

Resources in Review

The Journal of Environmental Education

Volume 31, No. 4, Summer, 2000, pp. 57 - 59. Reprinted with permission of the Helen Dwight Reid Educational Foundation. Published by Heldref Publications, 1319 Eighteenth Street, NW, Washington, DC 20036. Copyright (c) 2000.

Garbage, Trash, and Refuse: Problems and Issues, an Extended Case Study for the Investigation and Evaluation of Community-Based Solid Waste Issues, by Harold R. Hungerford, William J. Bluhm, and Austin Winther. Champaign, IL: Stipes Publishing Company, 1999. Spiralbound. 183 pages. ISBN 0-87563-880-5.

Threatened and Endangered Animals, an Extended Case Study for the Investigation and Evaluation of Issues Surrounding Threatened and Endangered Animals of the United States, Teachers Edition, by Harold R. Hungerford, David Hagenruber, and William J. Bluhm. Champaign, IL: Stipes Publishing Company, 1999. Spiralbound. 192 pages. ISBN 0-87563-874-0.

. . . The authors have invested substantial time and intellectual endeavor in the creation of learning materials that are grounded in theoretical perspectives, and for this they are to be congratulated. They aim to guide the instructor in the introduction of research-based instructional goal levels that guide curriculum development for helping learners become responsible environmental citizens. They discuss the variables associated with environmental literacy and describe how a curriculum can achieve this literacy by focusing on these variables. The stated purpose of the guide to *Garbage, Trash, and*

Refuse is (a) to help prepare middle school teachers to be able to guide students in conducting autonomous municipal solid waste issue investigations and (b) to help teachers provide opportunities for students to develop the ownership and empowerment needed to actually take positive citizenship action regarding municipal solid waste issues. The teachers' guide to *Threatened and Endangered Animals* . . . coherently explains that the extended case study is divided into four sections or instructional levels: (a) science foundations, (b) issue awareness, (c) issue investigation, and (d) citizenship action.

Each case study is thorough and complex. Taking *Threatened and Endangered Animals* as an example, in Goal Level I (Part A) students are introduced to concepts (and definitions) relating to animals being threatened, endangered, and extinct. Reasons for endangerment are discussed, as is the value of animals to natural systems and to humans. Examples and minicase studies are presented. Student activities associated with environmental science foundation levels are also presented. In Goal Level I (Part B), students are introduced to many of the endangered animals on the U.S. list. They are asked to conduct a brief research study on an endangered animal and report the results back to the instructor. Several animal biographies are presented, representing examples

of endangered animals from various regions of the United States. In Goal Level II, students are introduced to the importance of human beliefs and values in endangered species issues. They are also encouraged to develop issue analysis skills and apply them to issues associated with endangered animals. The relevant chapter culminates with an "issue web" activity used as a synthesizing device. In Goal Level III, students learn about and practice the issue investigation method. They review the problems, issues, and solutions related to management of endangered species, and also plan and conduct an endangered animal issue investigation. This includes writing research questions, using a survey instrument, developing a data collection strategy, and interpreting the findings. In Goal Level IV, students list issues related to the management of endangered species and suggest and evaluate possible solutions. As a group, the students select a solution on which they would like to work. They develop and evaluate an action plan designed to achieve the solution. Finally, they are given an opportunity to put their plan into action. The following are points that the authors make clear:

1. "How the students become involved is up to the instructor."
2. "It is obvious that there is a great deal of teacher discretion associated with this case study."

3. "The teacher makes many instructional decisions along the way. This case study is designed to be used as a worktext."

Garbage, Trash, and Refuse: Problems and Issues is similarly structured. Students learn about municipal solid waste, they are encouraged to investigate and analyze issues, and, finally, they focus on citizenship action. In short, the pupil materials in both volumes are relevant, interesting, extensive, and progressively presented.

I am hugely impressed with the amount of information and intellectual reasoning expressed within these two volumes. The "feel" of the whole is about "empowerment," "ownership," and decision making by the student. The activities are about the development of both understanding and personal behavior. Above all, they are derived from a solid foundation of research, and thus they represent some of the most rigorous and comprehensive curriculum materials that I have encountered.

. . . Within their covers you will find an absolute wealth of exciting and useful case study material, advice on how to interpret this, and an explanation of its relevance to personal learning in connection with the environment.

There is something for everyone here — those who have time only to "dip into" the suggested learning experiences, as well as those who are able to take up the challenge of embarking on an extended case study of environmental learning. After all, it is yours — the readers' — interpretation that will determine the eventual success of the ideas published in these volumes.

Joy A. Palmer, Professor
University of Durham, England