

Kenya Park Management Project

Endangered species & human communities

General Overview

Welcome park management team. Your new job is to come up with a park management program for the new Sitatunga National Park in Kenya. The park has a budget of 1.0 units. You must present your management proposal to a committee, which will decide which team gets the bid for the project. Your team's management goals (not in any order) are:

- 1) Resolve issues with nearby residents and farmers
- 2) Help sustain or improve biodiversity at the park
- 3) Improve water quality and wildlife habitat
- 4) Improve the park's facilities and programs for visitors
- 5) Coordinate partnerships with land owners to create habitat corridors

Refugees from Uganda are crossing the Kenya border and entering into the park. The refugees steal food from nearby farms, poach wildlife, and steal water from small ponds and creeks near the border. They are very poor and the Uganda refugee camps do not have enough food or access to clean drinking water.

Local villagers often break through fences around the park to take fresh water. The holes in the fences allow animals to come into the farming areas, and animals trample and eat villager crops. When this happens, the villagers do not have any food to eat or sell at the market. This sometimes leads to the poaching of wildlife in the park for food. The local villagers also take clay from the rivers and creeks to sell at the market because there are no other jobs available to help them get money. Removing the clay disturbs the river and swamplands downstream. During the monsoon season the farms still divert water from the main river; the farms are flooded and crops are lost. The farmers would need a shut-off system for the water diversion pump.

Tourists and visitors explain that there are not enough park stations and that a park visitor's center would be helpful so they could have a place to get information about the park. They would also like to see park rangers, who could lead tours and guided hikes through the park. The park would need cars to take people out on tours. Research teams feel that a park headquarters with offices for them would help the different teams to integrate their research studies and help one another with projects.

The Sitatunga aquatic antelope lives only in swamplands in this region of Kenya. The water diversion has caused the swamplands to dry up and the antelope have become even more threatened!

Research Teams at the National Park

Water Quality Research: The hydrology research station is located off the main river in ZONE C, above the water diversion. The hydrology station would like their current budget of **.20** to be increased to **.50** due to the demand of water rights from local villagers and severe water pollution in and around the park. Hydrologists study both surface water and underground water. They measure water quality and rates of flow. They also research precipitation, soil infiltration, and movement of water through the ground. Their research contributes to global, regional, and local data on climate change. They also work to trace and resolve issues with water quality inside the park.

Soil Research: The soil research team's studies on soil erosion, soil toxicity, and soil conservation (maintaining healthy soil for farming) cover all zones in the park and also extend beyond to nearby farming communities. These studies are vital for the success of the park. Without healthy soil, nothing will grow and the park will suffer. Without healthy farms, nearby villagers may not have enough food and may enter the park to poach wildlife. The soil research team would like their allocated budget of **.12** be increased to **.30** so they can add a new soil research team to come up with ways to help nearby farmers in the villages and to trace non-point

Kenya Park Management Project

Endangered species & human communities

chemical pollution in the soil. Pesticides and fertilizers in the soil may be contributing to pollution in the park. They may also be taken up into the foods grown on the villagers farms.

Wildlife Research: The zoology team would like their research station located in ZONE E to be updated from the old .16 fund to .50. The zoology staff breed the endangered Sitatunga aquatic antelope and releases them back into the wild. They also monitor the health of the antelope populations and their movement through the park. The wildlife field biologists add to research on wildlife habitats, ecological processes and conservation threats for all the animals found in the park. The wildlife research team reminds you that they are the backbone and symbol for all political and non-profit groups' funding for the park. Most endangered wildlife species at the park are stressed from poor quality of resources and are a top priority for protection. As human populations expand and habitat destruction spreads, wildlife survival becomes more dependent on protected habitat like the national park.

Botanical Research: The botany research team has conducted many studies on plants which are important to cancer research. They study relationships between native and invasive plants, and wildlife in the area. 594 of the 2,830 native plant species are now extinct, likely due to heavy logging in some of the forested areas of the park. The botany research team includes a special ecological restoration team in zones B, C, D,E, and F, which works to eradicate invasive plants by using non-harmful methods and replants native species. The botany team is also in direct contact with the other research teams to report how all of the biochemical cycles interact and correlate with one other. They would like their budget of .17 to be updated to match the growing concerns and botanical research needs of the park to .50 of the budget.

Air Quality Research: The Atmospheric research lab is a National Biosphere project which studies global warming and climate change in Africa. This two-person lab is located in Zone A and costs .05. They measure trends in temperature, humidity, particulates and pollution in the air. They track and monitor precipitation, cloud movement, impacts of clouds on temperatures, and correlations with data from other labs around the world.

Map Zones

ZONE A: This is a managed forestry area where companies may pay to use the land for logging or plant harvesting. Pharma-tech would like to lease or buy this land for special medicine and plant research. They promise in return to build a staffed medical center with free services for park employees and local villagers anywhere you wish. Logger-corp would also like to lease this land. They promise this venture would create over 100 jobs for local villagers and others decreasing the likelihood of poaching and water diversion for farming. Logger-corp would offer their full time security team to patrol their area and possibly the border of Uganda. The non-profit group Soil Conservation for Kenya (SCK) and the United Nations Environment Program (ENEP), would like to build a sustainable forestry/farming education and training station for villagers. They will put the local indigenous people in charge of all forestry (logging, medicinal plant harvesting, subsistence plant harvesting) activity. 50% of the locals love this idea and 50% hate this idea and want to be left alone with no outside influence whatsoever.

ZONE B: This is the border of Uganda. Refugees cross this area by the dozens daily to steal food from the farms, poach animals in the park, and to take water from small ponds and creeks. This section of Uganda is very poor.

ZONE C: This is where the water has been diverted from the river to the farming village in Zone D. this diversion has caused both the right fork and left fork of the river to become dry. The main river still has some water flowing and feeds a small area of swampland in the Swampland Antelope Preserve. Much of the swampland in the national park has become dry. The habitat loss of the swamplands has been detrimental to the wildlife of the park, especially the endangered Sitatunga aquatic antelope. Many of the antelope have been pushed into the preserve south of the park, causing overcrowding and over-eating of the food in that area.

Kenya Park Management Project

Endangered species & human communities

ZONE D: This is the farming village. They have been diverting water from the Main River for decades. There are no clear “water rights” owned by anyone. Your team must develop a system that would keep the farmers and the overall biodiversity of the park (all research teams) satisfied.

ZONE E: This area has been dry for so long because of the water diversion in Zone C, that there is now a village in the dry creek!

ZONE F: This is a crucial habitat corridor for the wetland conservation group, who manages the Swampland-Antelope Preserve south of the main park.

ZONE G: This is one of the last virgin rainforest areas in the world. The mountains to the west and lack of roads in the central area of the park prevent companies from entering the forest to cut timber.

Proposal Approval Committee

There are several other park management teams competing to get the bid for this park. You must present your management plan proposal to the approval committee. The committee members will vote to decide which team gets the winning bid. The following groups are on the committee (the number of votes each group has is in parentheses):

Kenyan Government (4)
Nearby residents and farmers (4)
Soil Station (1)
Zoology Station (1)
Botany Station (1)
Wetland Conservation Group (1)
Kenyan Workers’ Foundation (1)
Uganda Government (1)

Your team will need to write a three-page double spaced 12 type font paper on your plan. You must have at least one poster for a visual (minimum). The presentation, which should explain why you made each decision and how each decision will impact the park and surrounding areas, and how those decisions match with the management goals, must be 10 minutes long.
Good luck!