

BGCI's U.S. Symposium on plant conservation education

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What is the status of plant-based education in your country?

List which stakeholder groups are implementing T14 and provide brief examples of what they are doing.

The U.S. Symposium on Plant Conservation Education brought together delegates from botanical institutions, conservation NGOs, government agencies, environmental education organizations, and the business sector to assess the status of plant conservation education in the United States. All of the groups represented are actively involved in plant-based education, demonstrating the broad commitment to the field. At the Symposium, participants acknowledged the important role U.S. educators in formal and non-formal settings can play in helping achieve Target 14 of the Global Strategy for Plant Conservation.

The United States has a rich history of plant conservation education programs, as well as highly skilled and committed plant conservation educators. Environmental education is a highly professionalized field with a large national network organization, as well as undergraduate and graduate degree programs in environmental education. While there is always room for improvement, the Symposium participants acknowledged the overall high-quality of plant-based education programs in the United States. Plant-based education occurs at a wide range of institutions, but is certainly most prevalent at botanical institutions, such as botanic gardens, arboreta, garden organizations, and wildflower societies. Other education organizations, including zoos, environmental education sites, and schools, are also contributing to plant-based education efforts (and thus to Target 14), but to a lesser degree. The Symposium specifically focused on strategies for more widely integrating plant-based education into the formal and nonformal education sectors.

In the United States, the GSPC and Target 14 are not widely known. The Strategy's relevance in the U.S. is diminished because the U.S. has not ratified the Convention on Biological Diversity. That being said, efforts have been undertaken outside of formal government processes and structures to contribute to achieving the GSPC targets. For example, the U.S. botanic garden community has been active in the creation of the North American Botanic Garden Strategy for Plant Conservation, which strongly mirrors the focal points of the GSPC. While the U.S. is not legally bound to achieving the GSPC's targets by the year 2010, U.S. plant-based educators do express great interest in being involved with this larger, global effort.

Is T14 sufficiently covered within formal and informal education in your country?

U.S. non-formal education programs are routinely teaching about the importance of plants, plant biology, and plant appreciation. Botanical institutions, as expected, are the most involved in plant-based education. Other non-formal institutions not specifically focused on plants also incorporate plant-based education. The San Diego Zoo in California, for example, has an extensive plant education program. Local environmental education centers feature natural history programs about plants.

Questionnaires circulated to the plant-based education community in conjunction with the Target 14 Symposium, however, highlight the reduced attention given to teaching about plant *conservation*. One respondent noted, "I believe we do an adequate job teaching about plant diversity, but we don't carry it through

to engage in social and environmental action.” Among the reasons this respondent cited were “political issues as a non-profit with a ‘non-advocacy’ mindset.””

Within the formal education arena, primary schools are the most likely to incorporate plant-based education. School gardens are becoming regular features at many schools. Classes at this age level are largely interdisciplinary, and therefore it is easier to incorporate more plant-based content into teaching that also addresses mandated content standards. In older age groups, school subjects become more compartmentalized, making the teaching of plant-based content more difficult. At the university level, there has been a decline in the number of botany and taxonomy courses in recent years.

What examples are there of good practice – what works well?

The Symposium highlighted the variety of high-quality plant conservation education programs nationwide. These programs include, but are not limited to:

- Eco-mentoring programmes for teen-agers.
- Environmental problem-solving and arts competitions.
- Local stewardship networks.
- Place-based education programmes.
- Print and electronic publications.
- Elementary and secondary school programs.
- Public awareness events and celebrations.
- Citizen science projects.
- Special exhibits and interpretation.
- Professional development courses and training.

What are the gaps for implementing T14?

Despite the strong programs and available resources and plant conservation education institutions, the Symposium participants acknowledged that the plant conservation message is not being widely heard by the general public, largely due to the strength of competing messages from mass media and consumer culture. In other words, the program *content* and *quality* are not so much the issue. Instead, audiences are bombarded with so much information and advertising in their daily lives that the plant conservation message from a very small group of institutions and individuals is simply being drowned out.

Therefore, in the United States the question facing plant conservation educators is not so much a programmatic one, as it is a promotional question.

What are the recommendations for taking T14 forward?

The Symposium participants identified the following new actions and urgent priorities for taking Target 14 forward:

- Institutions should emphasize their role in plant conservation and be models for ecological sustainability.

- A coordinated national campaign with a highly visible spokesperson to raise public awareness of plant conservation. The campaign should include:
 - A logo or symbol
 - A memorable slogan or message
 - A simple, direct statement of goals
 - Guidelines for action
 - Major promotion of Plant Conservation Day (May 18)
 - A lobbying mechanism in Washington D.C.
 - Engagement with regional plant societies
 - Support for citizen science monitoring and data reporting programs
 - Stories about plants that communicate relationships, continuity into the future, nurturing of the young, hope, and reverence for larger meaning
 - Training and education of urban planners and architects.
 - A common, consistent message from plant conservation education institutions.
 - Increased media coverage of plant conservation efforts.
 - Partnerships with non-plant-based education sites (e.g. art museums, historical sites, natural history museums) to create relevant plant-based programs at these institutions.
 - Increased funding for plant conservation education programs and staff.
 - Increased local and national government lobbying by botanical institutions and networks in order to promote leadership for plant conservation at the highest levels.
 - A standardized, approved classroom curriculum focusing on plant conservation.
 - Examples of relevant and practical actions individuals can take to promote plant conservation.
 - Guidelines for standardized plant collection labeling (at relevant institutions).
 - Future gatherings of plant conservation educators.

What indicators are proposed for T14's success and progress?

Due to time restrictions, the Symposium was unable to propose indicators for measuring Target 14's success and progress.

What are the most significant challenges and opportunities for delivering T14?

The Symposium noted five significant challenges for delivering Target 14 in the United States. Each challenge also offers an opportunity for delivering Target 14 more effectively.

Challenge: As noted before, the U.S. government has no legal obligation to work toward the achievement of Target 14. Increased governmental support for plant conservation would in turn lead to increased support for plant-based education.

Opportunity: The recommended public awareness campaign and government lobbying were seen as primary vehicles for raising the profile of plant conservation amongst government institutions.

Challenge: U.S. residents are spending decreasing amounts of time in contact with the natural world. The recent book, *Last Child in the Woods*, highlights the importance of creating opportunities for meaningful interactions with nature during childhood. Symposium participants affirmed the importance of direct, personal experiences with plants in bringing about conservation awareness and action, and in achieving Target 14.

Opportunity: Nonformal education sites, especially botanic gardens, zoo, and environmental education sites, are uniquely positioned to reconnect people to the natural world through plant-based education. Schools can also play a significant role in rebuilding this connection through schoolyard gardening and grounds beautification programs.

Challenge: While the United States does not have a national curriculum, formal educators in the United States are bound by state-determined content standards. Most teachers acknowledge that these standards are restrictive and do not allow for teaching content that is not prescribed within the standards. Not surprisingly, plants are not a prominent feature in these curriculum standards. However, many of the ecological and biological processes and concepts related to plants are found in the standards.

Opportunity: Within the formal education sector, plant-based education must not be framed in terms of plants per se, but rather as a demonstration of how plants can be used to teach about these other mandated concepts.

Challenge: A common public misperception views plants as a “completely renewable resource” and replaceable, and therefore not in need of conservation. In most environments, there are what appear to be healthy plant populations, even though it may be an ecosystem overrun by an invasive species.

Opportunity: Target 14 specifically addresses the importance of communicating the importance of *plant diversity*, and achieving this target tackles this misperception head-on.

Challenge: The plant conservation message is being lost in a sea of competing messages, ideas and information. Plant-based educators are doing good work in the United States with strong programs that reflect our current understandings of educational processes and learning theories. But put quite frankly, these programs are no match for the billions of dollars spent on consumer product advertising or cultural media.

Opportunity: Networks of plant-based institutions and educators can work together with corporate, government and other nonprofit partners to launch a large-scale public awareness campaign to bring the message of plant conservation into a variety of media and outlets.

Profiles of selected plant conservation education programs in the United States

United States Botanic Garden

At the United States Botanic Garden, educating visitors about rare and endangered plants means bringing conservation information front and center to the visitor experience. Plant labels don't just identify a species and its native region; they also highlight its ranking on the IUCN Red List of Threatened Species. Botanic gardens and other institutions are home to many plants on the brink of extinction in the wild. Calling attention to these plants and international conservation efforts, such as the IUCN Red List, is a simple and effective way to create powerful learning for the visitor.

American Community Gardening Association

The American Community Gardening Association's Garden Mosaics program teaches science, social studies, personal responsibility, and environmental leadership all through the lens of gardening. Participants interact with elders in their community to learn about gardening practices, cultural traditions, and their local communities. Hands-on science activities and extensive online resources enhance learning.

Fairchild Tropical Botanical Garden

For Caroline Lewis, Director of Education at Fairchild Tropical Botanical Garden in Coral Gables, Florida, reaching high school students was a familiar challenge—until recently. In 2002, she launched The Fairchild Challenge, a series of individual and whole-school botanical and environmental competitions to promote environmental stewardship and plant conservation action, and meet crucial state learning standards. The response has been overwhelming. In its third year, more than 12,500 students from 63 middle and high schools in Miami participated. Additionally, The Fairchild Challenge is being launched at satellite gardens throughout the country.

North American Pollinator Protection Campaign

Many plants are inextricably linked with their particular pollinators. The North American Pollinator Protection Campaign raises public awareness of the importance of pollinators to ecosystem health through research, education, awareness campaigns, and policy work. Publications for the general public include *Pollinator Friendly Practices* and *Reducing Risk to Pollinators From Pesticides*.

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For more information, see BGCI website, www.bgci.org/education/intro_GSPC_and_education