

MEP April 2021 Report



Long green grass photographed in April.

GENERAL

This month we experienced localized rainstorms. We were expecting to start a drought cycle which were predicted but this has not been the case. The Mara is wonderfully green and there is lots of grass for both the wildlife and the Maasai cattle. Loita had exceptionally hard rains which made it difficult to get in and out of the northern ranger base. I am impressed with our LTM team who have already found injured elephants which needed treating. They have also take some spectacular photos of elephants and other wildlife living in the conservancies. As this team starts venturing further afield it will be interesting to see what they find. The research and conservation department has grown substantially in the last year and some important projects are starting to mature.



*An injured elephant photographed
by the MEP LTM team in April.*

SECURITY, ANTI-POACHING & CONFLICT

On April 14, MEP rangers alongside Kenya Wildlife Service Vet Dr. Limo from the Sheldrick Wildlife Trust Mara Mobile Vet Unit successfully treated a bull elephant with an arrow wound. The elephant was observed in Mara North Conservancy (MNC) by rangers while out on patrol and the wound was noted on his side, a dangerous spot that needs immediate attention. This elephant was most likely crop raiding in nearby farms across the Mara River from MNC and was chased out using arrows by the community who are frustrated with often crop raids. When this happens, MEP alongside our partners, reacts at a moment's notice to ensure both the community and elephant are safe.



The bull elephant treatment on April 14.

MEP participated in another treatment on April 21 of a mother elephant with a spear lodged in her left ear. The quick and successful treatment of this mother is a result of MEP's newly launched long-term monitoring (LTM) team who spotted the wounded elephant while collecting data on elephants in MNC. Once again Dr. Limo was called in and the MEP leased helicopter was needed to flush this female away from her herd that were located inside a thick area of brush. We also needed extra MEP rangers on the ground to keep her calf safe and away from its mother while she was being treated. It was truly a team effort. The female most likely received her injury while crop raiding in farms that border the conservancy. Luckily, the mother's treatment went well, and she and her baby are back with their herd and will continue to be monitored by the MEP LTM team.



The mother elephant treatment in late April.

On April 15, the MEP “Alpha” ranger unit stationed in the Nyakweri Forest were dealing with collared elephant Fitz and his herd crop raiding at night. They were able to successfully use firecrackers to move his herd of 60 back into the forest and protect the community’s farms. On April 3, the MEP “Foxtrot” ranger unit stationed in Loita Forest, received intelligence that illegal logging was taking place in their area of patrol. Once upon the scene they discovered one suspect with a chainsaw making timbers from trees in the protected forest and carting them out with his motorbike. They successfully arrested this suspect and confiscated the timbers and chainsaw. In total, in April, MEP rangers alongside government partners arrested 17 habitat destruction suspects, destroyed 14 kilns, confiscated 10 sacks of charcoal, two power saws, four illegally felled trees, 276 posts and 33 timbers.



On April 19, the Mara Elephant Project / Sheldrick Wildlife Trust Mau De-Snaring Unit, the “Golf” team, removed 20 bushmeat snares in their area of patrol. A week later, while patrolling in the Mau Forest, they removed an additional 31 snares. That’s over 50 snares in one week removed from a key forest area of the Greater Mara Ecosystem. In total, in April, MEP rangers alongside government partners arrested one bushmeat poaching suspect, confiscated 5 kg of bushmeat and removed 53 snares.





In April, MEP rangers alongside KWS arrested one suspect in possession of 10 kg of ivory. In April, MEP rangers covered a distance of 1,938.6 km on foot, 7,420.89 km by car and 3,792.64 km on motorbike.

HELICOPTER



On April 22, Marc was called in by MEP rangers on the ground to assist them in moving a herd of elephants out of the Ilkirin area near Loita with the leased helicopter. The ranger unit on the ground had been pushing this herd away from farms and homes for two days in thick bush, but they ran out of firecrackers and were not making up enough ground. Once the helicopter was there to assist the team from the air, the elephants were safely moved away from community land and rangers were tasked with keeping a close eye on them and ensuring the community was safe. There were five total conflict incidents during April.

Date	Total Time	Mission
09/04/2021	0.68	HEC Aitong- bad weather
16/04/2021	4.05	Patrol monitoring elephants and loita forest patrol
17/04/2021	3.15	Patrol monitoring elephants and loita forest patrol day 2
20/04/2021	1.81	Check on Ritan collared elephant in Sachanwan molo
21/04/2021	1.56	Patrol Kericho area of Mau Forest
22/04/2021	2.98	HEC in Olmustuiye Loita
23/04/2021	0.62	Assist vet with treatment
28/04/2021	2.03	HEC Oldonyo Narasha

COMMUNICATIONS & FUNDRAISING

Mara Elephant Project relies heavily on a variety of Garmin products to ensure our rangers are fully equipped to make them safer and more efficient in the field. Garmin is the leader in GPS navigation and wearable technology that are engineered on the inside for life on the outside. Each MEP ranger unit is equipped with a Garmin inReach mini, which is a small lightweight satellite communicator that allows them to relay important information back to MEP HQ. It works completely off the grid, which is great for our ranger units stationed deep inside forested

areas like the Mau or Loita. This device also has location tracking, and coordinates of each of our ranger units is relayed regularly and can be seen in real-time on an interactive map located at HQ or using Garmin's Montana 700i or GPSMAP 276Cx devices remotely. Garmin's quatix watch is also worn by MEP rangers while in the field to easily record a GPS log of their location and mark locations, such as an illegal logging site, for reference in the future. These watches also allow rangers to leave a "bread crumb" trail while patrolling in densely forested areas, so they won't get lost or separated. The watch is also worn by CEO Marc Goss while piloting the MEP helicopter. Garmin devices have become an essential part of MEP's operations and allow our rangers to focus on protecting wildlife, communities and habitat in the GME, which is why we're grateful to [Garmin Denmark](#) for their generous donation to MEP of these essential products.



Dr. Jake Wall's [paper](#) was released on April 1. MEP sent [an email](#) to promote this piece and received a large open rate and click rate with a jump in giving to MEP as a result. Jake's paper received several key media mentions for the organization as well increasing our brand awareness within a new circle of potential supporters.

[Life & Physical Sciences Reporter, Academic](#)

[Eurasia Review](#)

[Times](#)

[Elephanatics](#)

[Phys.org](#)

[Vulcan](#)

[Colorado State University](#)

[Science Tech Daily](#)

[Earth.com](#)

[The East African](#)

[Wildlife Conservation Society](#)

[Africa Geographic](#)

[Wyoming News Now](#)

MEP received a donation of 100 kg of seedballs from [Seedballs Kenya](#) thanks to [Explorers Against Extinction](#). This donation included over 50,000 Olea africana (olorien) seedballs for MEP to distribute around degraded forests in Narok County. Wildlife photographer James Lewin supported Mara Elephant Project in May by donating 20% of the proceeds from the sale of his print *Instinct*. This work, alongside others, are available at Isabella Garrucho Fine Art in the U.S. and Cricket Fine Art in the UK. This photo was taken in the Maasai Mara in 2020. Thank you to James for supporting MEP's work.



MEP received a total of \$134,919.65 in donations through the Sidekick Foundation, Inc. from 189 donors. Thank you to long-time supporter of MEP, Lori Price for donating over \$81,000 in support of the Loita ranger units in 2021. MEP also received the second payment of a 12-month \$25,000

grant from the Smithsonian Conservation Biology Institute and thank you to Robert Isackson, Tom Lyons, Jane Wylie, Glynis Burgdorff, Dan Kimbrough, Elise Kline, Linda Quest, Lucy Schott and Mary Vero for your donations in April to MEP. Thank you to Peter for raising money for MEP on Facebook to celebrate his birthday, we had \$270 in donations in April. Thank you to everyone who celebrated Earth Day alongside Mara Elephant Project. Thank you to Andy Campbell, Clair Nicol, William Fortescue, Tracy Miller, Thorsten Hanewald, Nirav Shah, Pragnesh Patel, Laura Dyer and Edouard Wenseleers for supporting MEP in the Greatest Maasai Mara photo competition in May.



An April entry in the Greatest Maasai Mara photo competition by photographer Laura Dyer.

RESEARCH & CONSERVATION

Director's Update

Our research team was busy in April. The team mapped another 209 kilometres of fencing and revisited some previous sites we had mapped last year but where more fences have been built. They also mapped 118 land-cover points that are helping us to run a classification of Sentinel-2 imagery useful in our understanding of elephant movements. Our long-term monitoring team has made great strides in documenting individuals around Mara North and Lemek conservancies. They've photographed and logged 115 individuals now out of the estimated 2,500 individuals frequenting the Greater Mara Ecosystem. They're also tagging each individual with a 'SEEK' (System for Elephant Ear Knowledge) code that helps us to re-identify individual elephants using a methodology published by colleagues from Elephants Alive in South Africa in 2020. Data is uploaded in our bespoke 'ElephantBook' system we've been developing in collaboration with students from Caltech.

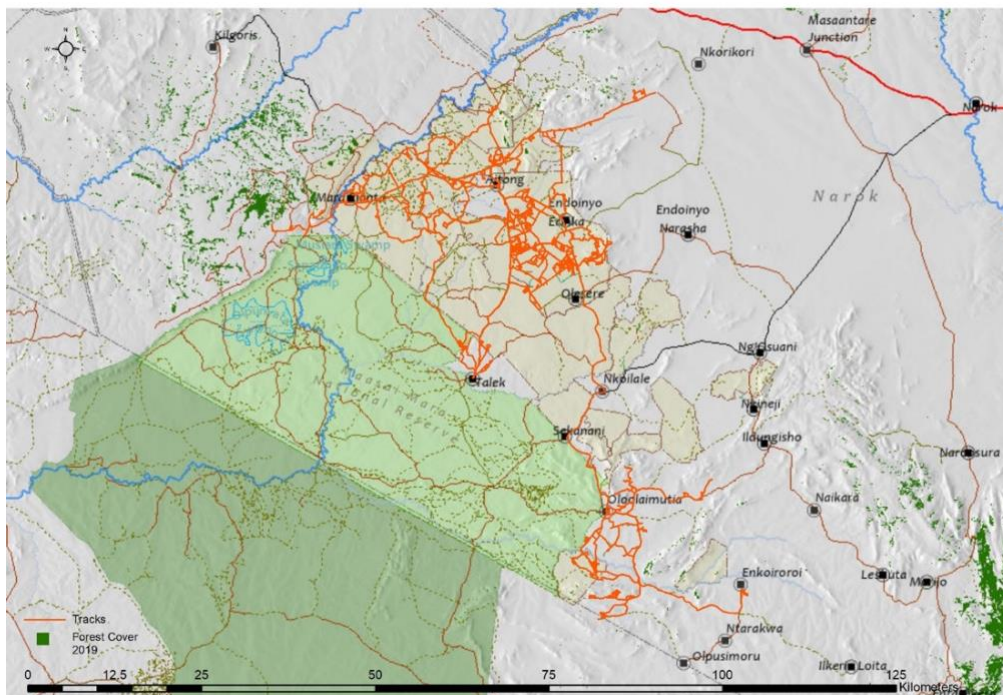


The LTM team participating in an elephant treatment after spotting the injury while monitoring a herd of elephants in Mara North Conservancy.

On April 1 my paper “Human Footprint and Protected Areas Shape Elephant Range Across Africa” was published in the journal *Current Biology*. The study, done in collaboration with Save the Elephants, Wildlife Conservation Society, Oxford University, Elephants Alive, and Colorado State University, was to examine the range sizes of 229 GPS tracked elephants across the continent at two temporal scales and analyze the effects of covariates on the areas occupied by elephants including samples from both species (savannah & forest). We found that at annual periods, it was mainly the human footprint and the presence of a protected areas that determined the elephant’s home-range size (although sex and species were also important). We were able to use Google’s Earth Engine technology to scale the analysis across the continent and found that 62% of the 29 million square kilometres of the continent are potentially still habitable by elephants including range that Pliny the Elder once reported the presence of elephants in North Africa. Although they live in only 17% of the habitable range currently and probably because of their suppression by poaching and hunting, there is still hope that there’s still space for humans and elephants.

A healthy dose of wildlife irredentism along with a broader philosophical transition towards living with and among wildlife as part of the ecosystem will be necessary to secure a future for elephants and nature in general.

Year	Month	Electric	Other	Wire	De-fenced	Total (kms)
2019	November	48.27	-	18.35		66.62
2019	December	81	-	59		140
2020	January	111.16	4.64	124.71		240.51
2020	February	101.62	1.17	33.99		136.78
2020	March	48.59	0.14	59.76		108.49
2020	April	19.78	0	10.38		30.16
2020	May	24.75	1.88	41.18		67.81
2020	June	15.19	1.48	107.88		124.55
2020	July	37	-	52.76		89.76
2020	August	60.12	7.52	40.08		107.72
2020	September	126.95	7.15	221.44	15.18	370.72
2020	October	109.05	10.57	218.99	1.78	340.39
2020	November	101.2	24.52	153.12	13.88	292.72
2020	December	62.99	9	190		261.99
2021	January	87.9	19.4	121.09	5.2	233.59
2021	February	79.2	22.9	175	-	277.1
2021	March	20.3	7.4	147.92	8.6	184.22
2021	April	80.2	31.05	96.4	2.3	209.95
	Total (kms)	1215.27	148.82	1872.05	46.94	3283.08



Movements (orange tracks) of MEP's three field assistants during April. All of our field assistants are working on mapping fences, roads and landcover ground-truthing points using motorbikes and our Njia app. They recorded 209.9km of fences and 118 LCC points in April.

Tracking Manager's Update

Fitz spent the entire month in the Nyakweri Forest making sporadic visits to the neighboring settlements but without any incidence of crop raiding. Kegol was within Mara North Conservancy for the most of April with his range overlapping with Fred's. In early April, he crossed into Olonkoliin farms and later our LTM team found the bull elephant that needed treatment for spear wounds with Kegol. Newly collared elephant Clara started the month in Olpua Conservancy before streaking north to unprotected areas west of Ildugisho and Naikara towns. She briefly ventured into Olarro Conservancy and but then headed back to the unprotected areas crossing a road as she foraged around the hills and the riverine thickets.

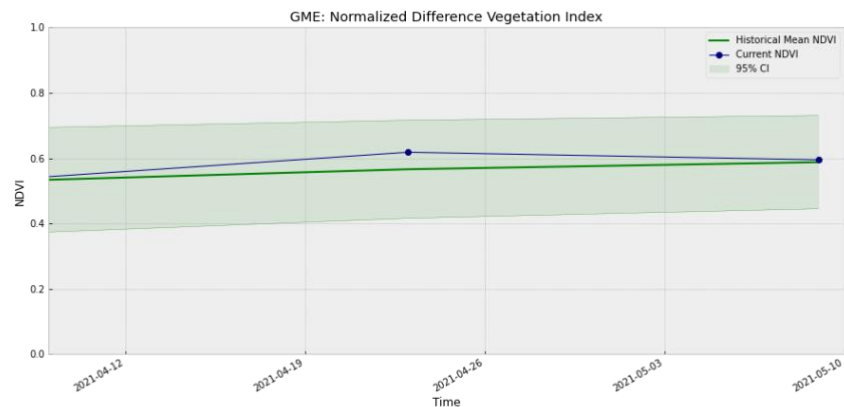


Fitz and his herd inside Nyakweri in April.

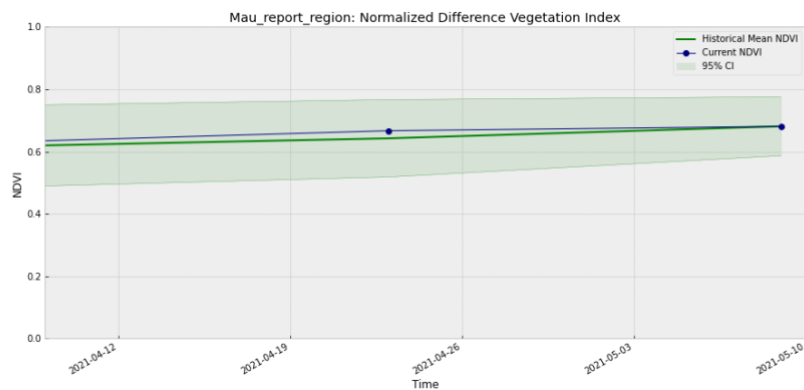
ENVIRONMENT: NDVI

Normalized Difference Vegetation Index (NDVI) is a measure of plant photosynthetic activity. Higher NDVI indicates the plant is greener. The blue trendline shows the current value while the green area shows the 95% distribution of values centered around the green trendline from values measured back to February 2000.

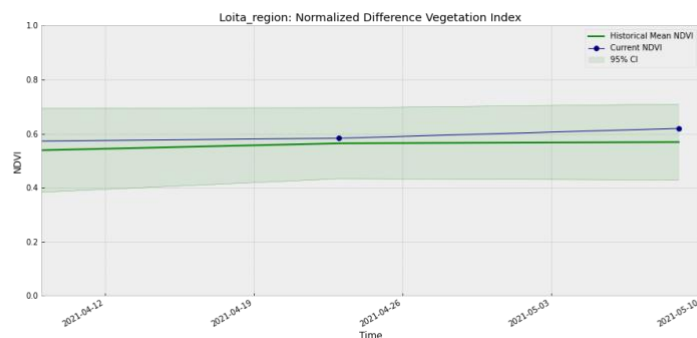
Greater Mara Ecosystem (GME)



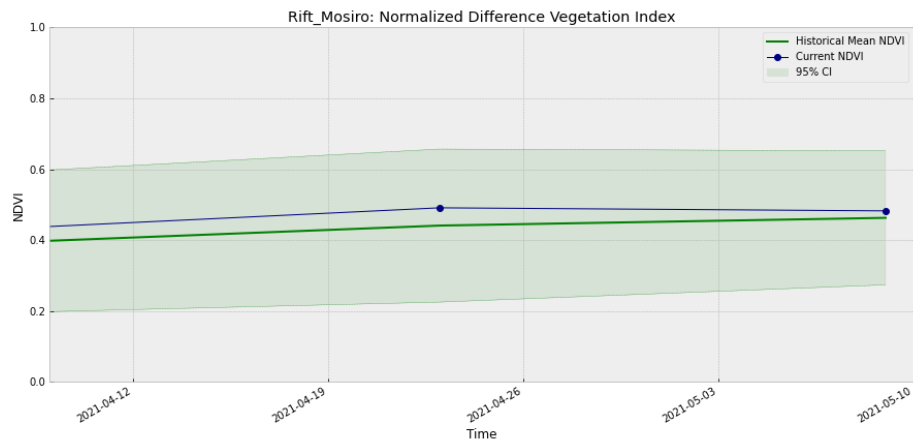
Mau Forest



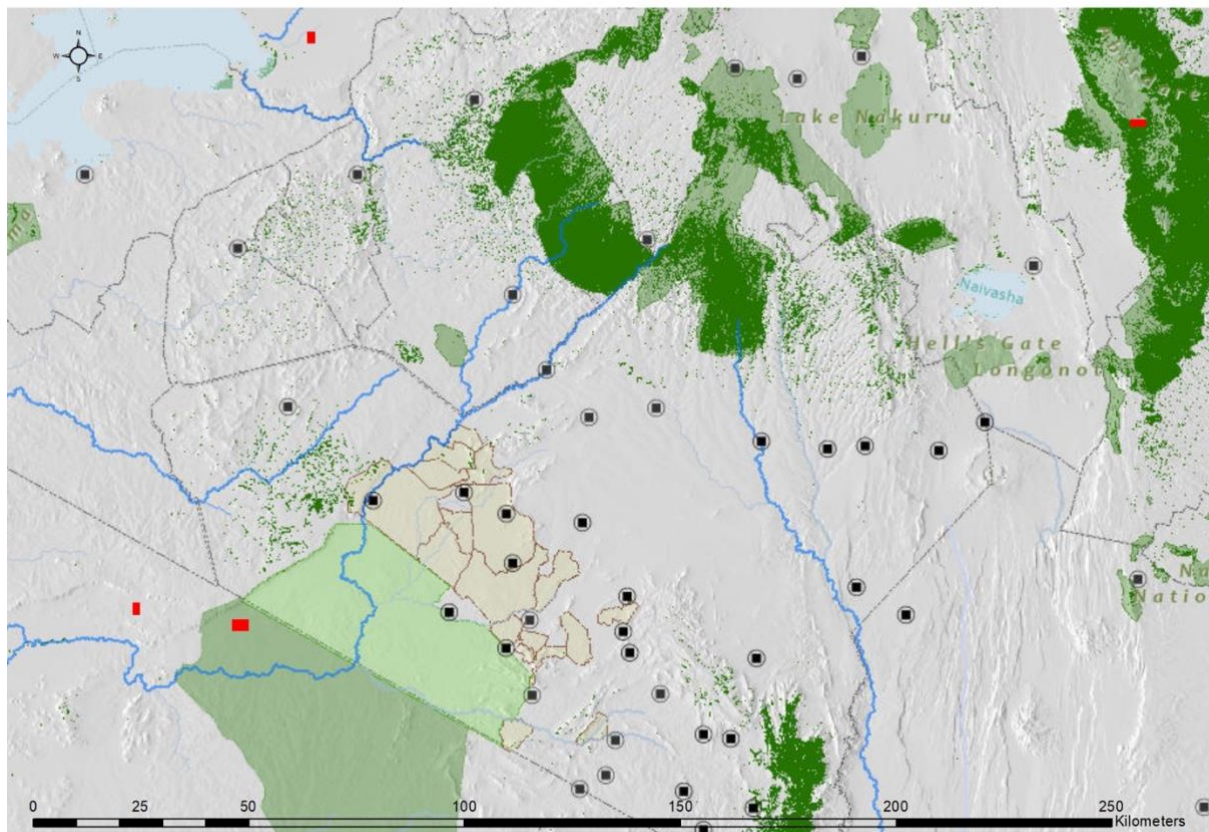
Loita



Rift Valley



ENVIRONMENT: Burn/Fire Areas



Red blocks indicate burn areas as measured by NASA's FIRMS dataset during the period April 1, 2021 – May 1, 2021. Accessed through Google Earth Engine.