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| **Title of Unit** | *Ecology and You* |
| **Date and**  **Location of SI** | 7/22-26/13, Louisiana State University |
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| **Context** | *What kind of course is unit designed for?*  *Freshman/sophomore biology or Ecology*    *How long is unit?*  1-2 weeks; 2-4 class periods  *When will the unit be used in the course?*  Beginning of ecology unit or ecology course |
| **Abstract**  (< 200 words) | Our teachable unit seeks to introduce the importance of ecology to students. For instance, pre-health students may find it difficult to identify how ecology affects them. We start with a 1-minute paper asking the students to reflect on their favorite wild organism and how its extinction would affect them. Next they are directed to individually assess their organism within an ecosystem followed with a  T-P-S to investigate direct and indirect effects of perturbation on an ecosystem. Additionally we instruct the groups to assume the roles of stakeholders to make management decisions regarding the focal ecosystem. Lastly we complete a post assessment by having the students write another 1-minute paper assessing the role of their favorite organism in an ecosystem that we utilize as a summative assessment. A suggestive take home assessment is to have them analyze the ecosystem of their favorite organism or evaluate other types of perturbations on additional ecosystems of their choice. |
| **Rationale** | *How did the idea for the unit arise?*  *Trying to make ecology important and interesting to general biology students.*  *Why was this topic chosen?*  *Trying to make ecology important and interesting to general biology students.*  *What misconceptions or difficult topics are addressed?.*  *Humans are part of the environment. Species disappearance from the environment is unimportant. Species must have a use or value to humans.* |
| **Learning Goals:** what students will know, understand, and be able to do; includes content knowledge, attitudes, & skills | **Humans are part of the environment and what we do to the environment will affect many species including humans.**  Students will participate in a group activity (4-6 people per group) to determine the direct and indirect species interactions in an ecosystem before and after the addition of a predator. Groups will then be given roles as stakeholders in the ecosystem and asked to determine how species in the ecosystem should be managed |
| **Learning Outcomes:** Student behaviors or performances that will indicate they have successfully accomplished the goals | Predict the outcome of ecosystem perturbation  Explain from the perspective of different stakeholders at multiple levels |

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| **Incorporation of Scientific Teaching Themes** | | |
| **Active Learning** | **Assessment** | **Diversity** |
| How students will engage actively in learning the concepts | How teachers will measure learning; how students will self-evaluate learning | How the unit is designed to include participants with a variety of experiences, abilities, and characteristics |
| *Activities outside of class:*  Take home assignment  *Activities in class:*  **Individual activities: (1-minute paper)**  **Large group: (work on wolf activity, then role-playing)**  *Activities during tidbit*:  Same as above | *Pre-assessments:*  **1-minute paper:** “What’s your favorite wild organism? If it went extinct what if any affect would it have on you and its ecosystem?”  *Post-tidbit assessments:*  **1-minute paper:** “What’s your favorite wild organism? If it went extinct what if any affect would it have on you and its ecosystem?”  **Take home assignment:** to be discussed in the next class period: How changes in abiotic factors (precipitation, temperature, etc.) might impact species interactions in the ecosystem  Describe how the extinction of your favorite wild organism would impact its ecosystem | Different ecosystems from other parts of the world could be easily substituted so the activity isn’t North American-centic (for example: forests and tigers in Asia, African savannah, aquatic ecosystems). Another good example for medically related issues could be utilizing a gut ecosystems. |

**Sample** Presentation Plan (general schedule with approximate timing for unit)

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| **Session 1** | | | |
| **Time (min)** | Learning Outcome(s) | Activity/assessment | Explanation, notes, suggestions, tips |
| *Preclass* | See PowerPoint |  |  |
| *Enter approx. class time for learning activity*  *preparatory*  *material presentation* |  |  |  |
| *Enter approx. class time for learning activity #1* |  |  |  |
| *Enter approximate time for additional learning activities and associated class*  *Work/preparatory materials* |  |  |  |
| *Enter approximate time for post-activity summing up or transition* |  |  |  |

*Add additional activities information as needed for the unit.*

Resources for Teaching the Unit

*(other files and information needed/helpful to teach the unit, including files for papers from which original data for class activities is taken, supporting information for the instructor, handouts, in class activities materials, assessments with answer keys, homework assignments, etc.)*

See “Ecology and You Tidbit 1 draft 1” and “Gut Microbiome Ecology” folder in DropBox

Effectiveness of unit (if you have used it in your own teaching)

Acknowledgements

*Donata Henry and Conrad Toepfer*