

but also about the chance to experience a sense of wonder, joy, exuberance, awe, even fear and trepidation, all and more, the raw stuff of normal and healthy development. Finally, we need to realize that contact with nature is not just about direct physical contact in the outdoors and with living systems, but also is the representational and symbolic expression of the shape and pattern of the natural world revealed through story, picture, myth, legend, and more.

Because children's experience of nature remains a vital and irreplaceable source of healthy maturation, nothing less than the future of our species depends on maintaining and, when compromised, restoring this relationship. This need is especially pronounced today when various indicators suggest a profound impoverishment in the quality and quantity of children's experience of natural process and diversity with children

consequently manifesting alarming rises in rates of obesity, chronic illness, attention deficit disorder, and other physical and mental maladies. The crisis of deeply diminished connections between children and the biological basis of our humanity is too great for us to remain passive. Although the article discussed represents a highly welcome contribution, the scale and scope of the problem calls for bolder steps and a deeper understanding of what is at stake.

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RESPONSE

Response to "More Kids in the Woods: Reconnecting Americans with Nature"

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The movement to reconnect children with nature began in earnest around three years ago with the release of Richard Louv's (2005) book *Last Child in the Woods*. The book struck a chord with thousands of conservationists, environmental educators, advocacy organizations, and others, who then joined forces to create a national organization (the Children and Nature Network) and numerous regional and local collaboratives committed to getting kids back outside. Included in this movement are our public land management agencies, including the United States Forest Service (USFS), which recently released a discussion paper on the topic (see Kimbell et al. 2009).

In this response, we raise additional points not included in the USFS discussion piece and elaborate on some of the points the authors do raise. Our commentary is drawn from our experiences as participants in the children and nature dialogue at local and national levels, as researchers with sponsored projects to study children and nature issues, and as practitioners working to inform natural resource agency planning and decision-making.

Diversity and the Changing "Face" of America

Kimbell et al. point to the need to make nature relevant and valuable to the growing diversity in the US population. We couldn't agree more. However, this will require new and innovative thinking on the part of practitioners. The history of public land management and park visitation in this country is rooted in the traditions of today's majority culture; a majority that will become the minority in less than 40 years. Just as we preach adaptive management as the

winning strategy for conservation of our natural resources, we must be adaptive in the services and educational opportunities we provide to visitors of our public lands. First, this will demand a better understanding of the changing nature of America's natural resource-related interests. Such understanding is critical to development of more targeted educational initiatives that can attend to diverse audiences. Although many studies have examined public values and preferences with regard to the natural environment, most have relied on traditional survey methodologies proven to be largely ineffective for garnering information from minority populations. Other approaches to data collection, including interviews and focus groups, are necessary if we are to adequately represent these populations. That said, we question how long race or ethnicity will be an appropriate lens through which to address these diversity issues. The needs and interests of a new immigrant Latino family from the Dominican Republic, for example, would vary greatly from a Latino family in Colorado with five generations of history living in the United States. There is no monolithic one-size-fits-all approach. Assimilation levels and values differ widely within ethnic groups.

Second, being adaptive in the face of societal change demands that the staffing of our public agencies reflect our diverse population. This is a tall order, without question. But it is also an important one if public lands are to be perceived as places that represent everyone's needs and interests. A third, related point is that we must redefine the meaning of public lands and the role they play in American society. All too often, public lands are cast as places for solitude and recreation. Although these are important benefits, they may not be relevant to everyone. Perhaps it is time to talk about other benefits and services that wilderness and protected areas provide, including for example clean water, fresh air, and filtering of carbon from the atmosphere. Fourth, given that more than 80% of the US population resides in urban areas, we must be adaptive to the notion that connecting with nature is now a more urban-based experience for many of today's children. In these areas, interactions may be more feasible via neighborhood green spaces and natural areas as well as zoos and nature centers than through visits to places that require a full day or

weekend trip. As Kimbell et al. indicate, USFS and other organizations have established partnerships to “bring the forests to the children” in recognition of this phenomenon; for that, they should be commended. However, it leaves open a question of whether urban nature experiences can truly connect children to nature in such a way as to achieve the long-lasting impacts we desire for fostering a stewardship ethic among future generations. This is a question for researchers to address.

Forging New Partnerships

The flag-bearers of the children and nature movement have largely come from a likely cadre of conservationists, environmental educators, and other natural resource professionals. And yet, the benefits of spending time in nature extend far beyond what these groups may be able to speak about with credibility. Nature experiences support cognitive development, creativity, skills in cooperative learning, and governance, and have been shown to be an effective strategy for children with autism. These are messages to be carried by pediatricians, child psychologists, and similar professionals, suggesting a need for natural resource agencies to pursue nontraditional partnerships with other sectors. The message of “nature is good for your child’s health” has far-reaching appeal to parents everywhere, but is best delivered by those with the credentials to say so. Another area where new partnerships may be necessary is in addressing the safety concerns that can influence parents’ willingness to let their children play in nature. Even in our rela-

tively safe town of Fort Collins, where a child has not been abducted by a stranger in more than 20 years, our recent research indicates “stranger danger” is the number one concern of parents when it comes to letting their kids spend time in nature. Media reports of mosquito-borne diseases, wildlife encounters, and lost hikers add to these concerns about outdoor safety. Forging relationships between the media and children-and-nature advocates, who could serve as a resource for reporters, may be a way to lessen the impact of these reports. Such relationships could also facilitate inclusion of news stories that emphasize the importance of nature and raise awareness about local nature-based opportunities.

Finally, it is worth considering partnerships that can extend the responsibility for connecting children to nature. Parents and public land management agencies are obviously not the only ones with the opportunity to facilitate nature experiences for youth. There are nearly 40 million children in primary school in the United States, and an abundance of teacher resources, such as Project Learning Tree, exist to encourage educators to use nature as a classroom. By also considering the potential impacts of partnerships with scout leaders, youth clubs such as 4-H, and youth groups within places of worship, the goal of getting more children in nature may seem less daunting.

Policymakers demand evidence and they want information in an easy-to-read format. To this end, the national Children and Nature Network has compiled multiple volumes of research articles to support key

arguments. But clearly there is more work to be done in reconnecting children to the natural world, and policymakers, public land managers, researchers, and other partners must continue the dialogue to find an approach that is meaningful and relevant to all sectors of society.

The movement to reconnect youth to nature has great potential to influence our future generation of voters and decision-makers. But we must think innovatively and adaptively about how we make that happen. The audience is much different from the one we targeted in the past. We need new partnerships and a new message about the importance of our public lands. The strategies may be more complex than before, but they are nonetheless crucial for the viability of our public land agencies.

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Article. Ty - jour. T1 - Response to "More kids in the woods. T2 - Reconnecting Americans with nature". AU - Bruyere, Brett. AU - Teel, Tara. Reactions on the Article "More Kids in the Woods: Reconnecting Americans with Nature". Stephen R. Kellert. I. want to congratulate and compliment the chief of the US Forest Service and her colleagues for recognizing the importance of children's experience of nature, especially at a time when all indicators point to a significant decline in children's contact with the natural environment in an increasingly urban, built, sedentary, and vehicular-and electronically oriented world. Children need to experience nature in various direct, indirect, and representational ways as an integral element of their everyday life at home, school, and at play. We must depart from the notion of nature as a place to visit in a park or a forest, sequestered and apart from our normal existence.