

Biodiversity & Scientific Method Virtual Lab Notebook

Ronda

Thursday, May 12nd, 2022

Activity 1

Total number of species present: 9

Number of endangered species present: 0

Hypothesis:

Replant longleaf pines, restore wiregrass, and start prescribed burns.

Total number of species present after strategy applied: 15

Number of endangered species present after strategy applied: 1

1) After reviewing all the management strategies, which allows for the greatest species biodiversity? Describe this biodiversity. Why do you think this strategy is so restorative?

Longleaf pine and wiregrass restoration with prescribed burns is the best choice in this case. Bringing back more longleaf pines and wiregrass, and having the prescribed burns allows more animals to return to this area.

Activity 2

Data Table 1

	Trial 1	Trial 2	Trial 3
Hypothesis	Woodpecker nest boxes, Reintroduce gopher tortoises, Restore longleaf pine and wiregrass with prescribed burns,	Herbicide application, Restore wetlands, Restore longleaf pine and wiregrass with prescribed burns,	Hunting preserve, Restore wetlands, Restore longleaf pine and wiregrass with prescribed burns,
Total number of species	17	17	17

Number of endangered species	4	2	2
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Trial with the greatest biodiversity: 1

2) Although the activity is a simulation, what conclusions can you draw about restoration efforts in real ecosystems?

Creating a healthy environment that people, animals and plants can depend on.

Activity 3

Hypothesis:

initiate longleaf pine agroforestry

Total number of species present after strategy applied: 11

Number of endangered species present after strategy applied: 1

3) After reviewing the lucrative management strategies, which is least damaging to the ecosystem (allows for the greatest biodiversity)? How does this strategy differ from the others in this Activity?

Sources of Error

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A scientific model is only as reliable as the data used to construct it. In this case, the simulations carried out here are based upon a basic ecological understanding of the longleaf pine ecosystem, include a review of basic books on the topic supplemented by a few past field visits. None of the results in this lab has been reproduced in the field. All outcomes from these scenarios are therefore highly speculative. Further, for each particular case, there are intervening variables, such as local hydrology, bedrock geology, and local soils, as well as ecological health of surrounding areas that could affect the results obtained. Consider this lab only a very rough approximation of how the longleaf ecosystem might be affected by various human impacts, including restoration work.