

Reigniting the spark of childhood inspiration: A biology educator's journey to Kenya's Maasai Mara

Do you remember how you came to be interested in the science you teach? What were your influences that inspired you to study science? What prompted your passion for the science subject that is the center of your professional life?

Sometimes, especially for those of us who have been teaching for many years, it can be hard to maintain that same excitement. Rumschlag (2017) describes three factors that affect burnout in teachers: emotional exhaustion, lack of personal accomplishment, and a sense of depersonalization. If we feel our personal passions for our subject are not valued or utilized, these factors contribute to burnout. If we forget what we love about science, it affects our teaching. At times in my teaching career at the high school and university levels, I have experienced the burnout that makes it easy to forget that inspiration. The inspiration is a feeling we need to remember and renew.

For me, I remember being inspired by the nature documentaries I watched as a child. I am confident that I saw all of the Disney “True Life Adventure” films, every Jacques Cousteau program, and every National Geographic special about Jane Goodall. But my favorite was Mutual of Omaha’s *Wild Kingdom*. I wanted to live the journeys of Marlin Perkins. For those of you too young to remember that name, he was my generation’s David Attenborough or Jeff Corwin. I never missed that show.



Figure 1. The author at the Maasai Mara.

The scenes of Perkins and his team capturing animals to put radio tracking devices on them made an indelible mark on me, especially when they involved animals in Africa. By the time I was eight year's old, I had promised myself that one day, I would go to Africa to see the same wildlife I saw in my favorite nature documentaries.

I know that was part of the reason I took every science course my high school offered, and wanted more. In my undergraduate years, I jumped at opportunities to assist in studies of animals here in Indiana like slate-colored juncos and dragonflies. While teaching high school, I continued to find similar opportunities to help study endangered turtles and massasauga rattlesnakes. Helping to band birds and track snakes was interesting, but never quite as romantic as getting up close and personal with large animals in the African savanna. I still had that bucket list item to check off – that trip to Africa.

Jump to 2018... 47 years after promising I'd go to Africa. I had received an invitation to give a presentation for a conference in Kakamega, Kenya, and my proposal had been accepted. Through a collaboration with Masinde Muliro University of Science and Technology (MMUST), I had my opportunity to join a group of seven other colleagues for a trip to Kenya. When one of my co-travelers offered to plan a safari trip to the Maasai Mara National Park, there was no question in my mind. "Of course! Count me in!"

The entire two-week trip was an exciting opportunity. As a biology educator, I had a chance to see with my own eyes the places and habitats I had read and taught about. Through the eight days before our safari, I drove among tropical



Figure 2. Faculty from Ball State and MMUST at the equator.

mountains where I was able to see the dramatic examples of deforestation, and I was surrounded by plants and animals we simply cannot see in Indiana. Even the ants I encountered on park bench at the university were different... and interesting... and dramatic when they bite! Kenya is a country of diverse ecosystems, with agricultural areas that reminded me of Pennsylvania, rugged mountains with tea plantations that looked like West Virginia, and rain forests that resembled Puerto Rico. And as the only scientist in the group, I am certain I saw these things through a different lens. Our group included professionals from a wide range of fields, and I can assert with confidence that scientists think about and notice the world differently. But for entire the first week, I couldn't help but anticipate our upcoming trip to the savanna.

When the day came to leave the mountains of western Kenya to drive to the Maasai Mara, I was more than a little excited. The drive was long – five hours of travel on developed roads, followed by three more hours on roads that could barely be called jeep trails. The ruts, holes and rocks made our group long for the relatively smooth ride over Indiana's spring pot holes. The last part of the trip was bruising and exhausting.

But as we approached the Mara, the habitat changed, and I began to see the Africa I had imagined in my childhood. The land flattened out, and the trees of the forest gave way to sparse clumps of brush and acacia trees. The towns disappeared and small clusters of Maasai huts and herds of cattle and sheep tended by young boys in shukas – the traditional colorful wraps worn by Maasai men - became more and more frequent.

But the moment when we came to a line of trees next to the lodge where we would stay for the next two nights was the most dramatic. The Maasai Mara, along the southern border of Kenya, is the northern tip of the famed Serengeti Plains that spread south across a wide expanse into Tanzania. The Maasai Mara is a typical African savanna habitat, and northernmost location

of the great wildebeest migration, an annual trek in which the animals follow the rains to find green grazing areas. The Mara is a legendary site for wildlife safaris, home to most of the major African species. This visit to the Maasai Mara was a childhood dream come true!

The savanna itself lies on an ancient inland sea bed, lifted above sea level by geologic forces (Peters, et al, 2008). We stood at the top of the Oloololo Escarpment, a plateau rising 600 feet above the plains, creating the western edge of the Maasai Mara. As we parked, we could see the savanna below. The view was more awesome than I had imagined, and I must have had a far-away look as I gazed on the Mara. The organizer of our



Figure 3. Maasai Mara from atop the Oloololo Escarpment

safari had to ask me more than once, “Are you alright?” All I could say was, “Yeah... I finally made it here!”

When the staff at the lodge led us to an observation deck, I stood in awe. There below us was the greatest expanse of open land I’d ever seen. The name, “mara,” comes from the Swahili word for “dots,” and we saw flat topped acacia trees dotting a sea of grass across the Maasai Mara as our guide scanned the view in the fading light of dusk. “There... near that line of trees...” The dark spots about the size of the trees were moving! They traveled in single file... Elephants! With a spotting scope we were able to see eight gray giants moving through the grasses, headed toward the river. It’s a view I will never forget. And I knew that the next

morning we would drive through the same area. It was as if the opening scene of “The Lion King” had just come to life before us. The sight was a profound thrill.

Despite being exhausted, I was almost too excited to sleep. I kept busy checking camera batteries and memory cards, making sure I had insect repellent ready, and sat on the porch listening to night sounds I’d never heard before, but seemed comfortably familiar.

I was also the first person in our team to show up before dawn for a short hike to view the sunrise from the top of the escarpment. The eight-year-old in me was ready to go, and there was no need to sleep any longer. Seeing footprints of a tiny antelope called a dik-dik on our hike just made me more excited to reach the Mara.

As we climbed into jeeps to drive down the steep slope of the escarpment, I had questions from some of the members of my group about the Maasai Mara. What kind of trees are those? Do you think we’ll see lions? Are we in the National Park yet? A graduate student in our group mentioned that I sounded like I’d been here before. I explained that as a biology teacher, I’d been telling my students for many years about this kind of habitat, these animals, and the research done here to study predator-prey relationships and the survival of endangered species like elephants and cheetahs. In a way, I *had* been here before.

As we drove through the lands outside the park toward the gate, I realized that my experiences teaching biology gave me a very different view of the scenes we were seeing. My colleagues saw flat plains with abrupt piles of limestone. I saw an old sea bed scattered with ancient reefs. When the others in the jeep were saddened by a large area of burned grass, I saw green shoots of grass growing in an area where land managers did a controlled burn. The water buffalo skull along the road was not sad to me. It was the remains of an old kill that kept alive some lions, hyenas, jackals, and vultures.

I think the differences between the science teacher and the non-scientists in the group became most obvious in mid-morning at the border crossing at a bridge on the Mara River. The guide parked the jeep and said we had time to use the restroom. Others hurried off to the restrooms, while I hurried with my camera to the trees around



Figure 4. Male agama lizard

the restrooms. The branches were hung with nests of weaver birds, including some birds actively building new nests. I just had to get some photos! I caught myself saying aloud, “I can use these in my Bio class!” That stop was an unexpected bonus, and I couldn’t help but think of my classes. There was a family of vervet monkeys hiding in the trees, and plotting to steal a lunch bag from another group of tourists. There was a group of agama lizards basking on a large rock, including a brightly colored male displaying to defend his territory. With all the people passing by, only a few even noticed the lizard

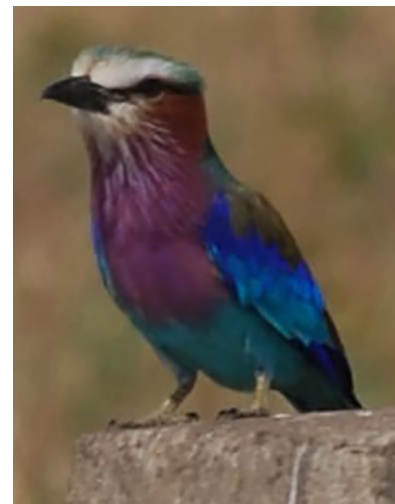


Figure 5. Lilac-breasted roller

as I snapped pictures. And yes, the monkeys managed to make off with the lunch bag!



Figure 6. A dust bath for a zebra

The remainder of the day was a steady stream of wildlife encounters worthy of any nature documentary. We saw several “journeys” of giraffes, including a group of six young males sparring for mating status. We saw massive herds of wildebeest

and zebras staging to cross the river as they migrated from Tanzania into Kenya... and the crocodiles waiting to kill the weak and unwary. Hippos, hyenas, topi, impalas, hartebeest, secretary birds, warthogs, and gazelle... even a lone eland among the wildebeest. We saw the incredible diversity of wildlife around the watering holes, the concern of a pride of lionesses caring for an older lame lion, and water buffalo only yards from the open jeep staying between us and their calves. I've seen all these animals in zoos. But when you are almost close enough to reach out and touch them in their natural habitat, all those lessons I learned... and taught... take on a new and deeper meaning. The most striking moment for me was taking photos about 20 yards from a bull elephant keeping protective watch at the back of his family herd, letting us know that we shouldn't come any closer.

As the safari drew to a close, we drove along the edge of the Maasai Mara into a rain storm we could see approaching from a few miles away. The others took shelter from the rain. I stood up in the open top of the jeep, just glad to soak in every sensation before I had to leave the Mara.

We returned the lodge, and headed off to

our rooms to shower and change before dinner. I returned to the main hall of the lodge as quickly as I could so I could sit on the deck overlooking the plains, and wrote in the journal I had started for this trip. I had so many thoughts running through my head that I knew I had to record on paper.



Figure 7. Bull elephant sending a message

My thoughts were about the emotional reaction to being in the midst of the natural phenomena that had first made me want to study biology and about the satisfaction of keeping that promise I'd made to myself when I was eight years old. And about how I now need to find new ways to help others feel that same excitement and inspiration about the natural world around us. I spent the next 5 days of travel writing as much as I could. So many thoughts to jot down...

Now, more than a year later, I'm still thinking about the impact of the trip. As a teacher educator, I have been finding ways to incorporate many new ideas that came from this trip. There will be many new lessons, including some observational labs and new ways to practice the process skills used by field biologists that I am trying to integrate into the way I teach. For instance, I have developed a lesson for students to research and propose plans for farming practices that reduce conflict between farmers and elephants in East Africa, based on work done in and around the Maasai Mara (Sitati & Walpole, 2006). Another lesson sparked by my visit is a survey of citizen science data to map the ranges of different species of giraffes (McConnell, 2020). I have also developed an activity using online resources to help students understand the role of camera traps to study wildlife, just as researchers in Kenya use these tools to observe lions on the Maasai Mara (Hatfield, 2014). And now, instead of telling about habitats and evolutionary adaptations I have only read about, I can add my own personal stories of vast herds of migrating wildebeests, the mating colors of the agama lizard, and the incredible expanse of the African savanna. Once again, my lessons are flavored by my own excitement about my subject – the kind of excitement that led to me pursue my career as a biology educator in the first place.

So I return to the questions I asked at the beginning of the article. What were the influences that inspired *you* to study science? What prompted *your* passion for the science subject that is the center of your professional life?

Do YOU remember how you came to be interested in the science you teach? It is easy to let the frustrations and repetition of our profession cause that “burn out” we all dread. But you are a science teacher for a reason. Eva (2018) suggests you might be able to reignite your passion for teaching science by “revisiting your story.”

- ***List some of the influential activities or events in your life*** that contributed to your interest in science, and your desire to teach others. For me, some of those key events were times I had experienced wildlife and wild spaces first hand.
- ***Plan an activity that lets you relive that kind of influential experience.*** As you do, set aside time to reflect on how the activity inspires you. Maybe you can check off one of those bucket list items at the same time.
- ***Find ways to integrate the experience into your teaching.*** Make a point to incorporate your experience into your classroom practice. Your story and your passion will make a difference to students. My trip to Africa brought my passion for wildlife into my teaching in a new and fresh way.

You have always had some kind of spark ignited by something to you saw, someone you met, or something you did. Maybe it was vacation to a natural area, or witnessing the launch of a NASA mission. Or maybe it was the wonder of building a robot, or the first time you found you could picture in your mind the reactions that happen in the chemistry all around you. Don't just remember those events. Re-live them! Maybe a trip could be the spark of earlier passions, but maybe it could be as simple as renewing an interest in gardening, working on electronic devices,

or some other interest that builds on your life-long interest in science. I suspect you'll find a new energy, and that the energy you discover will lead to good ideas for your classroom.

Do yourself a favor – Make plans to reignite that spark!



Figure 8. Maasai warrior atop the Oloololo Escarpment at sunrise.

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