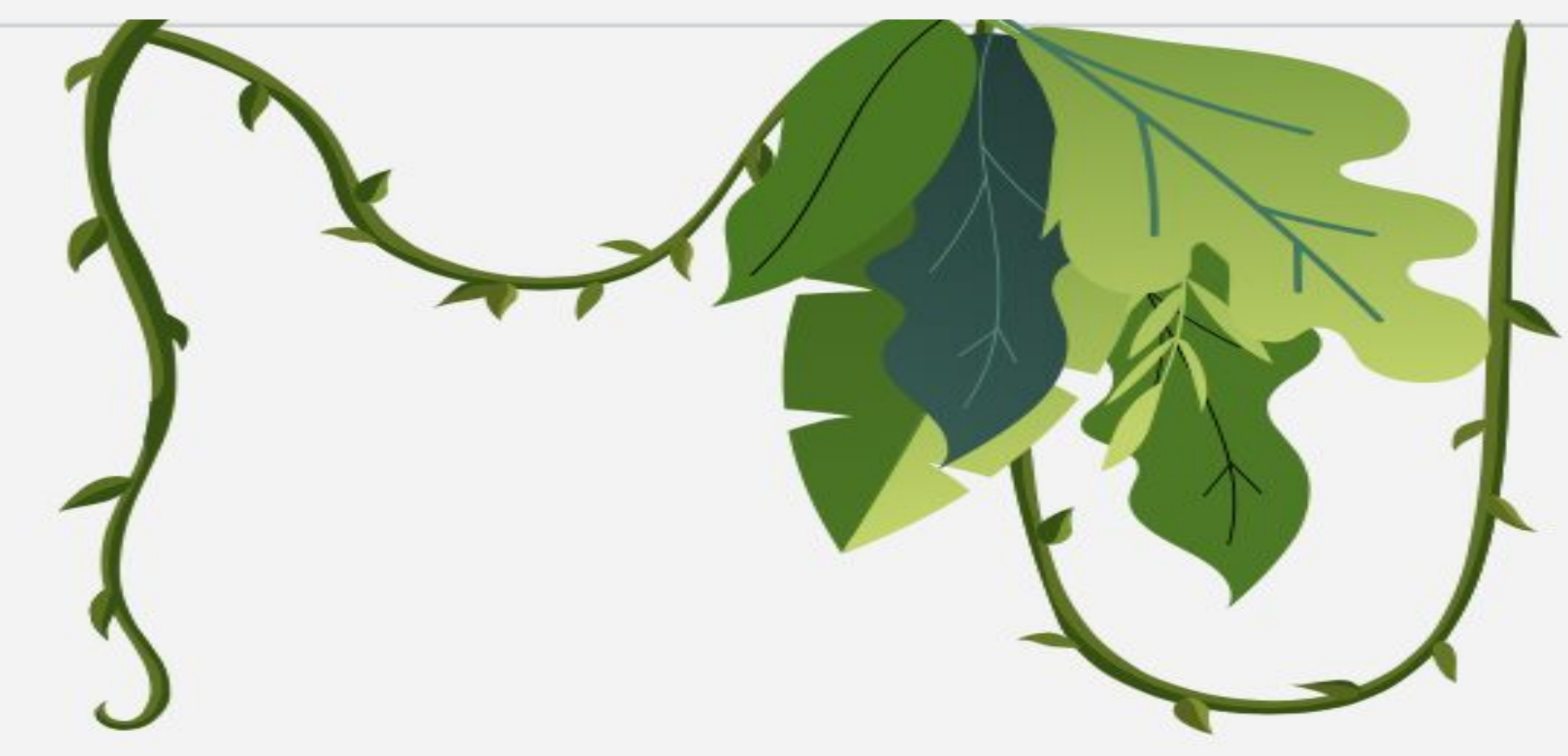


# Saving Endangered Mountain Gorillas



By: Jillian Fahey, Gabriella Levy and Ethan Slade

Grand Challenges Initiative, Schmid College of Science and Technology, Chapman University

## Abstract:

We share 98% of our DNA with gorillas. A lot of the mountain gorillas residing in Africa get sick and die from human transmitted illnesses. This is a problem because without gorillas, entire forests wouldn't exist as they help disperse seeds. With more animals going extinct, it is human's responsibility to save the ones we can. We contacted safaris in DRC, Uganda, and Rwanda (figure 1) to find out information about their tours and required vaccines. We created a vaccine questionnaire and a pamphlet/brochure. We are still in the process of implementing both on safari tours. We also wanted to spread awareness to this cause by making a website, Instagram, and TikTok with videos and additional information (figure 3). All animals are needed for the Earth's food chain and biodiversity. By examining the root of the endangerment, we hope that will cause their population to bounce back. Our project was especially significant due to the SARS CoV-2 pandemic.

## Introduction:

- Chose to focus on endangered mountain gorillas because of their importance to the ecosystem
  - Help to create new plant and tree life by eating and excreting seeds (Platt 2015)
    - Without these creatures, the natural balance of the food chain would be unsettled
- Our goal was to spread awareness about their endangerment as well as ways that visitors could take precautions when on tours (masks, gloves, updated vaccines)
- Can fall ill from human illnesses, but ecotourism is still an essential part of their survival
  - Generates income that allows for effective management, poaching patrols and laws (Thorne et al. 2013)
- Their population is decreasing due to deforestation, poaching, and disease transmission (Dunay et al. 2018)
- 76% of the viruses being studied in mountain gorillas originated from humans (Dunay et al. 2018)
  - Aerosol transmission can transmit illnesses such as influenza, the common cold, and respiratory illnesses like SARS-CoV-2
    - About 24% of gorilla mortality is due to respiratory diseases alone (Schultz 2016)
- Most people are aware that we share a large amount of our DNA with mountain gorillas, but they are not aware for the reasons they are endangered or their importance to the ecosystem



Figure 1: Countries they are commonly found (DRC, Rwanda, and Uganda)

**1,000**  
LEFT IN THE WILD

## Results:

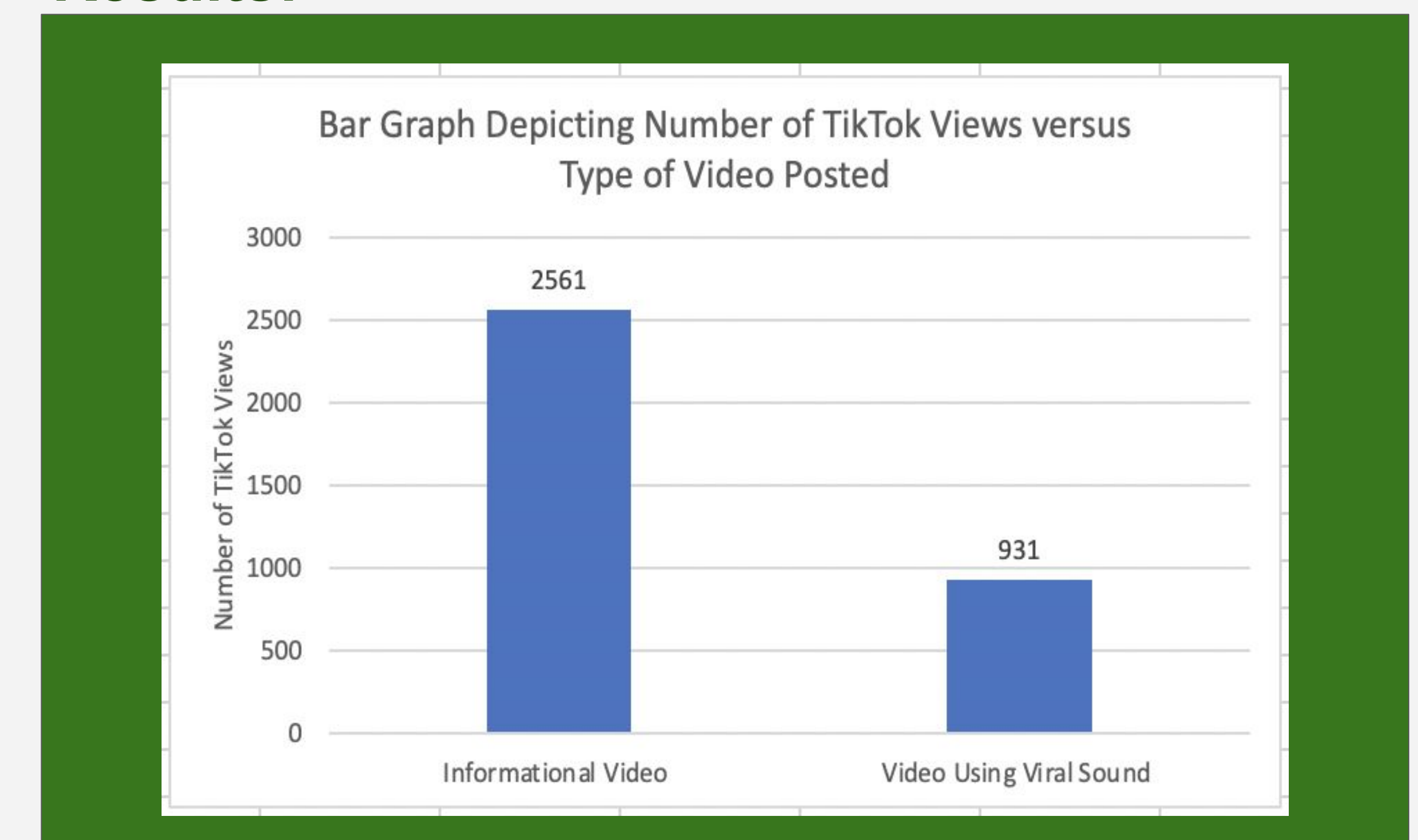


Figure 2: Bar Graph Depicting our Tik Tok Views

## Accomplished:



## Conclusions & Looking Forward:

- Yellow fever is the only vaccine required for most visitors to go on tours
- Average distance visitors must maintain on the tours is 10 meters or about 33 feet
- From the popularity of the informational videos (figure 2), we have concluded that more people are interested in learning about this world issue and ways to help
- Due to COVID, a lot of safaris have implemented a rule stating that a maximum number of 8 people are allowed on each tour, or that only related individuals can go together
- Most gorillas and their family experience only one tour per day to limit human interaction
- There is signage located at most safaris to remind visitors to maintain safety precautions
- Each tour is led by a professional to ensure that visitors and mountain gorillas remain safe at all times
- We hope to continue our contact with the safaris to hopefully implement our immunization form in the future, as well as receive updates about their mountain gorilla populations

## Acknowledgements:

We would like to thank Dr. Gormally, Ms. Stomackin, Dr. Gray, and Dr. de Bruijn for their feedback, input and ongoing support to our project throughout the last three semesters.

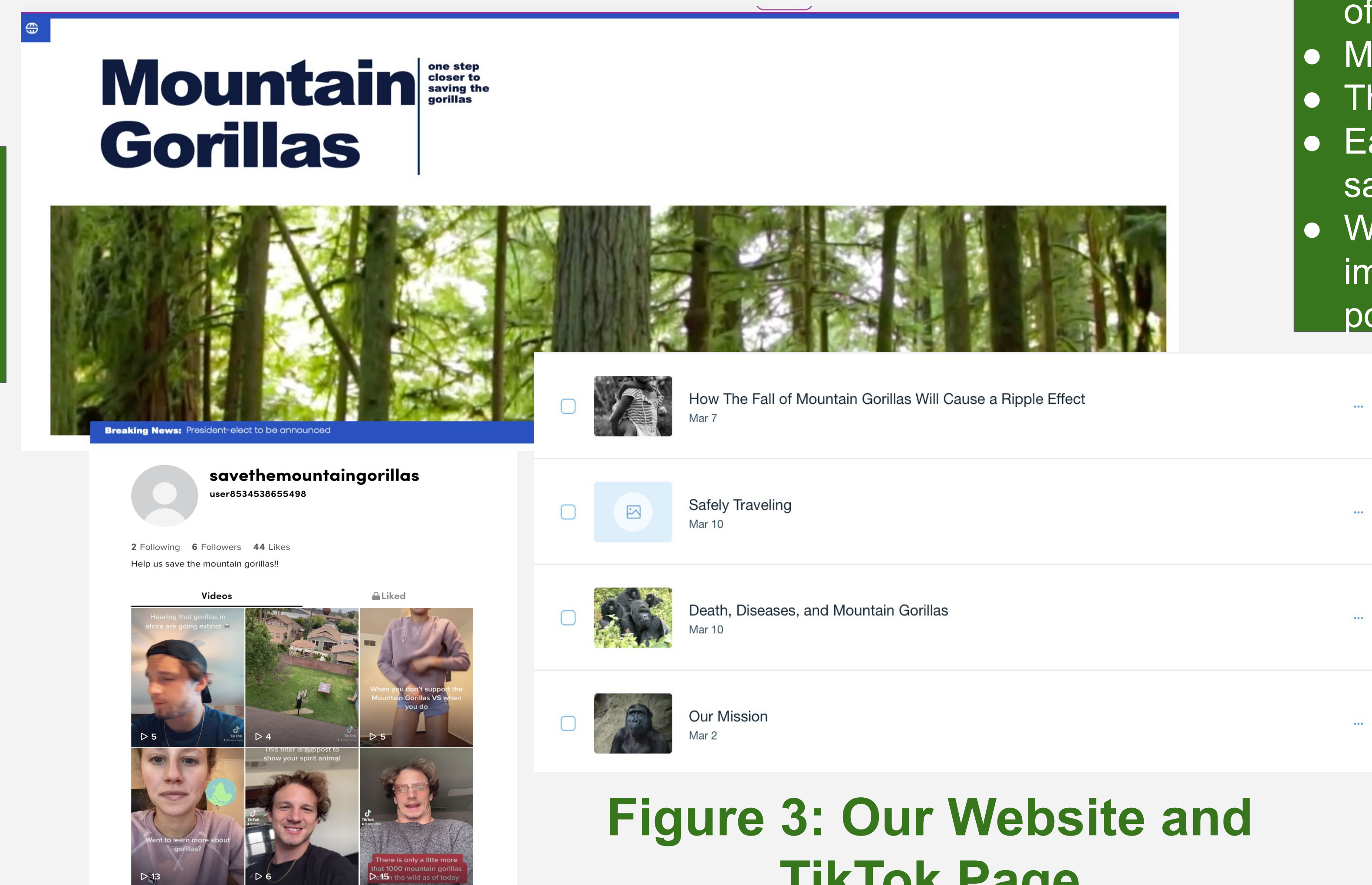


Figure 3: Our Website and TikTok Page

## Literature Cited:

Dunay E., Apakupakul K., Leard S., Palmer J.L., Deem S.L. (2018). Pathogen Transmission from Humans to Great Apes is a Growing Threat to Primate Conservation. *Ecohealth*. [Accessed 2020 October 4]; 15(1):148-162. doi:10.1007/s10393-017-1306-1.

Platt J.R. (2015). If Apes Go Extinct, So Could Entire Forests. *Scientific American Blog Network*. [Accessed 2020 December 4]. <https://blogs.scientificamerican.com/extinction-countdown/if-apes-go-extinct-so-could-entire-forests/>

Schultz R. (2016). Killer Conservation: the implications of disease on gorilla conservation. *BioRisk*. [Accessed 2020 December 4]; 11:1-11. <https://doi.org/10.3897/biorisk.11.9941>.

Thorne J.H., Seo C., Basabose A., Gray M., Belfiore N.M., Hijmans R.J. (2013). Alternative biological assumptions strongly influence models of climate change effects on mountain gorillas. *The Ecological Society of America*. [Accessed 2020 October 4]. <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/ES13-00123.1>

