Though they couldn't be certain of the cause of death, the dead lion indicated that the pride was also struggling to get by in the parched swamp. This likely amplified livestock predation near the one shared water source.

More evidence was needed to understand the pride's status, so the team decided to lure the big cats out of the Mathenge. They played distressed animal sounds on a loudspeaker at night, which piqued the lions' interest. This allowed EL to capture footage of the pride—they viewed two males, two females, and three cubs, and reports indicate more lions live in the area. With this many lions present, EL is committed to managing conflict before the pride or local communities are put in danger. Cherab villagers want lions to remain in Lorian; their newly established conservancy is meant to protect all wildlife, but in order to achieve peaceful coexistence, the risk to their livestock must be reduced.

Lions are drawn to the thick Mathenge of Lorian, feeling safe in these bushes where they can hide from humans and raise their cubs in dense cover.

The invasive Mathenge bushes have taken over Lorian's grasslands, causing lion prey species to decline from food shortages. This in turn causes the lions to struggle and leads them to target the Cherab villagers' livestock.

Now that EL has a better grasp of the situation, they're developing plans to help Cherab Community Conservancy manage the conflict. They're hoping to collar the Lorian lions, making it easier for conservancy management to track their whereabouts and warn villagers when they are near the water holes. EL will also bring Cherab leadership to visit conservancies where they operate, to see firsthand how coexistence between communities and lions is possible. With the right strategies, conflict in Lorian can be cooled so people and lions can comfortably live side by side. ■

Cherab villagers must dig deep holes in the riverbed to find water. Opposite page: Ewaso Lions' Thomas Ekiru (left), John Galhaille (center), and Lpuresi Lenawasai (right).

20 YEARS

and counting...

For the past two decades, WCN has supported skilled, dedicated conservationists and brought them together with passionate donors. **This unique network has had a remarkable impact,** helping wildlife and people coexist and thrive in all corners of the Earth. We are so honored to be saving wildlife together and can't wait to see what the next 20 years will bring.

OVER THE PAST 20 YEARS:

$230+M
RAISED FOR CONSERVATION

185+
ORGANIZATIONS SUPPORTED

190
LOCAL CONSERVATIONISTS SUPPORTED THROUGH SCHOLARSHIPS AND GRANTS

115+
WILDLIFE SPECIES PROTECTED

Clearing the Way for Sea Turtles

Kevin Lunzalu

Stephen Leonardi

Left: A beach cleanup event organized by Kevin Lunzalu. Below: Kevin on Diani Beach. Right: The Endangered green sea turtle is the most common turtle species found along Diani Beach, but Critically Endangered hawksbill sea turtles and Vulnerable olive ridley sea turtles also call this beach home.

The murmur of waves mingled with the teenagers' laughter as they set their pails down in the white coral sands of Diani Beach. Kevin Lunzalu was satisfied with the contents of each brightly colored bucket—plastic bottles and debris, which unfortunately adorn this coastal area. Diani Beach is one of Kenya's most popular tourist destinations, but garbage from nearby hotels and drifting marine plastics have negatively impacted the beach and the sea turtles that nest there. As a recent recipient of WCN's Scholarship Program, Kevin is engaging the local community to make Kenya's coasts hospitable for wildlife again.

WCN Scholars pursue field experience and academic degrees to establish themselves as effective conservation leaders in their home countries. Kevin is using his scholarship to complete his master's in Coastal Science & Policy. His research focuses on how marine pollution affects sea turtle hatchlings along Kenya's coast, which will inform local policy to better safeguard their habitat. WCN proudly invests in students like Kevin, whose enthusiasm and expertise are shaping the trajectory of conservation. By supporting their development, WCN is empowering emerging conservationists to become tomorrow's leaders in their respective countries and shepherd the future of endangered wildlife.

Kevin's project seeks to enhance the nesting success and survival rate of hatchlings from three sea turtle species—green, hawksbill, and

Kevin Lunzalu

olive ridley—found along Diani Beach by reducing marine plastics. This includes microplastics as small as sand grains and macroplastics, such as single-use bottles and food packaging. Proximity to urban areas puts this habitat under constant threat of plastic pollution; 30% of this beach is deemed unsuitable for nesting due to plastics, yet over 100 sea turtle nests are still laid here every year. Eggs are the most vulnerable life stage for turtles, with studies indicating that increased accumulation of plastics can significantly reduce hatching success by obstructing nesting sites, influencing nest temperature, and impeding the hatchlings' path to the ocean. Turtles also sometimes eat the plastic, which can be lethal.

According to government reports, 88% of plastics on Kenya's beaches are from local sources, with the rest being brought in with the tide. This means that local efforts like Kevin's can address a significant percentage of the country's marine plastics. Enlisting the help of locals is essential to reducing pollution, so Kevin organizes beach cleanup events with young people to address marine litter. Together, they routinely remove all kinds of plastic waste from the area, including discarded fishing gear, plastic straws, and lost sandals. Kevin's goal is to fill knowledge gaps about marine pollution and turtle mortality in Kenya, becoming an authority on the subject and helping local communities and the government make informed decisions about conservation and waste management.

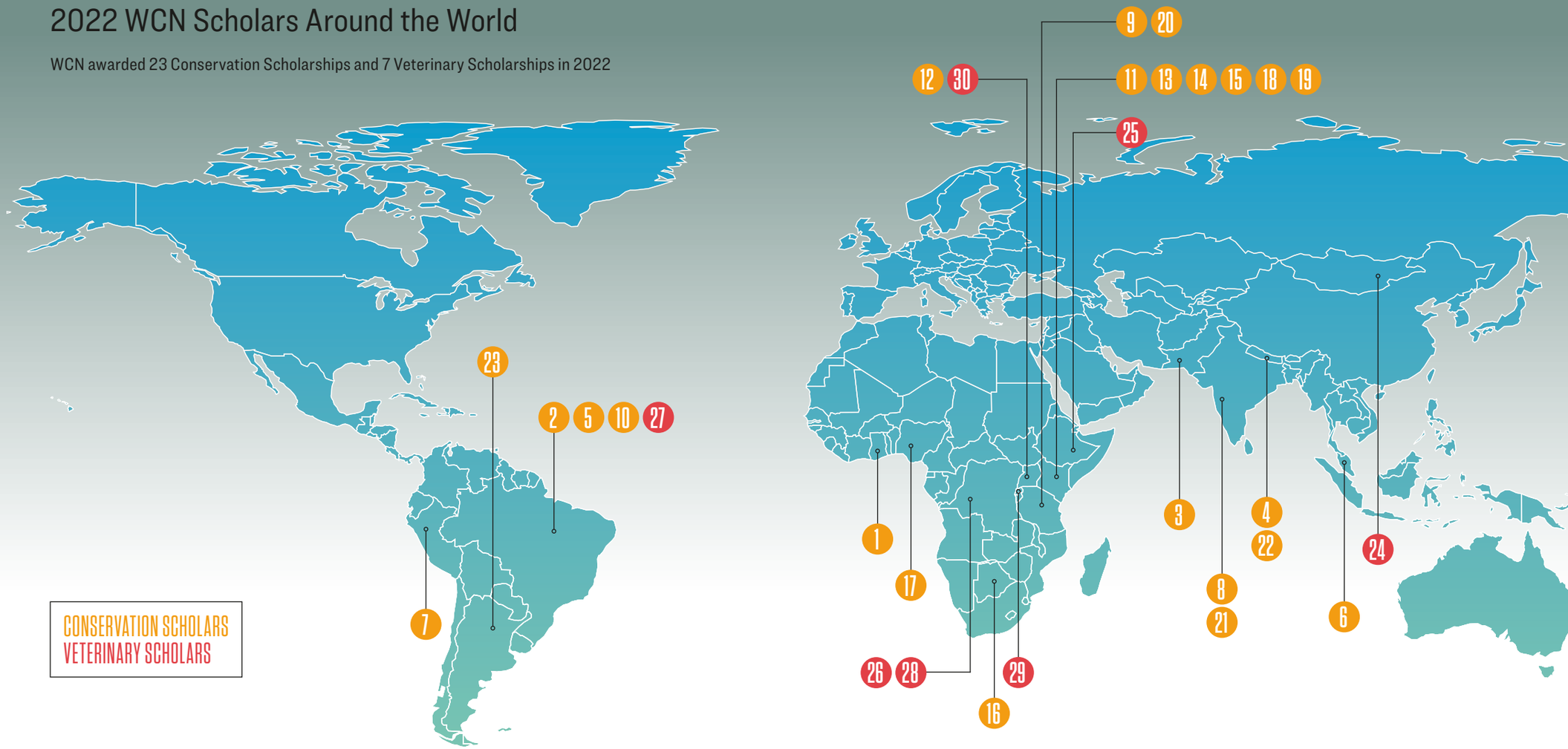
After completing his degree, Kevin Lunzalu plans to work closely with local manufacturers, hoteliers, and the government on long-term solutions to the complex challenge of marine plastic pollution. In the meantime, he'll continue coordinating cleanup activities with beach communities, and with help from his WCN Scholarship, restore Kenya's coasts for nesting sea turtles. ■

This year's class of WCN Scholars is our largest to date. In 2022, WCN awarded over $428,000 in scholarships to 30 local conservationists around the world.

In addition to his studies, Kevin founded the Kenyan Youth Biodiversity Network, which promotes young people as environmental stewards and improves habitat quality for coastal wildlife.

2022 WCN Scholars Around the World

WCN awarded 23 Conservation Scholarships and 7 Veterinary Scholarships in 2022



1 **PRINCE PASCAL AGRO**
Pangolins
Ghana
SIDNEY BYERS SCHOLARSHIP

2 **GUILHERME ALVARENGA**
Jaguar
Brazil
SIDNEY BYERS SCHOLARSHIP

3 **MUHAMMAD ASIF**
Snow Leopard
Pakistan
SIDNEY BYERS SCHOLARSHIP

4 **SURAJ BARAL**
Mugger Crocodile
Nepal
WCN SCHOLARSHIP

5 **LUCAS MENDES BARRETO**
Giant Armadillo
Brazil
WCN SCHOLARSHIP

6 **SALIZA AWANG BONO**
Dolphins
Malaysia
PLUM FOUNDATION SCHOLARSHIP

7 **MARÍA ELENA CARBAJAL**
Spectacled Bear, Jaguar
Peru
WCN-WCS JOINT SCHOLARSHIP

8 **PALLABI CHAKRABORTY**
Elephant
India
WCN SCHOLARSHIP

9 **ZABLON FATAELY**
Elephant
Tanzania
WCN SCHOLARSHIP

10 **SINOMAR FERREIRA DA FONSECA, JR.**
River Turtle, Agouti
Brazil
WCN SCHOLARSHIP

11 **NELSON MWANGI GATHUKU**
Elephant
Kenya
SIDNEY BYERS SCHOLARSHIP

12 **SOPHIA JINGO**
Lion
Uganda
WCN SCHOLARSHIP

13 **FRANCIS LOPEYOK CHARLES LENANTIRI**
Elephant, Black Rhino
Kenya
HANDSEL SCHOLARSHIP

14 **KEVIN LUNZALU**
Sea Turtle
Kenya
SIDNEY BYERS SCHOLARSHIP

15 **SAMUEL NJUKI MAHIGA**
Mountain Bongo
Kenya
WCN SCHOLARSHIP

16 **ROCHELLE MPHETLHE**
Vultures
Botswana
SIDNEY BYERS SCHOLARSHIP

17 **ESTHER NOSAZEOGIE**
Seabirds
Nigeria
WCN SCHOLARSHIP

18 **TOBIAS OTIENO**
Lion
Kenya
HANDSEL SCHOLARSHIP

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Giraffe
Kenya
PAT J. MILLER SCHOLARSHIP

20 **SINGIRA PARSAIS**
African Wild Dog
Tanzania
WCN SCHOLARSHIP

21 **DEVAVRAT PAWAR**
Tiger
India
WCN SCHOLARSHIP

22 **SAMUNDRA AMBUHANG SUBBA**
Snow Leopard, Wolf, Lynx
Nepal
PAT J. MILLER SCHOLARSHIP

23 **GUADALUPE VERTA**
Andean Cat, Cougar
Argentina
PLUM FOUNDATION SCHOLARSHIP

24 **ULAANKHUU ANKHANBAATAR**
Wild Pigs
Mongolia
WCN VETERINARY SCHOLARSHIP

25 **HAMERE KELEMEWORK**
Ethiopian Wolf
Ethiopia
WCN VETERINARY SCHOLARSHIP

26 **THEOPHILE KILUBA WA KILUBA**
Great Apes
Democratic Republic of the Congo
WCN VETERINARY SCHOLARSHIP

27 **ISABELA MASCARENHAS**
Marmoset
Brazil
WCN VETERINARY SCHOLARSHIP

28 **LEANDRE MURHULA**
Eastern Lowland Gorilla
Democratic Republic of the Congo
WCN VETERINARY SCHOLARSHIP

29 **ERIC NIYONKURU**
Golden Monkey
Rwanda
WCN VETERINARY SCHOLARSHIP

30 **DANIEL SEMPEBWA**
Chimpanzee
Uganda
PLUM FOUNDATION VET SCHOLARSHIP

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