

Helping Ranchers Live Alongside Grizzlies

ith the heavy chain slung over her shoulder, Stephanie Barron climbed up the makeshift ladder along the tree trunk. Steel links clattered as she wrapped them around the bear pole, fastened horizontally 20 ft. above ground and 200 ft. from the campsite, to hang her food. Bears and other predators can smell food from miles away, so she always took precautions while researching Montana's large carnivores, which are increasingly coming into conflict with ranchers. As one of WCN's Rising Wildlife Leaders, Stephanie has received a scholarship to advance her studies; she is working with the Confederated Salish Kootenai Tribe to find a path to human-carnivore coexistence.

Conflict with large carnivores usually only occurs when people accidentally stumble upon feeding sites, or a mother with cubs, or if a starving or sick predator approaches human settlements in desperation. By teaching communities how to properly respond to or avoid such situations, Stephanie plans to reduce conflict.

the closest that Stephanie could get to nature. She dreamed of becoming a wildlife biologist, even as her parents and teachers urged her to pursue a more lucrative career. Conservation called to Stephanie, and today she is becoming an important leader in a state where livestock ranches border wild landscapes inhabited by large carnivores. This year, WCN's Scholarship Program expanded to include members of North American tribal communities, and Stephanie is part of this cohort. She is completing a master's in Environmental Science at the University of Montana, with a focus on using traditional ecological knowledge to develop educational materials about carnivore coexistence for the next generation of Indigenous and non-Indigenous ranchers.

Grizzly bears are Montana's largest predators, with about 2,000 living in the state. In addition to human development, unprecedented environmental pressures stemming from climate change have shrunk historic grizzly habitat, causing territorial overcrowding and

Indigenous ranchers can be somewhat forgiving of livestock predation, seeing it as natural. But if they do not deter such behavior, carnivores assume that livestock are acceptable prey. This leads to long-term danger for carnivores when they prey upon the livestock of non-Indigenous ranchers, who are more likely to retaliate. Stephanie's curriculum aims to educate both groups about the best ways to coexist with carnivores.

the expansion of less dominant bears into new areas of Montana in search of food. This leads to more conflict with ranchers, whose livestock can be threatened, but these encounters are often the result of misunderstandings and accidents. Stephanie knows that there are many ways to help Montanans coexist with grizzlies.

To change and prevent negative perceptions toward bears and other carnivores, Stephanie creates educational materials for young people who are likely to become ranchers living alongside these carnivores. The materials, based on traditional knowledge, help them foster an open mind toward carnivores and their role in a healthy ecosystem. When she's not studying, Stephanie also observes carnivore behavior in the field. With the data she collects, she collaborates with other tribal biologists and



Stephanie Barron, one of WCN's latest Rising Wildlife Leaders, installing a bear pole in the field.

USDA specialists to develop a culturally-representative curriculum that provides these future ranchers with the knowledge and tools to successfully coexist with large carnivores. This includes learning to install deterrents like electric fences and bear-proof garbage bins. She also interviewed regional carnivore specialists, who themselves had interviewed ranchers who experienced bear conflict, to better understand what causes these incidents.

With critical support from her WCN scholarship, Stephanie will empower young people passionate about wildlife, just as she was, to have a long-term role in local conservation. Her curriculum aims to reduce conflict between grizzlies and Montana's ranchers, and once completed, it can be shared with additional Indigenous and non-Indigenous communities elsewhere.



2023 Scholarships Awarded

WCN awarded 13 Conservation Scholarships, 4 Veterinary Scholarships and 4 Indigenous Scholarships in 2023



- STEPHANIE BARRON United States Grizzly Bear
- 2 BROOK THOMPSON United States Salmon, Sturgeon
- 3 DANIEL BIRD United States Ungulates
- AARON CAJERO
 United States
 Puma
- PEMA KHANDU

 United States

 White-Bellied Heron

6 ESTEBAN RIVERA Ecuador

Brown-Headed Spider
Monkey, Mantled Howler
Monkey, Ecuadorian White-Fronted Capuchin, White-Throated Capuchin 7 YVES ROLAND LONDZA BAUCOLY

Congo Gorilla, Elephant

- 8 JACKSON KATAMPI Zambia Rhino, African Wild Dog, Elephant, Pangolin, Lion, Cheetah, Giraffe
- JOSHUA LUBEGA
 Uganda
 Giraffe
- MOHAMED ALI
 Kenya
 Reticulated Giraffe



- SOLOMON LENASALIA
 Kenya
 Lion
- MENGISTU BIRHAN MULUYE
 Ethiopia
 Ethiopian Wolf
- REIHANEH MIRANZADEH MAHABADI Iran Great Bustard,

Asiatic Hubara Bustard

FARBOD KHAKPOUR

Iran
Cheetah

- 15 CHIGING PILIA India Chinese Pangolin
- PREETY SHARMA
 India
 Chinese Pangolin,
 Slow Loris, Western
 Hoolock Gibbon, Blyth's
 Tragopan
- 17 NIKIT SURVE India Leopard, Rusty-Spotted Cat, Golden Jackal, Bonnet Macaques, Black Kite
- JANAM SHRESTHA
 Nepal
 Chinese Pangolin, Red
 Panda
- 19 SWANN HTET NAING AUNG
 Myanmar
 Burmese Star Tortoise
- OUDOMXAY THONGSAVATH

 Laos
 Siamese Crocodile,
 Freshwater Turtles
- BAYARMAA CHULUUNBAT Mongolia Saiga Antelope



SAVE THE ELEPHANTS

New Paths to Human-Elephant Coexistence

he Save the Elephants (STE) Human-Elephant Coexistence team treaded carefully, avoiding the broken stalks of the farmer's ruined maize field. He angrily vented while the researchers inspected the plate-sized footprints of the elephant herd that had raided his farm the previous night. Human-elephant conflict is rising across Africa due to such incidents, and in Sagalla, Kenya, a hotspot for crop-raiding elephants, STE is merging different monitoring strategies to find new ways to curb conflict. This novel approach helped them discover groundbreaking insights about elephant behavior that may be crucial to keeping the peace.

Sagalla is located between two major national parks—Tsavo East and West—which together house nearly 16,000 elephants, some of which consume farmers' crops. STE has worked with

Sagalla farmers since 2009 to reduce conflict. When the community recently asked for help finding out why and where elephants were foraging, the team stepped up. Using geographic information systems technology, including satellites and aircraft-mounted cameras, STE's researchers can collect data about elephants from the sky. They then map their movements in relation to their ecosystem's geographic features, such as forests, bodies of water, and farms. This work sheds light on what motivates certain elephants to take different foraging paths than others across Sagalla.

By using high-resolution imagery from a free optical imaging satellite, STE mapped all of the vegetation in and around the Sagalla farms. They then combined these highly detailed maps with their own extensive elephant movement data, collected over six years via handheld GPS

devices by staff members who investigated elephant tracks after crop raids. This provided step by step data about hundreds of miles of elephant pathways to analyze, detailing every twist and turn around the vegetation shown on the satellite images. STE determined that individual elephants make deliberate decisions about which paths to take based solely on their favorite foods—lone bull elephants prefer eating from bushwillows, while females and calves prefer eating from African myrrh and frankincense trees. When an elephant group contains bulls, females, and calves, it chooses paths to areas that contain all of their respective dietary preferences.

This incredible discovery creates new understanding about elephant behavior and illustrates what natural foraging routes they are drawn to. With a better idea



While elephants are iconic to many, farmers sometimes consider them a menace that threatens their livelihoods. Common crops like maize, watermelon, and cassava are favorites of elephants, and they sometimes break into farm storage houses and water tanks while foraging. STE is helping farmers protect their crops and reduce human-elephant conflict, forging a new path to coexistence in Sagalla.



In addition to satellite imagery, STE analyzed years of their data on farms raided by elephants. To get this data, STE staff measured elephants' footprints and used a handheld GPS device to retrace and record their path, both to and from the farm, one footstep at a time. This meticulous work proved essential to creating elephant movement maps and new discoveries about their foraging behavior.

of which pathways elephants use in search of food, STE can determine which corridors are most important to protect and advise farmers not to plant their crops near areas that elephants must frequent. And by identifying the preferred vegetation of different elephant groups, STE can also improve the management of desirable foliage within wildlife reserves, so elephants are more likely to forage inside park boundaries than outside.

Although they can't bring back the farmer's lost crops, STE's research will reveal why the elephants were drawn to his farm and how to prevent this from happening again. By combining satellite images and GPS data to create movement maps that forecast where conflict is most likely to occur, STE can cool crop-raiding hotspots and improve coexistence between farmers and their elephant neighbors.



Some members of EWCP's Simien expedition (from left to right): Andualem Ambachew, Getachew Assefa, Jejaw Mequanenent, and Dr. Jorgelina Marino.

nxiously waiting for his colleague to return, Getachew Assefa sat in his tent under a blanket of stars above. The Ethiopian Wolf Conservation Program (EWCP) team camped along the steep, grass-covered cliffs of the Simien Mountains, a rugged landscape home to an important and elusive population of Ethiopian wolves. These wolves' behavior was not fully understood by EWCP. so to fill critical knowledge gaps and inform conservation planning, a team led by Getachew and Dr. Jorgelina Marino, EWCP's Simien Team Leader and Science Director, respectively, needed to catch and collar some of them. In the middle of the expedition's second night, the buzz of a tent zipper interrupted Getachew's vigil as his teammate brought thrilling news—for the first time ever, EWCP had captured a Simien wolf as part of a study.

Less than 500 wolves remain in the highlands of Ethiopia, with most located in the Bale

Mountains. Only about 75 wolves live in the Simien Mountains, but that's still enough to make them Earth's second largest Ethiopian wolf population and crucial to maintaining the species' genetic diversity. Recently, EWCP noticed the Simien wolves exhibiting unusual behavior, becoming more active during twilight instead of daytime and having significantly fewer pups than their Bale cousins. To determine if these wolves were distressed or facing some new danger caused by recent armed conflict in the region, Getachew and Jorgelina knew they had to investigate. But the Simien wolves are notoriously difficult to observe, so EWCP had to give it their all to find answers.

Getachew led the team up 13,000 ft. into the Simien Mountains for two weeks of intense trekking across wolf habitat. Each day, they hiked for hours to set rubber leghold traps, which safely catch the wolves without inflicting harm, and checked the traps every three hours, day

and night. Sleep eluded them as they eagerly waited for someone to call out, "Wolf in trap!" EWCP needed to put a lightweight GPS collar on one wolf from each of the four Simien packs to monitor each pack's movements. They caught a male on that second night, the first Simien wolf ever captured and collared for research. Then they moved camp to the next pack's territory, repeating the process until they had collared a wolf from every pack.

When Jorgelina asked Getachew to name the first collared wolf, he chose Kidan—meaning



The EWCP team fitting a GPS collar onto an Ethiopian wolf.

The GPS collars that EWCP used include accelerometers, which provide very detailed data about animal posture and energy expenditure. These collars will automatically detach after eight months. EWCP will collect them and analyze the data to understand what factors may be causing the Simien wolves to not fare as well as the Bale wolves.

"promise" in Amharic—to reflect this wolf's potential to help EWCP better protect the Simien population. Data from the collars is already promising, indicating that the packs are hunting and socializing normally, but so far, they haven't discovered any explanation for the wolves' altered behavior. EWCP is confident that time will reveal why the Simien packs have developed such unique traits and what it means for their long-term survival. Ongoing satellite data over the coming months will help Getachew's team track pack movements almost in real-time and reduce potential conflict with local herders.

Driving down the mountains after their successful operation, the team felt tremendously hopeful. With Getachew and his monitors continuing their study, EWCP will learn all they can about the Simien wolves to safeguard their future.





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EIN #30-0108469 · CFC #63038

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