# Scenario A: *Bring 'Em Back* (Learning Experience # 2)
## Lesson Plan

**Overview**
Student teams play the role of a group that wants to return river otters to a local stream. They present a plan to a funding group and designate the requirements needed for successful otter reintroduction. Finally, teams repeat the process, this time for a species that has disappeared from a local wetland or waterway.

**Lesson Essential Question:** What is the value of returning an extirpated species to an ecosystem?

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**Objectives**

The students will:
- work productively as a part of a project team.
- use a variety of resources to investigate the background information necessary for this project.
- research and summarize information about the life and habits of the river otter.
- apply what they have learned about the disappearance of the river otter to developing a plan to successfully reintroduce the species.
- keep accurate, complete records in a journal.

**Materials Needed for Bring 'Em Back**
- One packet per group containing a copy of each of the following documents:
  - *Why Should we Care?* (Student Sheet #1)
  - *Welcome Home* (Student Sheet #2)

- General Supplies
  - Chart paper and markers
  - Pictures of river otter merchandise from the web, including PA license plate
  - Computer with internet access for each group

**Grade Level:** 8-12

**Subject Areas**
Environmental science, biology, economics

**Timeline**
Teacher Preparation: 20 minutes
Learning Experience: 100 minutes

**Setting**
Classroom, library or computer lab

**Skills**
Research in print materials and on web sites, organization of information collected, problem solving as part of a team, communication of ideas to team and classmates.

**Vocabulary**
Ecosystem; food chain; food web; habitat, niche; predator; riparian; species

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**Advance Preparation Needed**

Make copies of the student sheets listed, one for each project team. Provide chart paper and markers or access to technology that will allow students to present their ideas to their classmates. Provide otter videos for the class or each student team.

## Procedure

1. Post the essential question for the learning experience on a sheet of chart paper and ask students to copy it into their journals, along with a preliminary answer. Students will return to this question at the end of the learning experience.

2. Introduce the learning experience by showing the students pictures of merchandise that has been sold by states and private organizations to help fund the expenses involved in reintroducing river otters to their original habitats. Ask students to reflect on spending time, effort and money on saving species that are disappearing from an ecosystem or reintroducing a species to its native habitat by composing a position statement either in favor of or against saving endangered species in their journals.

3. Assign students to project teams of three or four. Each team member should have a task: researcher (may have two of these), recorder, communicator. Grouping students with a variety of abilities will promote peer teaching and differentiation of instruction.

4. Ask student teams to play the part of an organization that is considering a project with the goal of reintroducing river otters to the stream and lakes in their region. They must organize a presentation for government agencies and non-profit groups that will result in offers of funding and volunteers for the next five years. Members of the team should discuss their strategy, make notes in their journals, and complete *Why Should we Care?* (Student Sheet #1).

5. Have teams share their ideas by creating a media spot, poster or brochure meant to encourage public support for their funding. It should catch people's attention and include mention of the major points in their presentation.

6. Assuming that the funding groups give a green light to the reintroduction project, ask the student teams to complete *Welcome Home* (Student Sheet #2) by listing the habitat characteristics that they should look for before capturing otters from other areas and introducing them to new territories. They will predict the impact of the otters on their new habitat and make suggestions for sustaining the otter population in their new home.

7. Have student groups share their plans by creating a combined *Home for Otters* chart for the classroom. Each team should address a different part of the plan and explain their ideas by citing research that they have done.

8. The summative assessment for Learning Experience #2 asks the students to conduct research to identify a species that was once found in the region of their school that they think should be reintroduced to the local area. Students should complete an abbreviated version of the presentation that they created for item #4 above. A list of endangered or extirpated species for their state will give them some ideas. Remind them that the species may be a plant or animal and does not need to be cute and/ or fuzzy in order to be important to the habitat.

9. Teachers may choose to refer students to the work of Dr. Thomas L. Serfass, Professor of Biology at Frostburg State University in Maryland. Dr. Serfass managed the reintroduction of river otters into locations in Pennsylvania and is now working on their reintroduction in North Dakota as well as reintroduction of additional species such as martins and fishers. http://www.frostburg.edu/dept/biol/people/faculty-staff/dr-thomas-l-serfass/dr-thomas-l-serfass-biography/ (URL captured on 2/22/13).