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Bad Water – The loss of flamingos in Lake Natron

By Jeffrey Wu



Lake Natron in Tanzania and Lake Magadi in Kenya, only 29 kilometres apart in the heart of the Africa East Rift Valley, are so-called “Soda Lake” (saline lakes) with rich sodium carbonate deposits.

The alkaline water in Lake Natron and Lake Magadi can reach pH levels as high as 12 and is so caustic it can burn the skin and eyes of animals that are not adapted to the extreme environment.

For most of species, the lake is toxic. However, the blue-green coloured algae “Spirulina” that thrives in saline water is the food for African flamingos. Lake Natron, also known as “The cradle of flamingos,” is the only breeding ground for 2.5 million flamingos.

I had the opportunity to do 94 hours of helicopter aerial photography in February and March over both lakes. What I witnessed was spectacular and shocking.

Surrounded by rolling hills, the two lakes are fed by saline hot springs (temperatures as high as 86C) and

small rivers. Annually from December to May the area receives irregular rainfall of about 500 to 800 mm and the remainder of the year is dry season with high levels of evaporation and at least 60 per cent of the lakes dry.

The weather irregularity was evident in the spring of 2017. When the regular rain season did not occur, the area had a 19-month drought believed to be caused by El Nino. This year, the rain season arrived with a vengeance and hit the East Rift Valley hard.

It started with two large tropical cyclones in January and March, savaging Madagascar and both then turned north, invading the East African coast. After heavy rain, the flood water from higher ground rushed into the lakes and the strong wind stirred colourful

mineral compound from the shallow lake bottom. The floating colours on the surface looked like an oil paint palette and the shapes of an alien world.

Despite the beautiful landscape, the abnormal climate change turned the lake into a toxic soup. During dry season the shallow lake and dry lakebed were corridors for small antelopes, giraffes and zebras to pass from low land to higher ground. When floodwater filled the lake, the dry lakebed became a quagmire. Wildlife trapped inside could not get out in time and drowned in the toxic water.

Flamingos nest on Lake Natron due to the abundant food sources and the toxic water provides a natural defence barrier from predators. They nest in the edges of shallow islands along the shape of dry salt earth fragments and nesting materials are ripped from the salt earth chips.

In early February, breeding flamingos had formed a belt about seven kilometres long and 1.5 kilometres wide



of nesting area which was crowded with about 200,000 birds.

The lake was filled by the previous storm and the water level was dangerously high, the edge of the nests only 20 to 30 centimetres from the water surface instead of the regular 50 to 90 centimetres.

When asked about the situation, our pilot, who has been flying in this area for 20 years, said if there is more heavy rainfall, “Only god can help them.”

Unfortunately, March 15, a third cyclone hit Madagascar and affected the whole African east coast. The next afternoon while flying over Lake Natron, our pilot pointed out a huge storm rapidly moving toward us.

“We have to get out of here or we will be trapped in it,” he said.

When asked to fly to the nesting area, he just shrugged.

“You are crazier than I thought,” he said as he turned the chopper directly toward the storm.

A five-kilometre-wide storm rushed toward the flamingos’ nesting area, bringing heavy rain throughout the night. The next day, all we saw was chaos.

Through long lens, we saw all the nests were gone and the eggs were floating in the deadly alkaline water.

Flamingos were walking in every direction, looked lost and confused.



“This would be happening every 10, 12 years,” our pilot said. “However, nature always has a way to repair itself. We will just have fewer flamingos this year.”

He was right. When we went back a week later, new batches of flamingos had already started building nests. Nature had already started the process of self-restoration.

Life still goes on in the bad water of the African East Rift Valley. ❄

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