**Subject area/course**: Science/Biology or Environmental Science

**Grade level/band**: 9-12

**Task source**: Educational Policy Improvement Center

**Restoring the Balance**

**STUDENT INSTRUCTIONS**

1. **Task context**:

The town you live in is in the process of doing an environmental impact study to determine the effects of the construction of a new highway system across a local wetlands ecosystem. The planned construction has been causing a lot of debate among the citizens in your town. There is no doubt that the traffic is very congested in the part of town where the highway system will be expanded, causing extended commute times, traffic jams, and an increase in car accidents.

Some citizens worry that the plant and animal populations in the wetland ecosystem will suffer as a result of the disturbance and are against the project; other citizens suggest that the highway expansion project is necessary to the community and that there will be solutions to help correct any ecosystem imbalances that can be put into play after the full extent of the highway expansion is studied. Still other citizens feel that ecosystems will naturally move back towards equilibrium over time and so nothing should be done. The city council of your town would like to learn more about ecosystem disturbances and ways they have been approached in a variety of other places and situations before they make any final decisions.

As a budding expert in the field of environmental policy, you have been invited by the city council to research and present a paper detailing a case study on the effects of a disruption in an ecosystem and the solution that was used to try and restore the balance. The city council members have asked you to highlight intended and unintended consequences of the solution that was used and to present your expert opinion on why or why not the solution used was a good idea.

1. **Final product**:

The final product will be a paper that should include a background of the disruption to the ecosystem, a description of the consequences for organisms within the ecosystem, at least one proposed solution to the imbalance, and an examination of the pros and cons of the solution. You should also argue for or against the proposed solution and provide a solid, evidence-based rationale for your argument. You will also be asked to present the results of your findings to the class in a presentation format of your choice, discussed with and approved by your teacher.

Your final paper should:

* Be organized, coherent, and address the appropriate audience and purpose of your research.
* Discuss the different sides to the issue you have chosen.
* Support your chosen position with evidence from your research.
* Refer to resources and texts representing multiple perspectives.
* Employ standard English grammar and usage.
* Be cited in standard MLA format.

**Answers to some questions you might have:**

1. **Knowledge and skills you will need to demonstrate on this task:**
* What it means for an ecosystem to be in equilibrium
* How disruptions, both natural and man-made, can upset the equilibrium in an ecosystem
* Locate and evaluate sources of valid information
* Understand the benefits and costs of implementing a solution to an environmental disturbance
* Construct and support an argument using evidence from scientific texts
* Use MLA style to cite your internal resources and Works Cited list
* Present your findings to the class in a presentation format of your choice
1. **Materials needed**
* Internet/library access for research
* Word-processing software
1. **Time requirements**

The final product will be due in two weeks. You will have one class period to begin research towards completion of this task and another class period for a peer-editing workshop and teacher feedback. You will also be required to present the results of your research to the class. You will work with your teacher to determine your final presentation format. You will be given one class period for planning the final presentation and then presentations will occur during the final class period dedicated to this project.

1. **Scoring**

Your work will be scored using the SCALE Scientific Literacy Rubric, Grades 11-12. You should make sure you are familiar with the language that describes the expectations for proficient performance.