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Weed Reads

A Review of Alien Invaders - the continuing threat of exotic species, by Sneed B. Collard III, A Venture Book, New York. 1996. 144 pp.

by Randall K. Stocker, UF/IFAS Center for Aquatic and Invasive Plants and Agronomy Department, University of Florida, Gainesville, FL

The fundamental objective of a useful resource text on non-indigenous invasive plant and animal issues should be to clearly present how we got where we are, review options to solve these problems, and provide some sense of where we are heading.

On almost all fronts, *Alien Invaders-the continuing threat of exotic species* does a good job, and in many areas an excellent job, of providing solidly based information for its probable audience. The text reviews the classic stories of invasive pest problems, borrowing on both plant and animal examples ranging around the planet. Large, clear photographs are numerous and assist in capturing the essence of this public awareness issue. Chapter headings include "What are Alien Invaders?," "New Zealand Nightmare," "Dawn of the Super Invader," "Making a Successful Invader," "Endangered States," "Stopping Invaders and Leaving Them Alone," and "Shaping Our Exotic Future."

The level of detail provided suggests that the target audience will be upper elementary, middle and high school students as well as the general public. At the elementary and middle school level, *Alien Invaders* can form the basis

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for class discussion on the problems caused by plants and animals "out of place." A student looking for special projects, science fair and science class activities could easily find thought-provoking and meaningful analysis of what these pests are and what impacts they cause.

High school and even college level students can get a quick read on this field of science. This just might be the book to carry with you when you need to provide an easy-to-digest resource for special interest groups and general public audiences.

The treatment of various topics is presented in an objective manner. The obvious need for agricultural products is balanced with the increasing public expense incurred by run-away imports. The author calmly suggests that society must weigh the possible good of imported organisms (medical cures, food crops, non-harmful landscape plants) against the potential harm (destruction of native species, costs to farmers, diseases).

Other topics are not as well balanced. The definition of habitat disturbance (page 133) describes only human induced actions (hunting, pollution, grazing), but fails to include natural phenomena such as storm events, fires, and floods. The often heard reference to the danger of "chemicals" makes an unfortunate appearance (page 36), where "All methods [of controlling zebra mussel] are expensive and many, such as chemicals, damage the environment."

A few inconsistencies in the text illustrate the complexity of the issues. "This book is about living organisms that invade or spread to new places-places where they don't belong (page 9)." A few sentences later however, Collard points out that "some of these invaders actually help people." This makes the reader try to understand what "belong" means. In one paragraph, Collard suggests that "By understanding what makes certain invaders successful...we can learn a lot about stopping future invasions and controlling those already underway (page 42)." In the next paragraph, he comes to grips with the reality that "After 70 years of study, about the only thing that most scientists agree on is that [what makes some invaders so bad is] hard to come by."

Collard makes some other statements that can hardly claim to be universally supported. For example, he writes that "Scientists, in fact, consider biological invasions to be one of our

three most urgent environmental problems. (The other two are pollution and mismanagement of our natural resources)" (page 21). Nuclear proliferation, testing, and disposal of enriched fuels are considered the critical environmental problems by some scientists, and human population growth and global warming are of utmost importance to others.

The author suggests (page 22) that prior to human influence, native species had "time to adjust to the newcomer" without explaining what is meant. It is not obvious that lake flora in Florida would have evolved defensive mechanisms to hydrilla, water hyacinth, and torpedo grass if they had invaded over several thousand years instead of in a single century. The definition (page 23) of naturalized species ("one that has settled in to become part of it's new home"), doesn't do a very good job of explaining what this term means, because it doesn't mention self replacing populations without direct help from humans.

A recommended addition to the next edition of *Alien Invaders* would include a thorough assessment of the value of native plant and animal communities. Renewable resources (timber, fisheries, etc.), watershed protection, and erosion reduction, are among the many typically offered. I was surprised that the author did not take the opportunity to expand the discussion when the opportunity presented itself. Collard writes: "*Homo sapiens* is without question the super invader of all time, and our activities have made it possible for thousands of other invaders to spread over the planet" (page 23). I think the audience would have enjoyed a brief review of the steps NASA takes to keep this discussion just to our planet.

I offer the critical inclusions in this review to encourage the development of additional texts in this field, and certainly not to discourage the use of this one. I plan to keep it handy, and quickly offer it to the next person that asks, "why is there such concern about alien invasive species?" When they've finished *Alien Invaders*, they'll be well on their way to being as concerned, and challenged, as those that work with this issue on a daily basis.

The Origin of Pedantic?

In the American Scholar (Summer 1998): "Revolutionary scientists in the past presented their work in writing that was aimed to be accessible by a large number of readers, and researchers today would do well to emulate that ethic," wrote David Locke, a University of Florida emeritus Professor of English. The observations went on to say that science writing today, overall, has an impersonal style designed to emphasize its purported objectivity and authority, and as a result, people increasingly have become alienated from the field. In fact, the author contends that much science writing is unreadable by anyone except the six other people in the world who are working on the same set of problems. Many of the most revolutionary scientists, such as Galileo, Darwin, and Einstein, thought it important to write about their work in a highly accessible manner. It was indicated that the scientists should admit that their writing is "dull, claustrophobic, confusing, and alienating." The suggestion was made that the best way to remedy this situation is for today's researchers to follow the lead of past scientists, "who, because they had something novel to say, wrote things that we were actually able to read." (Article summary courtesy Mike Aerts, *Chemically Speaking*, November 1998.)

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Minnesota

The Minnesota Department of Agriculture is proceeding with a rule-making process that would list common buckthorn (*Rhamnus cathartica*) and alder buckthorn (*R. frangula*) as restricted noxious weeds. This would impose a statewide ban on the sale or transport of these plants and their cultivars. The ban could become effective as early as March, 1999. The department's rule-making process includes public hearings and posting the final draft of the ruling. (Source: *American Nurseryman*, December, 1998)