

Significant Findings

CONTENT

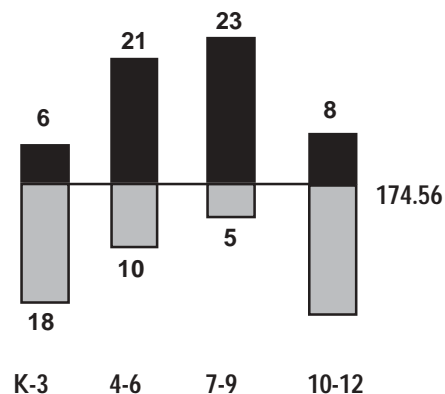
At the primary level (grades K–3), curricula tend to focus on local communities—schoolyards, neighborhoods, and where feasible, accessible natural areas such as creeks and coastlines. Global issues, such as human population trends, carrying capacity, natural resource distribution, and inequality, are introduced in a very concrete manner in some of the material.

At the upper elementary level (grades 4–6), the curricula begin to focus on broader “community” issues including land degradation, built environments and sustainable design, and in-depth investigations of regional ecosystems. Most of the curricula use the rich landscape of California—vernal pools, oak woodlands, coastlines, and deserts to name a few—to illustrate ecological concepts. More complex community action projects begin to appear, and many activities provide in-depth analyses of economic, societal, technological, and ecological issues related to natural and built communities.

It is at the intermediate and secondary levels that concepts related to a land ethic, biological diversity, human population dynamics, carrying capacity, sustainability, and economics are examined in depth. Global environmental trends, including impact of human population growth, deforestation, loss of biological diversity, and contamination of land, air, and water are studied primarily through readings, research, and classroom discussion. Opportunities for service-learning are prevalent in more recent material.

While this compendium was developed to reveal the strengths and weaknesses in existing curricula, it was also intended to serve as a guide for future curriculum development. The project identified several outstanding curricula; however, even some of these materials could benefit from further refinement, particularly in terms of ease of use in the classroom and relevance to California content standards.

Another purpose of this review is to provide direction for the development of future curricula in the topic area. After a preliminary screening, 114 pieces were submitted for formal evaluation, and of these, 112 scored high enough for inclusion in this compendium. Findings are summarized below.



Each evaluated curriculum earned an overall score based on the evaluation tool included on pages 230-233. The number of points possible was 250. This graph displays the number of materials, by grade level, scoring above or below the average score of 174.56.

GRADE LEVEL COVERAGE

As compared to other compendia, there are high numbers of curricula at each grade-group level, with the 4–6 grade-group level featuring the highest number (31), followed by the 10–12 grade-group level (29). The majority of curricula at the K–3 and 10–12 grade-group levels scored below the mean (75% and 72%, respectively), while the majority of curricula at the 4–6 and 7–9 grade-group levels scored above the mean (67% and 82%, respectively). It should be noted that the average score (174.56) for material is higher than that seen in the former *Natural Communities Compendium* (167.0) or former *Human Communities Compendium* (144.6) indicating the curricula in this edition are likely of a higher quality.

Significant Findings

GRADING SCHEME

Because of the nature of the grading system in which nearly one-third of the entire score is based on the content questions, it is possible that a curriculum yields strong grades in areas such as teacher usability and pedagogy, but still yields a weaker overall grade due to performance relative to the content questions.

It should also be noted that, given the high numbers of curricula, individual pieces within a series were reviewed as one set for each appropriate grade-group level. This occurred with Project WILD and Aquatic Project WILD, GEMS and MARE material, A Child's Place in the Environment, the Keepers series, and Adopt-a-Watershed, to name a few. The grades given, therefore, are for the collective whole.

As seen in other compendia, there are occasional score discrepancies in materials whose activities span various age levels. Curricula may perform well at one grade-group and not at another. The cognitive abilities of elementary students are not as developed as those of students at the secondary level. Therefore, the scoring of a curriculum, whose author claims is appropriate for multiple grade levels (e.g. K – 12) will vary between the corresponding grade-groups (e.g. K–3, 4–6, etc.) because of the evaluators' understanding of students' differing levels of cognition.

Further, placing lessons that span multiple grade levels (e.g. K–12) into one book creates a usability problem since it is sometimes difficult to locate those lessons appropriate for a specific grade.

PEDAGOGY

Many of the recently published curricula offer opportunities for investigation and experimentation, role playing, group discussion, and community service-learning. Other curricula, particularly the older material, rely primarily on paper and pencil activities and student readings.

TEACHER USABILITY

Concern was repeatedly expressed by the evaluators regarding classroom use of the curricula. The high cost of supplemental materials, lack of alignment to California Content Standards, and lack of implementation time are perceived as barriers to use of innovative environmental education material even though such material may prove to be an effective way to teach within a meaningful context.

Another significant trend seen in the current compendium pertains to internet access. The appendices of numerous curricula reviewed for this study feature website addresses to encourage use of the internet for communication and retrieval of relevant information by teachers or students.

MULTILINGUAL/MULTICULTURAL MATERIALS

Several curricula and sets of student worksheets have been translated into Spanish. Some materials, particularly those that focus on global issues, offer multicultural perspectives on resource allocation and consumption, poverty and famine, international conflict, human population growth, and patterns of consumption in industrialized and developing nations.

VISUAL PRESENTATION

The majority of the curricula feature acceptable formats, higher quality graphic design, and suitable blackline masters. A few of the materials were deemed "too busy"—their design so complicated it detracted from the content. Further, it was not always apparent that the material was printed on recycled paper. Having videos or slides accompany a curriculum was a welcomed feature.