

Generations United for Environmental Awareness and Action



This publication is a collaboration between Generations United and Penn State Cooperative Extension.

About Generations United:

Generations United (GU) is the national membership organization focused solely on improving the lives of children, youth, and older people through intergenerational strategies, programs, and policies. GU represents over 100 national, state, and local organizations representing more than 70 million Americans and is the only national organization advocating for the mutual well-being of children, youth, and older people. GU serves as a resource for educating policymakers and the public about the economic, social, and personal imperatives of intergenerational cooperation. GU provides a forum for those working with children, youth, and older people to explore areas of common ground while celebrating the richness of each generation. For more information, visit GU's website at www.gu.org.



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Generations United for Environmental Awareness and Action

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Executive Summary:

Intergenerational environmental initiatives present a tremendous opportunity to unite and involve people of all ages. This publication provides a theoretical framework, program development tools as well as examples and activities to help those interested in developing such programs begin. It describes a variety of promising strategies for bringing children, youth, and older adults together as partners to explore, study, and work to improve the natural environment. At the root of this work is a two-part rationale. From the environmental perspective, inclusion of an intergenerational component is proving to be an effective way to broaden the pool of people who care about the environment, feel a sense of responsibility to improve it, and have the skills to take effective action. At the same time, drawing attention to the shared environment, and providing opportunities for collaborative activity to improve it, is an effective strategy for promoting intergenerational understanding and unity.

The initiatives highlighted in this guidebook provide rich examples of how intergenerational dialogue can serve as a powerful medium for helping people see the relevance and vital importance of the environment not only to their own well-being, but also to the well-being of their families and communities. They also demonstrate that participants of intergenerational environmental programs display an increased readiness to take action to protect and care for the environment.

Generations United for Environmental Awareness and Action is based on an

extensive survey conducted with people who lead innovative intergenerational environmental initiatives. The programs included here were identified through a search on the Internet, discussions with a host of environmental educators and intergenerational specialists, and a review of the intergenerational studies and environmental education literatures. Additional input was provided by the 25 participants of a special seminar conducted by Generations United (GU) as part of a cooperative agreement with the U.S. Environmental Protection Agency's Office of Children's Health Protection which took place as a pre-conference to GU's biennial conference in 2003.

While there are vibrant intergenerational environmental program examples, there are also challenges to extending the work. Several of these, along with recommendations, are addressed in the final chapters. In the least, there is a need for a system to facilitate information exchange between those who are already involved and those wanting to get involved in this type of work. In looking to move this work forward, it is encouraging to note that there is a growing body of organizations with expertise in this area that can be enlisted to develop new resources, conduct training sessions, and pursue other strategies for disseminating information on effective practices.

This publication ends where you begin. Hands on examples, program descriptions and ideas for expanding programs and designing new ones are included. All show the creative, good work underway and beg for you to continue to build this important field of knowledge and effort.

Chapter 1: Introduction

As awareness of the enormity of global environmental problems has increased in recent decades, interest in environmental education has grown. Nearly every state in the U.S. currently has an environmental education program in some form. These initiatives are launched from a variety of settings including environmental centers, schools, parks and recreation facilities, and farms. Current patterns of funding, research, and program design tend to target young people as the primary audience. Yet, considering the growth in the older adult segment of the population,¹ and other trends such as the recent emphasis placed on senior adult volunteerism and civic involvement, it can be argued that the environmental education agenda should be anchored not only in school learning but also across settings and across the lifespan. Though there are some initiatives aimed at reaching and involving the older adult population (as noted in Ingman, Benjamin, and Lusky, 1998/99; Benson, 2000), opportunities for older adults to engage in environmental learning and take part in efforts to improve environmental health and sustain natural resources are still sporadic and limited. The disconnection of older adults from environmental centers and other settings which educate people about the environment represents a missed opportunity for strengthening community relationships and promoting civic engagement and outdoor physical activity.

Involving senior adults in environmental endeavors certainly has implications for broadening the circle of community residents who are knowledgeable, concerned, and engaged in critical dialogue and action focused on improving the environment. Yet, the initiatives highlighted in this publication go beyond the goal of multi-generational inclusion or

simply including members of different generations. A common thread is the articulation of an intergenerational imperative, which calls for the intentional creation of opportunities for people of different age groups to learn about each other's knowledge, experiences, skills, and perceptions. As participants learn more about the impact of the environment in each other's lives, they gain an awareness of common concerns and experiences. This contributes to a deeper understanding of the interrelationship between people and the environment and a better sense of how to work collaboratively to influence prevailing environmental policies and practices.

Though the concept of involving older adults and young people in joint environmental awareness and action is compelling, there is no body of evidence to draw upon; nor is there a blueprint to guide efforts to translate this general goal into practice.

This publication aims to:

- highlight innovative and effective intergenerational environmental education program models and approaches.
- articulate a set of core principles that cuts across these initiatives and touch on vision, program philosophy, institutional strategy, and program development processes.
- present challenges to implementing these types of initiatives and forward recommendations for supporting work in this area.

Hopefully, as intergenerational approaches to environmental education gain more attention, more environmental educators and intergenerational practitioners will be encouraged to try proven models and experiment with new ones.

And, with this kind of work gaining traction in communities across the country (and beyond), we envision great strides in creating an environmentally informed, active, engaged, and united citizenry.

In this document, the phrase “inter-generational environmental education” refers to environmental projects that are action-oriented as well as education-oriented, and includes a broad range of environmental initiatives, including those focused on environmental health, monitoring, appreciation, and restoration; pollution prevention; and energy conservation. Reference to the “natural environment,” as noted by Wright, Caserta, and Lund (2003), “includes not only wilderness areas, but also the biotic (e.g., flora and fauna) and abiotic (e.g., topography, geology, geography, climate) landscape ecology or bioregion in which humans are considered a part of the ecological community” (p. 154).

Why Consider Intergenerational Environmental Initiatives?

Intergenerational environmental education work is compelling for professionals working in the environmental arena as well as those focused on promoting intergenerational understanding and cooperation. The following discussion notes some of the trends and emphases found in each area which contribute to the rationale and momentum for connection.

The environmental education side: Broaden Awareness and Increase Participation:

Environmental educators are challenged to find ways to broaden and diversify the pool of people who care about the environment, feel a sense of responsibility to improve it, and have the skills to take effective action. In this context, intergenerational programming

could be seen as an effective strategy for broadening the public’s awareness and participation in environmental activities.²

Add Meaning to Environmental

Information: There is a tremendous amount of environmental health data readily available to the public, with information on topics such as toxic agents and health effects of certain jobs. For example, the National Library of Medicine puts out impressive “user-friendly” websites on environmental health risks such as “Tox Town” (National Library of Medicine, 2002). However, if the goal is to promote behavior change, the means needs to go beyond providing people with access to information. Adding an intergenerational engagement component brings real community members into the learning process. People pay more attention to environmental health issues as they learn from other community members about how such risks might affect them all including their grandparents, grandchildren, and neighbors.

The intergenerational programming side: A Focal Point around which to Strengthen

Relationships: From the intergenerational programming perspective, issues related to the environment provide a unifying focus for strengthening intergenerational relationships. The environment is everyone’s concern. We all breathe the same air – whether filled with the scent of flower blossoms or tainted with toxic fumes. When young and old stand together as environmental stewards and activists, all generations benefit, including those yet to be born. Hence, the environment can be seen as the perennial intergenerational issue.

Build Community Capacity: In the intergenerational programming literature,

the rationale used to justify intergenerational programs has traditionally focused on the human development benefits. However, intergenerational models are increasingly being designed in which participants explore local issues and work together to improve local conditions. This emphasis on community improvement can be seen as a new frontier in the intergenerational studies movement (Kaplan, 1997).

Theoretical Underpinnings:

This section aims to provide a conceptual framework for charting the intersection between environmental education and intergenerational programming. (See Figure 1, below, for an overview.) The concepts and propositions noted in this section are presented to stimulate discussion and debate regarding what it means to conduct research and practice in

the integrated area of “intergenerational environmental education.”

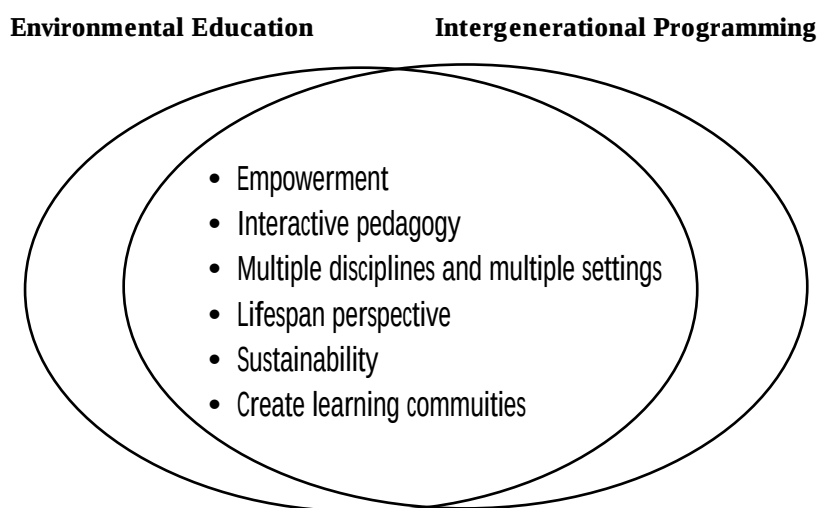
Empowerment Framework:

The act of coming together with others for the purpose of amplifying one’s ability to affect/improve the environment fits in nicely with “empowerment” ideology. Rappaport (1984) views empowerment “as a process: the mechanism by which people, organizations, and communities gain mastery over their lives” (p.3). To be an effective agent for environmental advocacy and change, a person needs to have both a value system that emphasizes his or her right to work for environmental improvement and the necessary skills to enact that change. Hence, in various places throughout this document, reference is made to the values and skills that contribute to an intergenerational group’s level of success in enacting desired environmental change. As people gain knowledge about environmental issues, gain skills to affect community change, and find others with similar concerns to work with, they become “empowered.”

Interactive Pedagogical Framework:

Use of an intergenerational framework for educating people about the environment can enliven and extend the experience of learning. The level of “discovery” afforded by environmental educational experience is compounded when participants, as co-learners, actively share their knowledge, experience, and perspectives with one another. As an example of an intergenerational application of this framework for learning, Marianne Krasny and colleagues from Cornell University have developed an environmental science education program that frames scientific exploration as a dialogue between young people, older adults, and the scientific community.

Figure 1. The intersection between environmental education and intergenerational programming.



Multiple Disciplines and**Multiple Settings:**

Whereas environmental education is often taught through the sciences, we see it as an interdisciplinary area, drawing upon scientific facts, but readily taught using all subject areas. Environmental education is also presented here as being more than an educational process tied to one type of setting or target audience. In ideal terms, a “comprehensive environmental education” framework involves the following:

- (1) a progressional education continuum, with sustained and varied learning opportunities for people of all age groups and ability levels.
- (2) the involvement of many organizations including schools and community-based organizations that provide educational experiences for the public such as nature centers, museums, farms, and zoos. Once the environment is seen as everyone’s concern, the pool of potential organizational partners expands exponentially.

Lifespan Perspective:

Rather than focus solely on the environmental hazards that pose health risks for certain age groups in the population, e.g., how air pollution can trigger children’s asthma, a lifespan perspective looks at environmental health risks across the age continuum and identifies similarities and differences between generations. People need to learn that human exposure to some toxic chemicals can have lifelong and even intergenerational effects on human reproduction and development (as noted by Schettler, Solomon, Valenti, and Huddle, 1999). By delivering educational

materials on environmental health risks to age-integrated groups, including, for example, children, parents, and grandparents from the same families, and providing opportunities for discussion about the same body of information, participants learn to see beyond the



Photo by Josephine Heitzman

moment in which they are living. They learn to view their immediate lives, including exposure to environmental hazards, in the context of the quality of the environment and their lifestyle behaviors over the full course of their lives. (See Filho, 1997; Orr, 1994; and Smith and Williams, 1999, for further discussion.)

Emphasis on “Sustainability:”

Sustainability is an intergenerational concept. According to Meadows, Meadows, and Randers’ (1993), as quoted in Ingman,

Benjamin, and Lusky (1998/99, p. 69), a “sustainable society is one that can persist over generations; one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social system of support.” When considering how natural resources are used/misused over time, and in developing strategies to preserve and enhance the environment, it is important to engage in long-term thinking and longer term strategic policy making (Environment Canada, 2003). Intergenerational dialogue can be readily structured to nurture such a long-term perspective of the environment. (See Wright and Lund, 2000, for further discussion.)

Creating “Learning Communities:”

A number of researchers claim that most learning occurs through social interactions (Wenger, McDermott, and Snyder, 2002). Thus one way to facilitate learning is to create “learning communities” of people with various backgrounds and points of

view, who share their perspectives and experiences in informal settings. Environmental education, by lending itself to informal, outdoor activities, creates opportunities to bring youth and adults together to form such communities. Providing such opportunities for youth could create an alternative to the learning that occurs in their peer communities, which, because they generally include only kids of the same age, may provide youth with limited perspectives and in some cases, even be detrimental to positive youth development.

¹ Nearly 13 percent of the population, 35 million people, is 65 or over (Federal Interagency Forum on Aging-Related Statistics, 2000).

² In a survey conducted with 110 Pennsylvania environmental educators, “increasing community involvement” was the most commonly noted benefit (noted in 56% of the responses) associated with adding an intergenerational component into an environmental education program (Liu, 2004).



Photo by Carolyn Bonilla

Chapter 2: What Do Intergenerational Environmental Initiatives Look Like?

Intergenerational environmental initiatives can be found in almost every type of location and setting. This includes schools, environmental centers, parks, playgrounds, community centers, retirement communities, city streets, vacant lots, cornfields, farms, and along stream banks.

There is also great diversity in terms of how programs are structured. School-based initiatives often incorporate a service-learning component in which the service part is sandwiched between preliminary training in an academic discipline, and intensive post-service discussion and reflection of program experiences. Initiatives with environmental agencies as partners generally focus on environmental health issues such as asthma and lead poisoning or issues tied to the quest to protect local ecological resources.

Programs also vary on the basis of: availability of community and environmental resources, characteristics of the participants (e.g., cultural backgrounds), the needs of the communities in which they are implemented, and the leadership skills of the participants.

Against such a backdrop of diversity in the form and function of intergenerational environmental programs, activities can fit into three broad general categories: promoting (environmental) awareness, conducting research on environmental issues, and taking action to preserve/improve the environment. Table 1, below, provides examples of activities fitting into each category.

Although presented separately for explanatory purposes, all three domains of activity – promoting awareness, conducting research, and taking action – feed into one

Table 1: Examples of intergenerational environmental program activities.

Promoting awareness: • Outdoor discovery and adventure (e.g., eco-tourism activities, intergenerational Elderhostel activities). • Environment-themed celebrations. • Stories and conversations about the environment. • Social marketing campaigns to enhance environmental literacy and sensitivity. • Performing arts projects (skits, puppetry, rap songs, etc.) to educate the public about an issue.	Conducting Research: • Natural resource mapping (includes efforts to track environmental changes). • Water quality monitoring.³ • Photo/video-documentation of local resources. • Oral history initiatives. • Measuring soil pH and drainage of community gardens. • Bug collection (catch, identify, and count). • Gathering facts from meetings, hearings, and interviews with public officials. • Interviewing environmental activists and community stakeholders.	Taking Action: • Service-learning/community service projects (e.g., trail restoration, urban gardens, stream clean-ups). • Organized special events: can be local or national in origin (e.g., “Join Hands Day,”⁴ Earth Day Celebrations). • Advocacy/organizing (e.g., hold “intergenerational citizens’ action forums,” conduct petition drives, draft and promote legislation, and write letters to the editor).⁵ • Creation of new habitats (e.g., for endangered butterflies). • Rallies, demonstrations, and other public events.⁶
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another. The process of becoming aware and concerned about environmental issues at the local level helps to drive the research agenda. And, research results help to inform action. For example, water quality monitoring leads to the identification of problems areas, and this helps in setting forth priorities for remedial action and water quality protection.

Program Profiles:

This section profiles seven innovative intergenerational environmental programs. These initiatives are diverse in terms of program approaches, organizational

frameworks, and settings. This is not meant to be an exhaustive nor a selective listing of intergenerational environmental initiatives based on any singular criteria.⁷ The programs profiled are all ongoing, but represent diversity in terms of location, focus, and the ages of the youth involved.

Only summary information is presented in the profiles that follow (see Table 2 for an overview). More detailed information on how to implement these model programs is presented in Appendices 1-7.⁸

Table 2: Summary of innovative intergenerational environmental program profiles.

<i>Name of program</i>	<i>Prominent focus or activities</i>	<i>Age of children/youth</i>	<i>Location</i>	<i>Notes</i>
(1) Senior Environment Corps/ Environmental Alliance of Senior Involvement	Streamside monitoring and restoration	All	National/ International	
(2) Intergenerational Outdoor School	Natural environment and wildlife/natural history/ civic development	4th-6th grades	Central Pennsylvania	
(3) Family Friends Environmental Health	Environmental health	Up to 12 years of age	Pennsylvania	For children with special needs
(4) Intergenerational Citizens Action Forums	Civic development	High school ages	Miami, FL	
(5) Habitat Intergenerational Program (HIP)	Environmental community service and learning program	All ages but primarily middle school aged children	Belmont, MA	Location enhances urban/suburban involvement
(6) Garden Mosaics	Plants and planting practices	Ages 10-18	National	Youth learn from elders in community, home, and school garden settings
(7) Intergenerational Landed Learning	Environmental concerns and care of lands	7th grade	Vancouver, B.C. (Canada)	Utilize retired farmers

**(1) Senior Environment Corps/
Environmental Alliance for
Senior Involvement (EASI):**

The Environmental Alliance for Senior Involvement (EASI) is a national organization that partners with over 350 national, state and local public and private organizations to provide older adults with environmental volunteer opportunities. Through the Senior Environment Corps (SEC), EASI's premier model, older adults are trained to use their lifelong experiences and professional skills as environmental mentors in their communities. Many SECs field multigenerational teams that take positive action focused on improving the local environment. Each SEC has an average of 20 senior volunteers who involve hundreds of other citizens of all ages in specific environmental and educational activities. As of 2002, EASI estimated that there are 20,000 volunteers in the U.S. leading 100,000 volunteers of all ages.

SECs are locally-based and community run. In Pennsylvania, where the SEC program is co-sponsored by the Pennsylvania Department of Environmental Protection and the Pennsylvania Department of Aging, the 25 SECs throughout the state organize environmental study and restoration projects as varied as streamside monitoring, planting trees, and stenciling storm drains with "Don't dump" messages. Also, through collaborative arrangements established with schools and youth organizations, special events and educational workshops are conducted on a range of subjects, including water quality, pollution prevention, and macro-invertebrate studies. For more information, see: www.easi.org.

**(2) Intergenerational Outdoor School
Program (Penn State University):**

The Intergenerational Outdoor School (IOS) is a residential education program developed by Penn State University in which fourth through sixth grade students and older adults are brought together for a four-day period to learn about nature and gain insight into each other's lives, including their values for caring for the environment. Prominent activities include discovery walks, historical site visits, and a civic-development meeting. The pilot program, implemented in an environmental center in Central Pennsylvania, demonstrated that the intergenerational component had a significant impact on students' commitment to wanting to protect the environment. Also, over half of the students in the intergenerational groups reported that the senior volunteers enhanced their knowledge in some ways and encouraged them to feel more positively about the environment. The senior adults, functioning as co-learners, role models, and facilitators, also gained new knowledge about nature, though the most pronounced impact on them was the realization that children are receptive to their (seniors') knowledge and views about the environment (See Liu, 2004, for a full description of the program and its impact).

**(3) Family Friends Environmental
Health Project
(Temple University):**

The U.S. Administration on Aging funds 35 "Family Friends" programs around the country for children with special needs, three of which have a focus on environmental health. Temple University's Center for Intergenerational Learning conducts one of these programs. During a period lasting from 6–12 weeks, senior adult

volunteers work with children with special needs. Together, they learn about asthma, lead poisoning, second hand smoke, and common house-based environmental health risks. Then, they develop skits, art projects, and life-sized puppetry shows to educate others about environmental health issues. This model demonstrates a distinctive intergenerational strategy for working with children who have learning disabilities and special social and emotional needs, educating them about environmental health issues, and providing encouragement and skills so they are able to educate others.

Family Friends Environmental Health projects rely on strategic partnerships formed with two types of organizations, those that serve older adults (to help recruit seniors) and environmental organizations (to train participants in the environmental health issues). Project activities take place in schools and other community settings such as retirement communities.

(4) Intergenerational Citizens Action Forums (Miami-Dade County Public Schools):

In this model, high school-aged youth and older adult volunteers come together to learn about public policy issues of mutual concern and, in a non-partisan effort, work to effect public policy change. Older adults serve as mentors to the students and help them to organize and conduct “intergenerational citizen action forums” on key public policy environmental issues. After the intergenerational teams define and prioritize critical environmental issues to address, they receive training in how to conduct advocacy campaigns, and then initiate a community organizing campaign aimed at promoting desired community changes. The ultimate goal is to develop

concrete solutions that can be obtained through legislation or other forms of political action.

Participating project teachers introduce legislative, intergenerational and service-learning themes into the curriculum. Students receive service-learning credit for their involvement. Each participating school selects one or more of the following end products:

- 1) A forum that is publicly promoted under the joint leadership of students and elders. The forum addresses critical environmental issues and concerns and includes a portion of time for intergenerational dialogue and action planning.
- 2) A briefing with an elected official or a presentation before a leadership body to present concerns and proposed solutions.
- 3) Letters to elected officials, submission of news articles, and presentations to community organizations about environmental issues and proposed strategies for improvement.

(5) Habitat Intergenerational Program (HIP) (Habitat Education Center and Wildlife Sanctuary):

The Habitat Intergenerational Program (HIP), begun in 1987, is a community of learners of all ages, interests and cultures who are committed to fostering intergenerational relationships, environmental learning, and a sense of environmental stewardship. HIP promotes awareness and conservation of the natural environment through educational programs and community service projects coordinated by Massachusetts Audubon’s Habitat Wildlife Sanctuary. Community service and educational activities take place within the

84 acre Sanctuary but also in the local schools, senior centers, and in surrounding communities. HIP activities bring people of all ages together to conduct environmental service projects such as removing invasive species, helping to rejuvenate a pond and the area around it, restoring walking trails, building blue bird boxes, developing an herb garden, certifying a vernal pool, and creating a courtyard garden in the middle school utilizing only native plants. HIP is made up totally of volunteers.

(6) Garden Mosaics (Cornell University):

Garden Mosaics is a science education and community action program in which youth of ages 10–18, learn about plants and planting practices from elder gardeners. During 2003, approximately 500 youth, 250 gardeners, and 65 educators in community center, 4-H, home school, community garden, and other settings in 11 cities participated in Garden Mosaics. The program provides a model for balancing the knowledge of elders and scientists in a youth community science education and action program. Through interviewing elder gardeners, youth learn about the mosaic of plants, planting practices, and cultures in urban community and other gardens. The youth and adults then post their findings to electronic databases documenting the food growing practices of ethnic and traditional gardeners, and the role of community gardens in urban neighborhoods. Youth participants balance what they learn from elders with learning from web-based “Science Pages” developed at Cornell, which explain key science principles behind the practices youth observe in the gardens. Finally, based on what they learn about the gardener’s needs, the youth work in



Photo Courtesy of Habitat Intergenerational Program

intergenerational teams to conduct action projects geared toward benefiting gardens and the communities that surround them, such as building raised beds, designing new gardens, and organizing educational events. For more information, see: www.gardenmosaics.cornell.edu.

(7) Intergenerational Landed Learning (University of British Columbia, Canada):

The Intergenerational Landed Learning model demonstrates how urban farms can function as productive spaces for environmental education. The approach involves bringing together a group of students and community elders who are retired farmers to explore values of environmental concern and care for the land, and engage in an intergenerational learning process. The pilot program took place with a class of seventh-grade students in an urban school in Vancouver, BC, Canada and an urban farm located at the edge of the University

of British Columbia campus. Over a six-month period, 18 students made over a dozen school bus trips to the farm to meet and work with seven farmers, most of whom were retired. Students interviewed their “Farm Friends” about their individual lives as farmers and about the history and challenges of farming. They then worked together in “Farm Friends teams” on various agricultural activities such as planning, cultivating, planting, and maintaining plants in raised beds at the farm. Science, Technology, and Social Studies teachers from the school helped to plan the project and guide the integration of the farm experience into the academic curriculum. The retired farmers took on a variety of roles in relationship to the students, including that of friend, mentor, role model, adviser, teacher, and coach. The retired farmers contributed to students’ knowledge and concern about the environment and to their decision-making, critical thinking and reasoning skills.

Characteristics of Intergenerational Environmental Education:

This section describes some of the themes that cut across many intergenerational environmental education programs including those that are profiled above.

Provide learning that is “information rich,” “experience rich” and “reflection rich:”

The age diversity of the groups of participants contributes to the depth and diversity of the information and issues presented for discussion and debate.

Makes the environment seem more relevant:

These projects help participants learn how the environment can influence them on a personal level. For example, a child might

see and get to know somebody who suffers from an ailment caused by cumulative exposure to the same environmental toxins to which the child is exposed. Increased awareness of how others perceive and experience the environment can also influence how environmental action campaigns unfold. For example, when developing a walking trail, participants might decide to build benches as rest areas so their collaborators with mobility challenges can still enjoy the trail.

Teaches important values:

Intergenerational environmental education projects can help to instill a sense of “environmental stewardship,” a lifelong ethic of community service, and the concept of working hard now (e.g., during planting time) results in being able to cultivate/collect the fruits of your labor later.

Teaches how environments change over time:

The physical environment changes over time; so does the way people interact with the environment. Such changes are very difficult to see during a short term program, unless there are participants who have lived through landscape changes and they are called upon to bear witness to such changes.⁹ Through intensive intergenerational dialogue, program participants can piece together a long-term view of the environment, one that includes a reach into the future as well as an examination of the social changes and legacies of the past that have transformed local and national landscapes. Such a focus on temporal changes in the environment can also serve as a launching pad for examining the historical and cultural experience of different generations. There are a host of creative

ways to stimulate discussion about environmental change, e.g., organizing a “time capsule” activity (see Appendix 8).

As noted in the literature on inter-generational approaches to community development, when initiating a community visioning process, activities that stimulate dialogue about the past (e.g., a “neighborhood history trivia” game) and the present (e.g., a “land use mapping” exercise) help to frame constructive dialogue aimed at articulating a collective vision for the future (Kaplan, Higdon, Crago, and Robbins, 2003).

Promotes inclusiveness and collaboration in local environmental improvement efforts:

In recent years, the U.S. Environmental Protection Agency’s stance regarding public involvement in environmental protection/improvement efforts has crystallized. There is now a formal policy statement and an array of resources including manuals, brochures, activity toolkits, technical assistance meetings, and information posted on the Internet (a large body of resources can be accessed from the Website: www.epa.gov/publicinvolvement). These resources are most valuable, and in fact can only be valuable, when there are motivated groups and individuals at the local level to call for and use them. The initiatives described in this publication serve to help define local environmental priorities, stimulate locally conceived projects, promote local involvement in all stages of project development, and build trust and communication between federal agencies such as the EPA and the public.

³ EASI recently developed a Trailside Water Monitoring Kit. This kit, small enough to fit in a shirt pocket, will be able to monitor up to 10 sites. Data will be downloaded to an Internet on-line database

maintained by EASI www.environmentaleducation.org. There are also new resources for finding existing information about local water quality, such as the U.S. Environmental Protection Agency’s Watershed Assessment, Tracking, and Environmental Results (WATERS) website www.epa.gov/waters.

- ⁴ Sponsored by the America’s Fraternal Benefit Societies and the Points of Light Foundation, Join Hands Day is a national day of service that specifically targets and develops relationships between young people and adults through neighborhood volunteering. Young people and adults work together on an equal basis to plan, organize and implement community service activities on this day, the first Saturday in May, and on follow up service days.
- ⁵ A good example of an intergenerational environmental advocacy initiative is “Wildfriends,” an organization named for connections created between “wild animals,” “wild teenagers,” and “wild older people.” This program, sponsored by the Center for Wildlife Law, University of New Mexico, brings middle school students together with older mentors who love wildlife. Together, they write and support legislation to protect endangered species. The program has been successful in passing state level legislation to help protect wild life and resources (Ingman, Benjamin, and Lusk, 1998/99).
- ⁶ As noted by the Close Up Foundation (1989), “A public event might be small (a debate between two people in a school classroom or church hall) or large (an auction and dinner). It can be serious (a symposium on a particular issue) or just for pleasure (an intergenerational dance teach-in). It can be oriented toward civic awareness (a non-partisan panel discussion) or civic action (a rally or parade)” (p. 54).
- ⁷ Originally, 10 programs were contacted and directors were asked to complete surveys on their programs. Program representatives from seven initiatives, the ones highlighted in this section, submitted surveys.
- ⁸ See Appendix 11 for a copy of the survey completed by program representatives.
- ⁹ In Liu’s (2004) survey with 110 environmental educators in Pennsylvania, the most commonly noted characteristic that senior adults have which contribute to their ability to enrich the content of environmental education programs is their “knowledge and perspective about the change in the environment” (noted in 64% of all responses).

Chapter 3: Program Development

This section focuses on how to achieve the goal of involving older adults and children and youth as co-learners, educators, and environmental improvement activists. The level of success of an intergenerational environmental program depends on many factors including decisions about organization and partnership, strategies used to recruit senior adult participants, program and activity development strategies, program facilitation strategies, and decisions made regarding program setting.

Organizational Platform:

As is evident throughout this document, intergenerational environmental initiatives can be launched from a wide range of organizational platforms, including the following:

- environmental organizations
- public and private K-12 schools
- residential education programs
- youth service organizations (e.g., 4-H, Big Brothers/Big Sisters, scout troops, after-school programs)
- adult service organizations (e.g., Rotary, Kiwanis)
- faith-based organizations
- day care centers
- museums
- historical associations
- theatre troupes
- universities
- farms
- animal shelters
- retirement communities
- senior centers

- community centers
- intergenerational organizations (e.g., as a demonstration program of a “shared site” or coalition of intergenerational programs).

Generally speaking, effective programs emerge as partnerships. Here are some themes that emerged from the surveys conducted with intergenerational environmental practitioners as to just what makes a “good” partnership:

- Organizations have complementary goals and objectives, similar interests and beliefs, e.g., partnerships forged between children’s environmental groups and seniors groups with similar interests.
- There are multiple partners:
 - The EASI programs alone lists over 350 national, state and local public and private organizations which with they’ve partnered. This includes community organizations, academic institutions, corporations, local government agencies, Soil Conservation Districts, RSVP, senior centers, schools, and religious organizations.
 - Reflecting the notion that the environment is everyone’s business, EASI looks beyond connecting only with agencies to which older adults and young people belong and those dealing explicitly with environmental issues.
- The partnerships are “strategic:” Here are some examples:
 - establishing a partnership with a local senior center to help resolve senior recruitment problems.
 - partnering with a university to provide technical assistance and

training on environmental science subjects areas.

- forming a partnership between older adult environmental and advocacy groups and children's environmental groups and science classes.
 - partnering with agencies such as EPA that can provide needed posters, brochures, and exhibit material for events.
 - partnering with existing intergenerational environmental education programs, such as some of the programs cited in the previous chapter, which are still looking to expand their participants.
- Emphasis on “creative networking:” In defining environmental priorities and forging opportunities for collaborative action, it helps to pursue a process of “creative networking.” In their advice to new Senior Environmental Corps groups, Benjamin and Knight (2000) state,

“Some linkages might not be immediately apparent. For instance: You may contact the Juvenile Justice system and offer senior mentoring to youthful offenders for a community garden project or to repair stream bank erosion. Perhaps local housing officials need help in inspecting buildings they suspect may contain lead-based paint or old plumbing that could lead to lead poisoning... Transportation officials in your community may appreciate your adopting roadsides to maintain so they are free of litter and protect local waterways from runoff” (p. 10).

Beyond connecting with local government and civic organizations, there are national and international initiatives (such as Earth Day, Arbor Day, and World Water Monitoring Day) which provide people with direction as to environmental



Photo by Emily Lopez

improvement projects they can do locally. And for projects as diverse as water monitoring, nature trail spruce-ups, developing community gardens, and stenciling storm drains (e.g., “Do Not Dump – Drains to Stream or Bay”), there are all sorts of activity guides available which provide blueprints for organizing and taking action. For example, the National Safety Council is in the process of putting out a booklet entitled, “Spanning the Generations Youth Action Kit.” This resource is designed to show teenagers and older adults how they can work together and take action to help mitigate some of the potential risks posed by environmental public health hazards.

In terms of how partnerships function, when assigning responsibilities and forming committees, where feasible, it helps to form intergenerational groups. This contributes to a sense of equality among participants and it also helps to build strong relationships among those who work closely together (Close Up Foundation, 1989).



Photo by Shelby Otto

Recruiting Older Adults:

Recruiting seniors for intergenerational programs turns out to be far more difficult than most practitioners anticipate at the onset of new programs. The following recruitment strategies have been proven to be effective in various settings:

Multi-media:

Use of multiple outreach devices, including, for example, fliers, press releases sent to news media outlets, posters, brochures, recorded testimonies from volunteers, volunteer drives with cash or prize rewards, and presentations conducted with senior citizen centers and groups.

Multi-step:

A sequential approach, where recruitment is treated as a multi-step process. For example, the first step might involve inviting senior adults to an informational meeting and then inviting those who are interested to a program orientation meeting on site where they can get the chance to meet the program's young participants. The next step might involve providing prospective volunteers with opportunities to sign up for a longer term commitment.

(For more information on this strategy, see Kaplan, 1993).

Selective recruitment:

Some programs require participants with specialized skills and knowledge, e.g., farmers or master gardeners, seniors who are knowledgeable of an area's historical and cultural heritage.

Empower senior recruits to choose/ design their roles:

This might involve presenting senior volunteers with multiple role possibilities (e.g., as mentor, advisor, coach, evaluator, etc.) and a range of senior-child ratios (i.e., working with children on a one-to-one basis, in small groups, or in large groups) and provide them with some choice. Seniors are likely to select roles which match their interests and skills.

Peer recruitment:

A recent study by Civic Ventures and Temple University's Center for Intergenerational Learning revealed that older people seek volunteer opportunities that are meaningful, clearly give back to the community, and encourage older volunteers to work as a team or as part of a larger coordinated movement (Civic Ventures, 2002). Taking into account this latter point, which emphasizes the importance of the relationships between senior volunteers, more attention should be paid to peer recruitment strategies.

Tailored recruitment:

Recruitment strategies should be tailored to meet the many levels of physical abilities found in seniors.

It is noteworthy that there is an upswing in older adult involvement in environmental improvement initiatives. There are various factors contributing to this trend, including

the emergence of an “Aging Initiative” at the U.S. Environmental Protection Agency (for more information, see: www.epa.gov/aging/agenda/index.htm), the creation of successful templates for promoting senior environment-focused volunteerism (such as EASI’s Senior Environment Corps model; see Benjamin & Knight, 2000), an upswing in social marketing campaigns geared toward promoting lifelong learning and “productive aging” opportunities (Freedman, 2002), and a trend in higher education to establish gerontology-environment links in aging education (Ekstrom & Ingman, 1999). Such trends, in promoting a normative framework in which aging is viewed as a time of activity and contribution, bode well for future efforts to promote senior adult civic engagement of all kinds.

Key Principles for Developing and Conducting Activities:

Integration of an intergenerational component into environmental education activities introduces certain complexities and considerations that need to be taken into account when recruiting, training, and supporting participants and working to ensure positive, productive group dynamics. Yet, an intergenerational component can also enrich and enhance the educational enterprise, particularly when employing basic principles for effective program development. Some such principles are listed below:

Prepare participants before the program begins:

Orient the younger and the older participants to how people in other age groups experience the world. Even before young and older participants of an intergenerational program meet each other, orientation sessions are useful in terms of promoting positive expectations and additional

understanding about generational differences. Because this is not always possible, the use of intergenerational icebreakers at the onset of and during programs has proven to be very effective.

Make it fun:

An effective way to teach environmental concepts and to ensure retention of participants is to weave in fun activities such as creating skits, rap songs, puppetry, poetry, videotaping, and photography. Intergenerational program specialists often invent their own games, such as “Pin the Nebulizer on the Asthma Trigger,” “Cigarette Poisons Grab Bag” (both from the Family Friends Environmental Health Project, Temple University), and an interactive CD of game shows in which participants create and answer environmental health questions on topics such as toxic chemicals, second hand smoke, and lead poisoning (Family Friends Environmental Health Project, Elwyn, Inc.)

Promote extensive dialogue and sharing between program participants:

Mayer-Smith and Peterat, creators of the Intergenerational Landed Learning model, attest to the significance of intergenerational dialogue:

“Talk and learning occurs almost naturally when intergenerational groups work together on a project where together they are trying to achieve or produce something that inherently contains ethical and environmental issues, such as cultivation and food distribution practices. Decision-making is required and ethical dilemmas are pondered as a part of taking action.”

Here are some dialogue-enhancing concepts and strategies:

Use of questions to stimulate discussion:

In many of the intergenerational environmental education models reviewed above, facilitators use leading questions to spark

discussion and further learning. These questions enable participants to share their views, experience, and knowledge in relation to the environmental topic at hand. For a list of “discussion stimulator” questions used in the Intergenerational Outdoor Education program, see Appendix 9.

Another conversational strategy involves presenting intergenerational groups with environmental science information and challenging them to discuss the information, including the relevance to conversants’ lives and surroundings. Intergenerational teams can together surf the Internet, where there is accessible information on topics such as: environmental triggers of asthma (e.g., www.atsdr.cdc.gov/HEC/CSEM/asthma/goal_objectives.html), air pollution assessment (e.g., www.scorecard.org), toxic chemicals (e.g., toxtown.nlm.nih.gov/index.html), hazardous chemicals and occupational diseases (e.g., www.haz-map.com/), and the science of gardening. The Website for Cornell University’s Garden Mosaics program includes a series of “Science Pages” and “Gardener Stories” which consist of oral histories put together by youth of elder gardeners’ planting practices and the connection of those practices to their culture and background. (See: www.gardenmosaics.cornell.edu).

Work to broaden the dimensions of conversation: Issues tied to the social ecology of an area, including problems such as high crime rate, homelessness, and isolated or socially vulnerable older adults, have an important place in discussions about ways to protect natural resources and reduce risk to environmental hazards (Wright, 2003). Participants may also want to discuss community development policies and practices, and how decisions made regarding housing,

economic activity, and transportation all have “ecological footprints.” Community development is a relevant line of discussion, particularly when considering trends such as suburban sprawl which often have a deleterious affect on local natural resources and environmental quality.

Encourage participants to explore the human dimension of the environment: Intergenerational environmental education programs span both the environment and how people perceive and behave in regard to the environment. Efforts to assess local ecosystems should also include the human health, economic, and sociocultural aspects of the community that relate to the environment (EPA, 2002). Here are some techniques for highlighting the human-environment interrelationship:

Use of personal photos and pictures: One way to encourage participants to discuss their feelings about the environment is to have them bring in personal photos and pictures from magazines and other sources of images of landscapes that have sentimental value for them. These images can be useful for stimulating and extending dialogue taking place during intergenerational interviews.

Landscape autobiography interviews: This is a technique for helping participants of intergenerational gardening projects discover the personal meanings that participants from other generations attribute to gardens and landscapes. (See Appendix 10, published in Kaplan & Hanhardt, 2003.)

Using the environment as a metaphor for making points about human development: In conversations about the natural environment, try to work in themes such as age and aging, family, caregiving, friendship, and human values. For

example, Doris Stahl, horticultural extension educator for Penn State Cooperative Extension at Philadelphia County, when working with an intergenerational group to create a butterfly habitat garden, introduced a discussion about human-butterfly comparisons. One point that came up was how a butterfly's development involves dramatic metamorphoses as it goes from caterpillar to butterfly whereas a human's development is more gradual.

Provide meaningful opportunities for taking action:

The idea of making a positive difference in one's immediate environment is compelling for many people. So that older and younger volunteers recognize that their contribution is valuable and necessary, activities should clearly be designed to address a real environmental/community need (Generations United, 2002). Motivation is highest when participants have a sense that they are dealing with important, real issues which demand public attention and action. School-based initiatives, drawing on a service-learning framework, weave community service into the formal curriculum.

Focus on the relationship as well as the task:

The environment is finite, as is the work to be done in environmental study and service projects. However, an over-emphasis on work-related tasks can overshadow the relationship-building potential of the interaction.

Pay attention to external affairs, particularly if organizing an event:

The ability to influence public discourse on environmental issues being addressed to a large extent depends on holding a

“public” rather than a “private” event. Good press releases emphasize the distinct character of an event and its relevance to a broader audience. Inviting public officials and community leaders to participate in the project if appropriate can also build public awareness.

Facilitation Principles:

Skilled facilitators of intergenerational environmental initiatives tend to have distinctive facilitation styles in which they emphasize the following guiding principles:

- Promote a balance in learning, with a dual focus on environmental science and intergenerational understanding. Work to convert technical/scientific information into experiential learning and convivial learning (where participants teach each other).
- Promote question asking, formal and informal, and from young participant to older participant and vice versa. The facilitator is in a good position to observe and point out similarities and differences in participants' answers.¹⁰
- Display readiness to step back and allow the participants to figure out the best ways to share their knowledge, insights, and engaging personalities.
- Turn learners into teachers. In several of the intergenerational environmental education models that were reviewed, efforts are made to transform “learners” into “teachers;” opportunities are provided for project participants to pass on what they learned to others. For example, elementary school children participating in the farm-based Intergenerational Landed Learning project in Vancouver, British Columbia, prepare a PowerPoint presentation for their class on the day of culminating activities. Making the point that project partici-

pants themselves receive some benefit from passing what they have learned to others, Adam Brunner, from the National Center on Family Friends, notes, "As participants convey what they have learned to others, they are met with alert, intelligent students who ask questions and this in turn helps them (the presenters) realize what they know as well as what more they need to find out."

- Help participants translate discovery about others into discovery about self: When a teenager conducts an interview with an older adult, beyond gaining insight into the older adult's life, the experience is conducive to youth reflection upon and re-evaluation of his/her own assumptions about issues related to age and aging (McGowan, 1997). The facilitator has a major role to play in encouraging participants of all ages to be cognizant about how they make assumptions and draw conclusions about people on the basis of age.
- Work through the progression of activities, from program orientation, to warm-up activities, to more intensive activities. "Warm-up" activities give way to additional activities designed to yield more intensive, in-depth communication.¹¹ Once program participants start feeling more comfortable with each other, the notion of deeper levels of involvement in the project will seem more natural and comfortable. Relationships take time to form.
- Keep the agenda reality-based and community driven. There is no need to

fabricate or simulate environmental action scenarios. Participants are likely to have environment-related interests and concerns in common and this can provide a focal point for converting environmental learning into action planning.

Program Setting:

A proper setting can not only provide young and older participants with a safe learning environment, but also attract them to come, stay, and enjoy the learning process with each other's company.

"Intergenerational settings" are

designed to be "youth friendly," "senior friendly," and conducive for the desired patterns of inter-generational exchange. For instance, in a discussion-type activity, a quiet corner set up for one-on-one interaction is good for seniors with limited hearing abilities



Photo by Nike Liu

and for extending younger children's attention span. In a nature walk, several stop points or a slower walking pace is necessary for seniors and children with physical limitations and helpful for discovering the natural surroundings.

There should be environmental cues to convey expectations for cooperation, discussion, joint study, and joint action. An example of an effort to create a distinctive milieu to support an inter-generational activity is the "Let's talk about the environment" station that was set up at the Ag Progress Days event (Centre County, PA) in 2003. The activity called for children and their older adult relatives to sit down together to review and discuss a series of environment-related questions and facts. A provocative aspect of this activity is that the table at which they sat was adorned by large cut-

out trees filled with high-energy photos of intergenerational communication. The trees were connected with a rainbow-like sign with the words, “Environmental Education for All Ages” (Liu and Kaplan, 2003).

Other Considerations:

There are various other considerations to take into account, such as conducting a background check of volunteers, arranging transportation for volunteers needing assistance, creating program schedules that accommodate travel plans of seniors (e.g., many travel to places with warmer weather during the winter months), and obtaining “informed consent” from participants and minors’ parents for any formal research initiative.

¹⁰ Ramona Frischman, who conducts the Inter-generational Citizens’ Action Forum program (Miami-Dade County Public Schools), describes a simple, yet effective exercise to stimulate inter-generational dialogue about the similarities of the ages versus the differences: “Separate the youth and elders with the task of answering the following questions: List positive attributes of teenagers, list things that teens do that drive you crazy. The teens do the same with listing positive attributes of elders, things that elders do to drive them crazy. The groups convene back together to compare lists. There is always lots of laughter and surprise at how much alike they are!”

¹¹ Angelis (1996), in drawing from communications theory, notes that intergenerational communication is a sequential process that most naturally begins with the type of superficial contact that is generated by “ice-breakers” (or “warm-ups”), where interaction occurs in a scripted manner.

Chapter 4: Determining Program Impact

It is very important to evaluate programs. First, results can be used to strengthen various aspects of a program. Also, by sharing results (including success stories) with program stakeholders such as participants, community organization partners and funders, the evaluation becomes a tool for strengthening internal and external support for the program.

Conducting Evaluation Research:

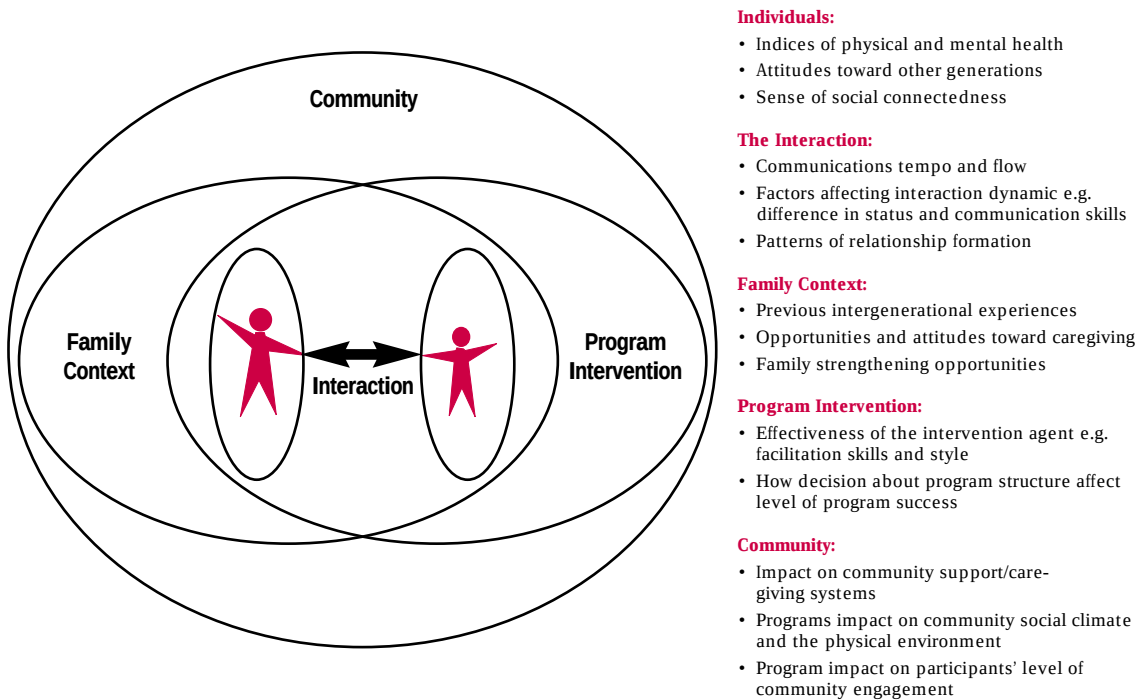
When studying intergenerational environmental education programs, figuring out exactly what to evaluate is not necessarily an easy question to answer. There are many factors that come into play, including the following:

- The focus is on more than one population. It is often challenging to collect data on multiple participation groups.
- There are multiple layers of analysis; important things are happening at the level of the individual, the communication dynamic/the relationship, the family, the intervention agent (professional who promotes/supports intergenerational intervention), the organization, the surrounding community, and the region. See Figure 2, below. To tap into these various dimensions, an evaluation team would need to employ a multi-disciplinary focus.
- Programs are often launched as multi-organizational endeavors. This adds complexity to efforts aimed at assessing program impact on organizational mission, operations, and processes.
- Being that this area is so new, research protocols have yet to be established, and there is no clearly defined body of research instruments for researchers to draw upon.

Nevertheless, evaluators are able to draw upon basic social science research methods in their efforts to investigate intergenerational relationships and environmental learning. They utilize various measurement means and tools such as questionnaires, observation notes, interviews, video footage, and participants' journals to study the significance that participants attribute to their environmental learning experiences. Careful observation procedures can be used to detect who approaches whom, body language, and the tenor of intergenerational communication. There are also creative ways to gain feedback from participants. For example, Phyl Solomon, from the Habitat Intergenerational Program, notes their program's process of creating story boards and scrapbooks which incorporate feedback from participants and partnering groups. Ideally, evaluators will use multiple waves of measurement, including pre-test and post-test measurements for each program cycle, to demonstrate that participants improve or otherwise change over the course of their program experiences.

Most evaluation studies of intergenerational environmental education initiatives would be categorized as case study research insofar as there is no comparison group (e.g., a monogenerational group of participants to compare against the intergenerational group). Though provocative, such an evaluation design leaves questions as to which impacts are due to which facets of the intervention.

More attention should be placed on utilizing experimental research models in evaluating intergenerational environmental education projects, such as Liu's study of an intergenerational outdoor education program (Liu, 2004).

Figure 2: Intergenerational Program and Practices: Multiple layers of analysis.

Experimental research makes it possible to determine what the intergenerational component adds (in terms of learning and action) to environmental education initiatives traditionally conducted with age-segregated groups of participants. Yet, considering that experimental research is time- and resource-intensive, it may be necessary to build partnerships with universities, research groups, and community organizations with a research capacity.

Another promising research framework is that of “Participatory Action Research” (PAR). This is a distinct approach for involving participants in planning, conducting, and utilizing results from research. The PAR approach diverges from the traditional research paradigm in which outside “experts” rather than local people control the process of investigation and knowledge generation (Selener, 1992;

Sohng, 1995). In PAR, research objectives and processes reflect lay persons’ perspectives and concerns. Coalitions are developed between researchers, community people, government agencies, and non-profit groups that enable collaborative action (Brown, 1985). Any number of techniques can be used in participatory research, including interviews, observations during on-site tours, monitoring environmental conditions, mapping, airphoto interpretation, documenting oral histories, and participatory planning sessions (Chambers, 1994). Considering that young people and older adults are so often ignored when it comes to making decisions about the environment, the empowerment and relationship-building characteristics of PAR make it a compelling strategy. Of course PAR is not without its challenges. It involves a major



Photo by Romy Calvo

commitment on the part of the participants, many of whom may not be interested in taking a central role in framing the inquiry, collecting data, interpreting the data, and working to apply findings in ways that lead to social and community change.

Whatever research approach is taken, perhaps the most important point is for the group(s) doing the program to have their own clear objectives from the outset and to create evaluations that will let them know if they are meeting their objectives.

Impact on the Participants:

In exploring questions related to program impact on participants (older adults, children/youth), it is helpful to look at the broader environmental education literature, including studies of environmental education initiatives targeting only young participants or older adults. For

intergenerational environmental programs, many of the parameters of impact are similar to those noted for mono-generational environmental education initiatives, though with the obvious addition of variables related to attitudes toward, and knowledge about, people of other generations. There is also a qualitative difference between mono-generational and intergenerational initiatives. The intergenerational component can be viewed as a potential amplifier of program impact on certain key variables of interest to environmental educators, such as attitudes toward environmental activism.

The remainder of this section highlights survey responses made by intergenerational education practitioners when asked about program impact on the participants.

Benefits to young participants:

Studies have shown various benefits to young people who participate in intergenerational environmental education programs. Intergenerational environmental education specialists note a profound impact on how children look at nature. Making this point, Liu (2004) quotes a sixth grade student who participated in the Intergenerational Outdoor School initiative in Central Pennsylvania: "They (the seniors) taught us that if you are really quiet, you could really see nature." Other specialists note how children "personalize" what they learn from their program experiences and make changes in their lives. For example, children who participated in the Family Friends Environmental Health Project in Bucks County, PA (Rotenberg, 2003) made comments at the end of the program such as "I use cold water to prevent pollution" and "I started washing my hands before I eat."

Another major theme is the importance children and youth attribute to the relationships they develop with senior adults. The second most frequently cited outcome for youth in the Garden Mosaics project (after "enhanced gardening skills") was "learning from and developing relationships with elder (gardeners)" (Krasny & Doyle, 2002). Several project directors of Family Friends Environmental Health projects (including Durbano, 2003) note that youth who interact with older adults on a regular basis are found to form deeper, more meaningful relationships with the adults than do youth who visit the older adults on a rotating basis.

In projects in which students, together with senior activists, are engaged in community action campaigns, such as the Intergenerational Citizens' Action Forums, the youth display an enhanced sense of

civic responsibility and an increase in their competence as community change agents.

Benefits for senior adult participants:

Areas of impact on senior adult participants include:

- More positive views about children and youth. When there is prolonged, direct intergenerational engagement, the impact on seniors' attitudes toward young people is greatest.¹² The enhanced appreciation that seniors have for youth is a common theme noted by intergenerational specialists including those who conduct programs with an environmental education focus.
- Active volunteers enjoy an enhanced quality of life; they remain healthier longer, and with lower medical costs. Research by the National Institutes of Health, the Centers for Disease Control, AARP, Independent Sector, Youth Services America, and numerous academic institutions shows that volunteers of all ages enjoy a healthier life than those who remain uninvolved in their communities. The importance that seniors attribute to their program experiences is apparent in the words they use to describe their participation. For example, a senior who volunteered in the Intergenerational Outdoor School initiative stated, "Contact with children and the outdoors to me is as important as oxygen."
- Increased sense of self-worth associated with being able to share life skills, professional talents and wisdom. Okun (1994) notes how elderly volunteers compared to elderly non-volunteers tend to feel more useful and have a greater sense of self efficacy when they share their experience and knowledge.

The importance that seniors attribute to their program experiences is apparent in the words they use to describe their participation. For example, a senior who volunteered in the Intergenerational Outdoor School initiative stated, “Contact with children and the outdoors to me is as important as oxygen.”

- Seniors bring a historical perspective (a living history) to the environmental efforts of a community.
- Greater effectiveness as community leaders: A number of programs observed that senior volunteers who have experience in working in schools and youth groups in their communities have greater access and credibility with existing community programs and can introduce new ideas and programs more quickly and efficiently into their communities.

Impact on the Environment:

Impact on the environment depends to a large extent on program objectives. Below, we focus on environmental impact outcomes associated with EASI projects for which there is an extensive evaluation history.

Environmental protection and enhancement:

- Increased recycling.
- Implementation of best environmental management practices along waterways to improve water quality.
- Remediation of indoor air quality hazards in public and private buildings.
- Protection and remediation of stream corridors and wildlife habitat.
- Reduced use of pesticides and fertilizers (adoption of organic gardening principles).
- Protection of endangered and native species.
- Conservation and management of a community’s cultural and historic resources.
- Cost Effectiveness:
 - Environmental education programs that use senior volunteers to manage and execute programs are the most cost-effective environmental education programs being conducted in the U.S.
 - Some programs become a viable part of the community and are self supporting within a few years.

Examples of other environmental impact outcomes include: trees planted, removal of litter, nature trails restored, population growth of endangered butterflies, and so on.

¹² This is consistent with results of a study of youth involvement in social or community change endeavors conducted by University of Wisconsin researchers (Zeldin et al. 2000). Those older adults who had the opportunity to work closely with youth who were in leadership positions were found to display the greatest changes in their views toward young people. Furthermore, the researchers found that adults only changed their attitudes about youth when the interaction was goal-oriented and purposeful, contact was prolonged, and there were meaningful consequences to the interaction. Beyond “seeing” youth behaving in competent ways, attitudinal change on the part of the adults was most likely to occur when there were opportunities for discussion and reflection with the youth (Zeldin et al. 2000).

Chapter 5: Challenges

Intergenerational environmental education programs face the following challenges:

Recruiting Older Adults:

In a survey conducted with 110 Pennsylvania environmental educators, the most commonly noted obstacle to adding an intergenerational component (noted by 52% of the respondents) was the “difficulty in finding senior volunteers” (Liu, 2004). Yet, statistics show that senior adults contribute about 4.8 billion hours of voluntary service to our society every year (Independent Sector, 2000). It would be a missed opportunity if more senior adult volunteers are not pulled into the environmental education arena. As noted by several people who conduct intergenerational environmental education programs, the primary challenge is to get seniors to make an initial commitment. Once they get involved, they tend to become actively engaged in the activities and with the youth.

Logistics:

This includes dealing with inconsistent schedules on the part of younger and older participants, difficulties transporting seniors and youth to the site, and inclement weather.

Language Differences:

In programs which involve or target participants with special cultural backgrounds, language may be an issue. For instance, translators were needed to communicate with Korean gardeners in one of the Garden Mosaics project sites (Krasny and Doyle, 2002).

Funding:

When programs of intervention fall outside the box of “mainstream” practice (as



Photo by Joan Rommes

is the case with most of the initiatives described in this publication), funding often becomes the primary challenge. However, rather than present the fundraising challenge as a passive endeavor, it can be viewed as an opportunity to further build an organizing effort and to strengthen the skills of program participants. Effective fundraising requires the communication skills of clarifying and communicating goals and objectives, and it calls for some research skills, for example, for finding appropriate funding sources for proposed initiatives. The search is one of finding natural allies, i.e., organizations and individuals that are likely to have similar views about the issue or initiative being proposed, and are perhaps willing to place their support behind it.

Sustainability:

The longer, more sustainable programs tend to reflect strategic partnerships, and effective integration of the program into existing curricula.

Chapter 6: Recommendations

Photo by Nike Liu



Here are several recommendations for supporting work in this area:

Use existing resources:

A lot of good work has already been done in the areas of participatory planning, community needs assessment, service-learning, teacher education, curriculum development, community organizing, and intergenerational program development. It therefore makes sense to build on what is known and the resources developed in these areas.

Provide training and technical assistance:

Guidelines and information for training senior volunteers and staff is the number one type of assistance most Pennsylvania environmental educators require (Liu, 2004). It is likely that there is a high demand for this kind of assistance in other states as well. One way to meet this need is to enlist individuals and organizations with expertise in this area to develop resources and conduct training sessions designed to provide “how-to” information on establishing new initiatives. The involvement of peer educators and

mentors is another effective way to disseminate information on new programs.

Promote information exchange:

There needs to be a mechanism, such as a database of existing intergenerational environmental programs, through which practitioners in this area can find and learn from each other. On a more ambitious note, we recommend the formation of a consortium of organizations that would work together to establish a clearinghouse for such information.

Build a body of evidence:

We recommend the following:

- Establish a repository of program evaluation tools and resources, including, for example, interview and survey instruments designed to obtain input/feedback from program participants, staff, administrators, family members, and the general public.
- Establish a research protocol (general framework) for studying an array of program parameters, including: program goals and objectives, program development processes, strategies for training staff, strategies for recruiting and orienting participants, strategies for involving participants and front-line staff in program planning and decision-making, and level of community involvement in the program.
- Establish lines of inquiry rather than just separate studies: Any one study raises more questions than answers. This points to the need for longer-term programs of research rather than just a series of disconnected, singular studies. An example of a needed “line of inquiry” would be research aimed at finding effective ways to construct roles for

seniors that they deem “meaningful.” There also needs to be more effort aimed at analyzing results across studies conducted in different environmental education settings. This will make it possible to draw stronger conclusions regarding principles and practices that contribute to effective intergenerational program development and implementation procedures.

Program replication:

More needs to be done in terms of publicizing and replicating successful models. As groups find out that there are various effective intergenerational

environmental education models, and they gain access to a suite of resources and training opportunities, they will be in a good position to select and adapt models that are most appropriate for their sites and circumstances.

Establish a leadership team:

For making progress in many of the functions noted above, there needs to be a centralized leadership body. Though this can take various forms, we envision a major role for the U.S. Environmental Protection Agency, Generations United, and some of the organizations highlighted in this report.

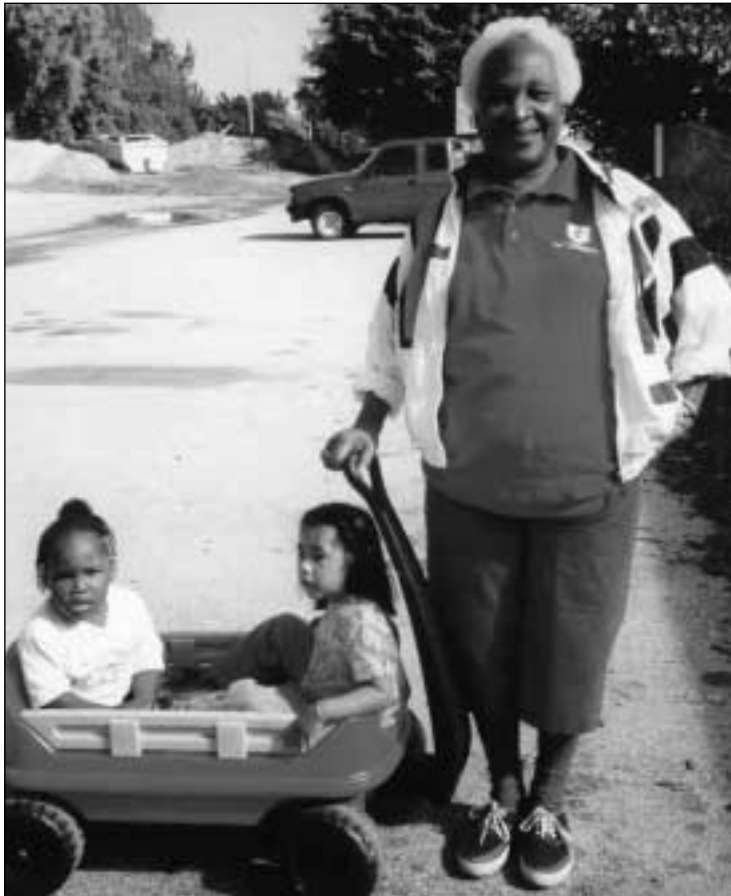


Photo by Lynn Vidulich

Chapter 7: Conclusion

*“Treat the Earth well.
It was not given to you by your parents.
It was loaned to you by your children.”*

- Kenyan Proverb

If we had to choose one word for communicating the essence of the work highlighted in this publication, it would be “connectiveness.” It is about nurturing the human-environment connection as well as fostering connections between people. The focus is on ways to bring young people and older adults together to learn about the natural environment and to gain insight into each other's lives. As is evident in the initiatives that are emphasized, the people involved gain a greater sense not only about how the environment is relevant and of vital importance to their own well-being, but how it contributes to the well-being of others. They learn that the environmental

realities that affect them on a personal level also affect other individuals. Reciprocity, key to any successful intergenerational program, is the vital thread. We all give and we all receive.

It is tremendous to see so much interest and promising work being done in developing intergenerational approaches for preserving natural resources and ensuring a healthy environment. At the same time, we also realize that this is only a beginning. There are many challenges on the road to bring these initiatives to scale and in supporting those who wish to begin work in this area. At a fundamental level, there is a need for more leadership and resource support in order to realize the great potential for this promising line of work for making a difference in people's lives and our world.

We are committed to continuing to help expand this important work uniting the generations for environmental awareness and action. We look forward to hearing from you as collectively, we develop the connections that will build the momentum to take these programs from rare to everywhere.



Photo Courtesy of EASI

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Appendix 1: Senior Environment Corps (Environmental Alliance for Senior Involvement)

Contact information:

Organization: Environmental Alliance for Senior Involvement (EASI)

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Implementation Steps:

- 1) Preliminary organizing where the potential local host organization requests assistance from EASI in terms of start-up technical assistance and, as needed, seed funding. SECs are generally launched with a formal agreement (contract) and a date for a kick-off event.
- 2) Building community partnerships with the local host organization taking the lead in recruiting local volunteer leadership, developing a mission statement for the SEC, and identifying potential volunteer activities. One strategy involves conducting a start-up ongoing activity in which the local host organization, its volunteers, and EASI and its national partners (if needed) take part.
- 3) Community environmental assessments (at start-up and periodically as needed, with local partners, EASI, as appropriate, and EASI's national partners)
- 4) Quality-assured training for specific projects and programs (a start-up and ongoing effort of the local host organization and its partners, and EASI and its national partners as necessary)
- 5) Community education and outreach, building a consensus for community action (an ongoing effort of the local host organization, its partners and its volunteers)
- 6) Community engagement to take positive action to preserve, improve or enhance the environment (an ongoing effort of the local host organization, its partners and volunteers). If needed, EASI assists in training local volunteers in raising local financial support for the project and the SEC. EASI is also available to assist with project evaluations.

Appendix 2: Intergenerational Outdoor School Program (Penn State University)

Contact information:

Organization: Penn State University, Department of Agricultural and Extension Education,
and Shaver's Creek Environmental Center

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Implementation Steps:

1) Recruiting and training senior volunteers: The program is publicized through presentations conducted at various senior organizations, press releases sent out to the local media, flyers posted on community bulletin boards, and word of mouth. Prospective volunteers learn more about the program through a one-hour orientation session. Those who join the program sign up for additional training, conducted in 2-3 sessions at the program site, in which they learn more about the environmental education curriculum, staff roles and responsibilities, and the various ways in which senior volunteers

can contribute to the children's learning. The senior volunteers are encouraged to take part in as many activities as possibly, including the structured educational activities and other activities such as meals, campfires, and even sleeping over at the Shaver's Creek's cabins. Staff work with the senior volunteers to develop individualized schedules. [Seniors who decide to volunteer are asked to complete a "Child Abuse History Clearance" form.]

2) The activities: The pilot Intergenerational Outdoor School program included six structured educational lessons, each consisting of one or more activities. In brief, the six lessons were as follows:

Number & Name of lesson	Time of the week	Learning subjects
1 Lake walk	Tuesday afternoon	Team building and natural discovery.
2 Resources	Wednesday morning	Different natural resources (e.g., land, sunlight, water...etc.)
3 Living things	Wednesday afternoon	Different animals (e.g., mammals, reptiles, amphibians, birds.)
4 Cycles	Thursday morning	Different cycles (e.g., water cycles, nitrogen cycles.)
5 Masseyburg	Thursday afternoon	Natural history.
6 Community meeting	Friday morning	Civic involvement

As an essential component of the Intergenerational Outdoor School model, for each activity, participants are asked discussion stimulator questions designed to reinforce and extend participant learning about the natural environment and about people of other generations. These questions also serve as a launching pad for intergenerational discussion. A

facilitator (can be the group leader or a youth counselor) is on hand to ask the discussion stimulator questions and encourage participants to share their views, experience and knowledge while answering these questions. (See Appendix 9 for a list of discussion stimulator questions.)

Appendix 3: Family Friends Environmental Health Project (Temple University)

Contact information:

Organization: Temple University Center for Intergenerational Learning

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www.family-friends.org

Implementation Steps:

- 1) Identify collaborators and engage in collaborative planning: This includes organizations with environmental health information (e.g., National Nursing Centers Consortium, and EPA),
- 2) Develop program plan (with schedule for training and program activities).
- 3) Identify sources for recruitment (of children and older adults).
- 4) Recruit seniors (from Family Friends group of mentors) and children (from 3 youth centers).
- 5) Conduct training sessions (with help of collaborators): This consists of 3 weeks of content training (on asthma, smoking and second hand smoke, and lead poisoning), and 7 weeks on process (how to take content and stimulate creative efforts to create resource for sharing with other children). Each session includes warm-up activities, and reflection and discussion on relevance of content to own lives.
- 6) Project participants present what they have learned to others (e.g., community groups, after school programs, etc.).
- 7) Closure/Final Meeting: Participants process what they learned, what they enjoyed, what they found to be difficult, etc.

Appendix 4: Intergenerational Citizens Action Forums (Miami-Dade County Public Schools)

Contact information:

Organization: Miami-Dade County Public Schools
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Implementation Steps:

- 1) Recruit and develop relationships with community partners: This includes reaching out to:
 - Local environmental agencies and/or advocacy organizations.
 - Senior citizen organizations, churches, clubs, AARP chapters, retirement communities, retired educator organizations (as sources of volunteers).
 - Colleges and/or universities that can donate forum/workshop meeting space, help organize forums, participate in training sessions, and provide valuable human resources.

To solidify collaborative relationships between the partners and clarify respective roles and responsibilities, establish an advisory council composed of partners and representative students, teachers, administrators and elders. The advisory council meets on a regularly scheduled basis to oversee the project, assist with the coordination of community wide initiatives, identify community resources, and plan awards/recognition events.

- 2) Recruit project teachers: Make presentations at school district subject area meetings (science, social studies, government, English), send information to school site principals and/or subject area department chairpersons, and provide teacher workshops on service-learning and intergenerational education programs.
- 3) Train teachers: Organize an orientation workshop in which the project components are reviewed. Training also includes advocacy skills and intergenerational programming skills, including, for example, how to utilize elders as classroom resources. Project teachers also attend a training in utilizing service-learning as a teaching tool. These workshops can be held in the summer if funds are available or in the beginning of the school year.
- 4) Conduct a Youth Empowerment Summit (Y.E.S.):
 - Project schools select 10-12 students to participate in the Y.E.S. conference. There are usually 8–10 schools that participate at this event in the Fall.

- Following attendance at Y.E.S. students return to their schools to begin dialogue about issues they wish to address. (In this case, environmental concerns.)
 - A time is developed by the students at the Y.E.S., or it can be pre-determined as to when the schools need to decide upon the topic they wish to address.
 - *Alternative Plan:* An issues forum can be planned as an informational forum that will introduce the students and elders to topical and critical environmental concerns. A portion of the forum is devoted to intergenerational teams discussing what issues were presented and preparing tentative action plans the teams may wish to initiate. [Note: This forum can be scheduled in lieu of Y.E.S. or in addition to Y.E.S. The ideal would be to conduct both events, however, funding and scheduling may prohibit both functions.]
- 5) Recruit senior adult volunteers: Senior adults are needed to work directly with teams of students in designing strategy steps and proposing solutions to identified environmental concerns. In some cases one-on-one mentorships are established. Senior volunteers work directly with the teacher(s) in assisting with the class advocacy project; this might entail helping to organize and schedule speakers, fieldtrips, mini-forums, and meetings with elected officials. Senior adults are also recruited to perform other functions, such as attending town hall meetings or issue forums and to serve as “speakers bureau” members who conduct presentations on selected environmental topics (see below).
- 6) Establishment of a Speakers Bureau:
- Speakers are recruited with the assistance of the partners and advisory council. Topics other than environmental subject areas should include advocacy skills, community organizing, interviewing skills.
 - Speakers serve as a resource for stimulating class discussion and analysis.
 - Speakers may be utilized in “mini” forums conducted at the school with a panel of experts and a student interview panel.
 - Speakers also often participate in county-wide oral history projects. Some of these individuals are environmental community activists who have exceptional stories to tell in terms of their contributions toward the protection of the environment. Interview booklets are created and distributed to schools, libraries and community organizations for public display.
- 7) Developing Action Plans/Strategies:
- Intergenerational teams begin to develop action plans to address the target area they have chosen. Activities may include surveys and interviews with the community to determine their knowledge and interest in the issues, petition drives, community presentations, PSA’s, letters to the editor, and other awareness-building strategies. In some instances legislative bills and/or resolutions have been crafted.
 - Schools coordinate town hall forums to present their ideas to the community. Participating classes analyze the results of the forum.

- Intergenerational teams present their proposals for change to elected officials and other community leaders to gain backing, sponsorship and support.

8) Reflection and Celebration:

- Intergenerational teams reflect and evaluate the success of their project. What worked well? What would be changed?
- Plan a celebratory event for the project participants where everyone is acknowledged and recognized for their service. These events can range from a school sponsored function to a larger community recognition ceremony. (Optional but a great experience if funding is available)

9) Intergenerational Public Policy Summer Institute:

- Selected students, elders and teachers attend a Summer Institute

held at a partnering college or university. These range from two to four days in length.

- During the institute the participants simulate a mock legislative session. Participants take the roles of state legislators and develop proposed legislative action.
- During the final day of the institute a mock legislative session is conducted where teams propose their bills to the entire group.
- The teams with the most effective proposals are chosen to draft legislation and testify before relevant committees during the state legislative sessions in the spring. Those teams with the most compelling proposals for legislative action at the local level will work with leaders in county government.

Appendix 5: Habitat Intergenerational Program (Habitat Education Center and Wildlife Sanctuary)

Contact information:

Organization: Habitat Education Center & Wildlife Sanctuary/MA Audubon

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Implementation Steps

- 1) Establish “top down support. (The sanctuary direction is a member of the steering committee.)
- 2) Form an intergenerational board/ steering committee: Habitat Intergenerational Program (HIP) has no official staff; it relies on the expertise and experience of people with various skills and from various age groups. (HIP’s intergenerational steering committee is made up of the sanctuary director, program coordinator (who is chair of committee), a middle school teacher, a parent, senior volunteers, and high school and middle school students.)
- 3) Identify a coordinator.
- 4) Define what “intergenerational” means to the group.
- 5) Establish goals and write a mission statement.
- 6) Identify funding sources. (HIP received 2 small grants initially and now is funded solely by donations.)
- 7) Research project possibilities.
- 8) Have a kick-off event to launch the program.
- 9) Document the process: One technique is to draw upon feedback received from participants and partnering groups and create story boards and scrapbooks pertinent to specific projects.
- 10) Identify promotional possibilities (e.g., reaching out via the local paper and TV station, senior newsletters, outdoor kiosks at the sanctuary, middle school news, web site, etc.)
- 11) Ongoing evaluation. The steering committee conducts an annual evaluation to determine project effectiveness and identify future directions of the overall program. (Beyond using formal evaluations at the end of programs, an effort is made to systematically observe and document the process. For example, during activities participants might make revealing comments about how they feel about other participants as well as what they are learning about the environment and how they feel about “making a difference.”)

Appendix 6: Garden Mosaics (Cornell University)

Contact information:

Organization: Cornell University

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Implementation Steps:

Youth in Garden Mosaics conduct three types of activities in collaboration with adult gardeners, scientists, and educators: Getting Acquainted, Investigations, and Action Projects. Instructions for conducting all the activities are available on the Garden Mosaics website (www.gardenmosaics.cornell.edu). In addition, Garden Mosaics participants use Science Pages, which are short explanations of concepts or descriptions of plants accompanied by learning activities, to enhance the learning that occurs in the garden. Each page is available in color and black and white printable form on the website, and we are in the process of translating all the pages into Spanish.

Garden Mosaics also conducts workshops for educators interested in implementing the program. The program is flexible, so that educators can choose to implement all the activities or choose particular activities that suit their needs. Mentoring support is offered to educators adapting the program to fit their particular setting.

- 1) Getting Acquainted: Before the youth can ask good questions of the elder

gardeners, they need to have some familiarity with gardening themselves. Furthermore, the youth should get acquainted with each other so that they can work together during their Garden Mosaics activities. The Getting Acquainted section of the Educator Manual provides guidelines for exposing youth to gardening and for ice-breakers and other activities to prepare them to work together.

- 2) Investigations: Youth and gardeners engage in three Garden Mosaics Investigations to answer the following general questions:

- What's happening in the neighborhood?
- What's happening in the garden?
- Who are the gardeners?

To answer the first question, "What's happening in the neighborhood?" youth conduct a Neighborhood Exploration. They use aerial photographs, maps, and a walk through their neighborhood to see where, besides the garden, residents can find fresh food and places for

socializing, relaxing, and cultural and educational events. They then produce a neighborhood collage using photos and maps.

The second question, “What’s happening in the garden?” takes youth on a Garden Hike with a knowledgeable gardener. During the walk through the garden, the youth interview the gardener and make observations about what is growing, what structures are present, and what activities take place in the garden. In addition to learning about the garden, the youth collect information that is important to community garden advocates nationwide. Youth use the *National Community Garden Inventory Form* to share the results of this activity.

To answer the third question, “Who are the gardeners?” the youth create a *Gardener Story*, detailing the gardener’s planting practices, how he or she learned the practices, and any planting tips the gardener may suggest. Because many gardeners are elderly, their unique practices are in danger of being lost if they are not recorded. Youth use the *Gardener Story Form* to contribute to a national database on

ethnic and sustainable planting practices.

- 3) Action Projects: Most Garden Mosaics youth want to do more than simply learn about the neighborhood, garden, and gardeners. They want to do something meaningful for the gardeners, to create something beautiful for the garden, and to answer questions about gardening that come up during the Investigations. The Garden Mosaics Action Projects provide such opportunities.

The Action Projects are carried out in cooperation with the gardeners, and where possible, draw from their cultures and planting practices. For example, the youth may carry out experiments or contact scientists to answer questions of concern to gardeners, and share their findings with the gardeners.

Youth choose an Action Project related to Art in the Garden, Food Systems, Garden Design, Garden Enhancement, Garden Research, Land Use, or Nutrition and Health.

They then fill out the Action Project Report to share their accomplishments with other sites across the country.

Appendix 7: Intergenerational Landed Learning Initiative (University of British Columbia)

Contact information:

Organization:	University of British Columbia
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URL:	www.cust.educ.ubc.ca/projects/index.html

Implementation Steps:

The following steps for the implementation of this model are based upon a one-year demonstration project:

- 1) Establish a farm site where activities can take place. Meet with those in charge of farm or garden space to be used to determine guidelines for use of space.
- 2) Identify "Farm Friends" who are retired farmers and interested in working with children.
- 3) Select a teacher(s) and school interested in integrating experiential learning, and an environmental ethic into their science and other curricula.
- 4) Plan and hold meetings among teachers and Farm Friends to reach mutual understanding of goals of project. Set a schedule of planned meetings for the year.
- 5) Establish research agenda and foci for program evaluation. Collaboration on these aspects can make the outcomes more meaningful to all participants.
- 6) Seek local sponsors and funding for required equipment, transportation, meeting costs, research agenda and program evaluation.
- 7) Seek permission from parents of students to participate in project. Farm friends do a criminal record check (if required).
- 8) Appoint and set tasks for research assistants.
- 9) Plan first meeting of Farm Friend teams.
- 10) Document activities that occur during each meeting of the Farm Friends through the use of videotape, photographs and field notes.
- 11) Schedule regular meetings with Farm Friends and teacher.
- 12) Create a website for exchange of progress notes and visual record of activities.
- 13) Schedule concluding celebration to the year's activities.

More details about program activities are provided below:

- The first key program activity in the project is an introduction of the students to the UBC Farm facility and to their Farm Friends. The teacher creates teams, and students spend time in this first meeting interviewing their Farm Friend.
- The second key program activity is to prepare assigned garden plots for the spring through planting of a winter cover crop. This is followed by soil testing and planning of spring and summer planting.
- The third key program activity is a series of events, carried out at the Farm and in the classroom, that link to the science curriculum and provide experience in the processes of science. These include, for example, experiments in the effects on plant growth of: fertilizers, density of planting, companion planting, cover crops, and variety of seeds.
- A fourth key program activity has students documenting their experience and learning throughout the project, in group journals.
- Ongoing program activities include discussions within and between Farm Friend groups on issues of farming, agriculture and their impact on the environment. Topics include, for example: treatment of pests and weeds, organic versus inorganic practices, production and marketing, locally grown versus imported foods, etc.
- Integrated with the other program elements are a range of agricultural activities for students and Farm Friends including: building and preparing cold frames, planting seedlings, transplanting plants, planting seeds, care and maintenance of the plants intensely over a period of approximately four months. To carry out these activities trips to the Farm occur approximately every two weeks.
- The final key program activity involves students preparing a Power Point presentation for their class on a day of culminating activities. Farm Friends, supporters, family members, and Farm personnel are invited to participate in the closing events.

Appendix 8: Time Capsules Activity*

Overview:

This activity involves collecting historical items, putting them in “time capsules,” and “unveiling” these capsules at some sort of public forum in a number of months or years into the future. This activity can be conducted as a class/school project or as part of a community or county event.

Participant Requirements:

This intergenerational activity is an inclusive one; participants of all ages, and with varying levels of physical function and moderate-high levels of mental function, are likely to be able to make a contribution to this group activity.

Objectives:

- promote an appreciation of history.
- stimulate intergenerational dialogue focused on societal changes in how people spend their time in leisure, work, etc.

Academic Connections/Life Skills:

social studies, math, historical perspective.

Materials/Resources:

2–5 large garbage containers with lids (to be used as time capsule containers); various assorted objects representing each of the highlighted eras.

Steps:

Although there are several ways to conduct a time capsule activity, the basic framework involves three steps:

- (1) Collecting artifacts: As a school, community, or family project, have participants collect historical artifacts. The number of “time capsules” created should be determined by the group of

participants. If possible, create one time capsule for each of several decades — the 1930s, 1940s, 1950s, and 1960s, or one capsule for each generation in attendance. If this project is part of a school or youth club activity, have the young participants request assistance from their older family members in collecting items from these decades. (So that individuals can later retrieve items of value, keep record of contributor’s items.)

- (2) Plan the display – or “unveiling” event: Agree on a place to store or bury the time capsules, and a date to open them. This can be a matter of weeks, months, or years after the capsules are sealed.
- (3) Open the capsules: At some sort of public forum, such as a community festival or an event held to celebrate a day of historical significance, open the capsules. Place the capsule contents in public view and encourage event participants to examine and discuss the items. In planning the event, try to ensure participation from all age groups (this should spice up the dialogue!!) and make sure to invite representatives from the media. With any luck, news of the event will appear in local newspapers, radio or television shows. As the items of each generation are removed, call for participants of each generation to comment on the meaning of the item. If a long period of time has passed, ask youth participants (who are now older) if they have a different understanding of any of the items in any of the capsules.

* Published in the Intergenerational Activities Sourcebook (Kaplan & Hanhardt, 2003).

Considerations:

This activity can also be done as a family event. In this case make sure to include items for the capsule(s) that reflect family history and identity. Try to have each family member contribute at least one item for retrieval at a later date. Also include items that reflect life in our contemporary society such as grocery store circulars, automobile brochures, magazine advertisements, candy bar wrappers, and movie listings from the newspaper. Although our day-to-day lives today may not seem so interesting, future generations of children (and any scientists and scholars on hand) are likely to find items that reflect how we live today to be very interesting. Make sure to pack the items in a box and write “Time Capsule” on it, with the note, “Do Not Open Until

_____ (the date you have chosen—e.g., 20 years from the date it is sealed). Put it away in the attic or some other safe storage place until this date.

However the “time capsule” activity is organized, it presents tremendous opportunities for intergenerational discussion. In the time capsule activity described in Barbara Friedman’s book, “Connecting Generations” (1999), emphasis is placed on facilitating discussion about the vast changes that have taken place in our society in terms of technology, medical advances, and daily living conveniences. Friedman also suggests the exercise of having participants refer to books and use the Internet to identify events, discoveries, or inventions that have occurred since the 1940’s.

Appendix 9: Using “Discussion Stimulators” to Facilitate Intergenerational Exchange

Overview:

The following is a series of questions about the environment designed for an intergenerational group of people participating in an outdoor school program. For each activity, participants are asked *Discussion Stimulator* questions designed to reinforce and extend the learning and discussion that takes place. A facilitator is on hand to ask the *Discussion Stimulator* question and encourage participants to share their views, experience and knowledge while answering these questions.

Objectives:

Participants will learn what people of

other generations think and know about the natural environment.

Participants:

children/youth (grades 4-12) and older adults.

Skills:

Discussing, Observing, Comparing and Contrasting, Organizing Information.

Material:

Scratch paper and pencil (optional).

Time Considerations:

10–20 minutes for each question.

Activity	Discussion Stimulator Questions	Guidelines for facilitators (to further stimulate dialogue)
1 Discovery Walk	How many kinds of animals did you see today during the Discovery Walk? Any deer, fox, butterfly, bears... etc? Were we able to see more kinds of animals in the wild 50 years ago?	Ask the children to look for animals in the woods at the beginning of the trip, and ask them the questions at the end. The purpose is to encourage the children to become more aware and appreciative of what has been lost.
2 Lesson of Cycles	A team of scientists has developed chemical compound that can remove pollution from water. However, nobody knows how this new chemical will affect the frogs that inhabit the area. Do you use the chemical? Why or why not?	Ask group members to give examples of how a new technology (or medicine, chemical, power source, etc.) was used prematurely — before people had a thorough understanding of its full impact, including undesirable side effects...? Ex: (1) Pesticide runoff from farms polluted ground water. (2) In the 1920's, dermatologist (skin doctor) used x-rays to treat acne. It later turned out that the x-rays sometimes caused skin cancer. (3) DDT harmed bald eagles.
3 Lesson of Resources	Imagine that someone is going to take either TV or cars out of the world. If you had to live without one of them, which one would it be?	The purpose is to show children that people used to live without either one of them. Ask the seniors to share how their life was. We are using countless resources (i.e., electricity, water, woods) from the Earth everyday. We should “reduce” and “reuse.”

Activity	Discussion Stimulator Questions	Guidelines for facilitators (to further stimulate dialogue)
4 Living things	Whether an animal survives or not often depends on whether they are good “learners.” For instance, young beavers learn what woods to eat by watching adult beavers. Come up with an example of how the survival of young human beings depends on what they learn from adults?	Designed learning outcomes: increase appreciation of assets of elder people.
5 Visit to Masseyburg (a historical village in central PA)	Play “Liar’s Club” activity after a visit. This activity gives the children some ideas about what life was like in the past. [The “Liar’s Club” box is filled with actual artifacts from 50 to 90 years ago.] Select an object from the box at one time. The children and senior participants then take turns coming up with ideas (and crazy stories) about how that object was used. Participants then guess which person is revealing the real use of the artifact.	They’ve learned what life might have been like in 150 years. Now let’s move forward in time. Let’s give the children some ideas about what life was like 50 to 90 years ago.
6 Community meeting	Let’s say this environmental center decides to start a club for people who want to work on improving the environment. They do things like study water quality and plant trees. Who should be invited to join this club? Children, youth, young adults, and/or senior adults?	The purpose is to show children that people of all ages are interested in and responsible for the environment.

Note: These activities and questions were developed as part of the Intergenerational Outdoor School program which was piloted at the Shaver’s Creek Environmental Center (SCEC). For more information on this approach and its impact on participants, see (Liu, 2004).

Appendix 10: Landscape Autobiographies Activity*

Overview:

Beyond the physical work associated with creating a garden, there is also a psychological dimension to gardening. To discover the personal meanings that people attribute to gardens and landscapes, an intergenerational group of gardeners will conduct landscape autobiography interviews with each other. [This activity can be used to supplement existing gardening programs (e.g., Master Gardeners) or as a stand-alone activity.]

Participant Requirements:

A mixed-age group of individuals who have gardening experience or interest.

Objectives:

This activity will:

- promote intergenerational communication focused on how people of all ages attribute meaning to gardening and other activities related to landscape creation/maintenance.
- raise awareness about some of the societal changes over the past 70 years that have transformed local and national landscapes.
- foster a greater sense of civic involvement on the part of local youth and older adults.

Academic Connections/Life Skills:

social studies, civics, horticulture, environmental design.

Materials/Resources:

writing pads, pencils.

Steps:

I) Preparation:

Establish an intergenerational community gardening group. This can involve working

with an existing garden and trying to expand the existing group of gardeners to ensure age diversity, or finding a new garden site and recruiting a multigenerational group of gardeners. In either case, the intergenerational dynamic is similar – i.e., young people and older adults who share an interest in gardening and a sense of connection to the garden site, coming together to garden, side by side. If starting a new garden, participants can be recruited from community youth programs, senior centers, notices in the local newspaper, etc. Ideally, work assignments should be subdivided so that the work groups are as intergenerational as possible, i.e., with each group including at least one young person, one young or middle-aged adult, and one senior adult.

II) Landscape Autobiographies:

- Develop mixed-age pairs of gardeners (this includes people who have formally joined the “community gardening group” as well as others who have experiences or interests in gardening and are willing to share their time and knowledge.).
- Establish a set schedule for pairs of gardeners to interview each other, with each interview lasting approximately one hour.
- Before the interviews are conducted, encourage participants to bring in personal photos, and pictures from magazines and other sources of images of landscapes that have sentimental value for them. (These images can be useful for stimulating and extending dialogue during the interviews.)
- Structuring the interview: Interview questions should touch on topics related to horticulture (plants/ flowers/

* Published in the Intergenerational Activities Sourcebook (Kaplan & Hanhardt, 2003).

gardens/ trees/ landscapes), but in the context of the respondents' personal life history. Some examples of interview questions are given below which can be shared with the participants. Also, encourage the participants to develop at least three of their own questions.

Examples of interview questions:

1. How would you describe the significance of gardening in your life?
2. (If the respondent brought in photos/pictures) When and where did you get these photos/pictures with landscape images? Why did you pick them?
3. In addition to the stories behind the photos/pictures you brought, do you have any experiences you can share about giving or receiving flowers during times of courtship and romance?
4. How "good" are you at gardening? [In other words, would you say that you have a "green thumb?"]
5. Who, if anyone, inspired you the most to become interested in gardening?
6. Does (Did) your family have any traditions associated with planting things? If so, please share them with me.
7. What's your personal sense of "beauty" associated with landscaping? For instance, do you prefer using large rocks in your garden? Do you prefer an elegant or a wild looking garden?
8. Is the landscape of your childhood different from the landscape in your current surroundings? If yes, please compare and contrast?
9. What are your feelings about some of the landscape changes that have taken place in many American communities (e.g., forest removal, highway development, and more housing units?)

III) Follow-up:

After the interviews, have each participant put together some sort of "landscape autobiography" profile (or report) on the person they interviewed. Encourage participants to be creative. For instance, they can attach photos, dry leaves, or make a personal website or CD. When the report is completed, have the participants share them with each other and, if desired, with other interview pairs.

Considerations:

Environmental autobiographies take time to compile, and they should not be rushed. Interviews are best conducted over the course of several sessions, or they can even be organized to occur on an ongoing basis.

To help build cohesion within the overall group of gardeners, organize discussion group meetings and social events. Participants might also hold periodic meetings to: determine if the garden is being used as intended, assess evolving community needs, and make appropriate garden (re-)design recommendations.

Appendix 11: Survey Instrument

Note: The following survey instrument was used to collect information on the intergenerational environmental education programs noted in the Profiles section.

[Please answer all questions that are applicable to your program. Attach additional pages as needed.]

Name of Program: _____

Contact information:

Name of Primary (home base) Organization: _____

Contact Person: _____

Address: _____

Phone Number: _____

Fax Number: _____

E-mail: _____

URL: _____

Partnering Organizations: (1) _____

(2) _____

(3) _____

Primary Funders: (1) _____

(2) _____

(3) _____

(1) *Program goals and objectives:*

(2) *Setting and Location* (Include information on the site(s) in which program activities take place):

(3) *Brief history/background of the program* (Include number of years in operation, who/ which organization(s) designed the program, and why it was developed in the first place):

(4) *Program participants* (Include information on: number (and ages) of participants, the roles they take, training/supervision/support they receive, and any other distinctive characteristics of the participants):

(5) *Program staff* (Include number of staff, their positions, the role(s) they take in the program, and how they are trained/supervised/supported):

(6) *Program activities*

(a) *Overview* (Briefly describe key activities; note how frequently they occur and who's involved):

(b) *How to Implement the Program* (Systematically, in outline form, list the key steps involved in implementing your program model):

(7) *Academic connections/life skills*: (Include information on connections to the academic curriculum and implications for life skills development):

(8) *Program Impact* (Include information on program impact on: the participants, their relationships with one another, and the environment. Highlight empirical research findings and list any data gaps. Also, comment on the status of research in your area):

(9) *Lessons Learned* regarding:

(a) *Effective ways to facilitate intergenerational engagement* (Highlight what was learned regarding ways to facilitate intergenerational discussion/ sharing/relationship formation):

(b) *Effective ways to enrich participants' environmental learning and action experiences:*

(c) How to get intergenerational groups to:

(i) *talk and learn about environmental health hazards.*

(ii) *act jointly to address these issues and promote environmental safety.*

(10) Any other insights or recommendations to share regarding models/efforts for bringing different generations together for environmental education and action?

(11) Obstacles/Challenges?



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