

# Jigsaw

*Advancing  
Student-Active Learning in  
Ecology Education*



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Photo from EcoEdDL: [A juvenile Marbled Murrelet \(\*Brachyramphus marmoratus\*\) sits on its nest platform high in an old-growth Douglas fir](#), Tom Hamer.

## *Special Feature: Endangered Species*

### What's new in EcoEdDL



#### **Chemical Competition in Peatlands**

*Jon Swanson, Edwin O. Smith High School, Jessica Budke, and Bernard Goffinet, University of Connecticut*

These lab exercises were designed to enhance students' understanding of the concept of chemical competition in ecology. They use the moss *Sphagnum* to illustrate the concept, which shows students that competition occurs between plants.

#### **Phylogenetic Approach to Teaching Plant Diversity**

*Phil Gibson and Joshua Cooper, University of Oklahoma*

Educators can use this resource as an opportunity for students to collect structural data that can be used to construct phylogenies, combine structural and molecular data to construct phylogenies, gain experience in phylogeny construction, and provide a meaningful framework to learn the characteristics of major terrestrial plant groups.

### Reports

Working on Education proposals and unsure how to measure impacts? Try these:

AAAS. (2012) [Measuring STEM Teaching Practices](#)

Friedman, ed. (2008). [Framework for Evaluating Impacts of Informal Science Education Projects](#)

Institute of Education Sciences et al. (2013). [Common Guidelines for Education Research and Development](#).

#### **NSF Webinars on Improving Undergraduate STEM Education (IUSE)**

- Monday, November 3, 2014  
1:00-3:00pm (ET)
- Wednesday, November 5,  
2014 2:00pm – 4:00pm (ET)

[Register here](#)

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## Resources



### **Special Feature: Endangered Species**

#### **Here today, not gone tomorrow?**

*Diane Ebert-May, Michigan State University*

The article highlights the opportunity that the NatureServe databases provide to search for rare plant and animal species by US county or watershed – in effect, in students' own backyards. It discusses students' misconceptions of which species are really "important".

#### **Models and Endangered Species Management: the Case of California Condors**

*C.P. McGowan, D. C. Kesler, M. R. Ryan, American Museum of Natural history*

This hypothetical population modeling exercise for the California condor, a highly endangered species, allows students to predict the outcome of different management options based on modifications employed by students. Using the provided excel program, students will act as "virtual managers" to evaluate the effect and costs of different management options for condor recovery.



#### **Rare valley elderberry longhorn beetle (Desmocerus californicus dimorphus) perches on a leaf of its host plant, blue elderberry**

This photograph can be used to illustrate an endangered species, a species that exhibits characteristics of a metapopulation, or a plant-insect interaction.

*Photograph taken by Theresa Sinicrope Talley*

**Want more Endangered Species resources? [Click here!](#)**

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