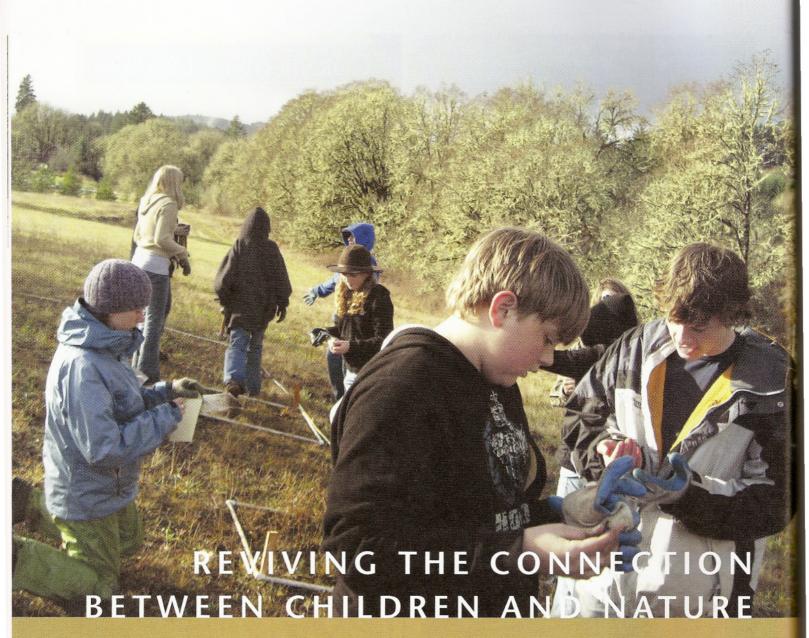
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From Forest Nursery Notes, Winter 2009

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through service-learning restoration partnerships

| Jennie R Cramer

Engaging students in environmental restoration through service-learning partnerships is an effective tool for restoring native ecosystems while simultaneously rebuilding relationships between children and nature and inspiring future stewards of the land. Placebased education provides a framework for connecting students to the land. Stewardship-based service-learning provides a productive means by which to accomplish both education and restoration goals. The Restoration and Reintroducion Education Partnership at the Institute for Applied Ecology is a stewardship-based service-learning program that pairs local schools with natural areas. Students grow threatened and endangered plant species for reintroduction. By including students in the restoration process, we can create a landscape network of highly functioning native ecosystems and give students the skills and relationships necessary to continue to protect ecosystems in the future. Each of us in the field of native plants has a role in cultivating stewardship, a sense of place, a connection with nature, and hope.

Cramer JR. 2008. Reviving the connection between children and nature through service-learning restoration partnerships. Native Plants Journal 9(3):278–286.

KEY WORDS

place-based, education, community, stewardship, schools

NOMENCLATURE

USDA NRCS (2008)

Students from Kings Valley Charter School seed Kincaid's Iupine on private land enrolled in the Partners for Wildlife Incentive Program.

Photo by Jennie R Cramer

eith Huddleston, a 7th grader at Cheldelin Middle School in Corvallis, Oregon, is covered in mud. He and his class have just finished planting 200 Nelson's checkermallow (*Sidalcea nelsoniana* Piper [Malvaceae]) at Jackson-Frazier Wetland, just 400 m (0.25 mi) by foot from the school. He and 15 classmates in Restoration Club have grown these Federally listed plants in the school greenhouse (Figure 1). When the students began this project, only 9 Nelson's checkermallow plants were known to be growing in Jackson-Frazier Wetland. Today, 3 y into the project, more than 800 individual plants in 3 subpopulations are thriving in the wetland. Leith and his classmates are stewards of Jackson-Frazier, and they are proud of what they have accomplished. Participating students have shared with us that Jackson-Frazier, and the rare Willamette Valley wetland prairie, have come to hold an important spot in their heart. They have come to love the place in which they live.

As a restoration ecologist and a concerned citizen, I am worried that children who lack connection with nature are less likely to exert energy to protect it. Children have an inherent desire to chase after butterflies, watch in awe at soaring birds, and stop to smell the flowers (Pandey 2003). In Biophilia, EO Wilson (1984) suggests that humans have an innate desire to know and be with nature and all that it sustains. I am saddened, though not surprised, to learn that children who lack the calming influence of forests, streams, meadows, and bird song may develop attention deficit disorders and anxiety or become depressed or overweight (Taylor and others 2001). Play within the realm of nature appears to be important for developing the capacities for creativity, problem-solving, and emotional and intellectual development (Kellert 2005). Today, poorly designed subdivisions, overscheduled lives, and a culture of fear disconnect most children from opportunities to explore their relationship with the place they live (Louv 2006). In his groundbreaking book Last Child in the Woods, Richard Louv (2006) describes the epidemic of "Nature-Deficit Disorder" as the cumulative effects of withdrawing nature from children's lives. It has long been clear that the ecosystems of the earth have been suffering as a result of the increasing disconnect between humans and nature. Louv states, "Your child is really involved in not only the life of the planet but the ongoing life of a butterfly." Evidence is now mounting that humans, too, are becoming ill from the same lack of contact (Wells 2000; Taylor and others 2001; Wells and Evans 2003; Burdette and Whitaker 2005; Taylor and Kuo 2006).

As we work to restore landscapes, we also have an opportunity to revive connection to nature and a sense of place in the next generation. By engaging youth in restoration activities, we can share with them hands-on scientific techniques, applied research, and the importance of native plants. At the Institute for Applied Ecology (IAE) in Corvallis, Oregon, the RARE (Restoration and Reintroduction Education) Partnership, a place-based education and service-learning program, engages middle-school and high-school students in the process of restoring ecosys-