**Conclusion**

In this model, we probe the population dynamics of a basic food chain in the grassland biome by modulating the number of fires that occur over a given time frame. Assuming that the rate of underbrush buildup is directly responsible for the increasing the probability of a fire occurring, we can estimate the direct impacts on all populations and the upstream impacts of affects specific to the singular producer in our food chain. Given a simulated or interpolated rate of underbrush build up, we are able to predict the rate of underbrush clearing necessary to sustain the apex predator in our food chain; this could prove to be powerful for addressing logistical issues in managing wildfires due to changing conditions and inform federal wildlife management practices. Although our secondary focus of observing the extinction of the apex predator was not mainly caused by the Allee Effect, the wildfires managed to drive the eagle population to extinction with the help of the Lotka-Volterra component of (1). The various fire regimes showed that it is possible for the ecosystem to thrive with careful underbrush regulation.