

Making a Difference in Nature

An Evaluation of Hidden Villa Environmental Education Program 2003-2004



Presented to:
Hidden Villa Board of Trustees

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HIDDEN VILLA

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Executive Summary

Making a Difference in Nature An Evaluation of Hidden Villa Environmental Education Program 2003-2004

Executive Summary

Hidden Villa is a non-profit 1,600-acre organic farm and wilderness preserve dedicated to inspiring a just and sustainable future through multicultural and environmental education programs for children, youth and the community.

In 2004, Hidden Villa hired an evaluation specialist to develop and implement an evaluation framework, and to design appropriate evaluation instruments for its environmental education programs. The following report documents in detail the process of and findings from the 2004 evaluation activities with the Hidden Villa Environmental Education program or HVEEP.

The results of this report are intended to support Hidden Villa's program staff, leadership team, Hidden Villa Board of Trustees, and other interested stakeholders in their efforts to make existing programs more effective and to find innovative approaches to reach constituents in an even more lasting way.

This executive summary represents a high-level compilation of results from the evaluation project with HVEEP that was conducted in the 2003-04 school year.

1. Evaluation Process and Methods

HVEEP offers a variety of programs. The first year evaluation concentrated on HVEEP's five-hour, daylong Farm and Wilderness Exploration, a field trip that serves 2nd through 6th grade students. The goal of the evaluation was to better understand the short-term and longer-term outcomes and impacts a one-day field trip has on the participating students, and to find ways for program improvements. The report is intended to be useful to program staff, Hidden Villa's leadership, Hidden Villa's Board of Trustees, and interested stakeholders.

Evaluation instruments were designed to answer the following questions:

- **HVEEP Alignment with Teachers' Goals for the Field Trip**
 - To what degree are teachers' goals for the field trip to Hidden Villa aligned with HVEEP's program goals for environmental education?
- **Teachers' Efforts to Integrate the Field Trip into Classroom Activities**
 - How do teachers integrate the Farm and Wilderness Exploration into ongoing classroom activities?
- **Student Outcomes from a Teacher's Perspective**
 - What short-term outcomes and longer-term impacts does a relatively limited one-day experience at Hidden Villa have on students from a teacher's perspective?
- **Supporting Teachers**
 - How could HVEEP better support teachers in preparing for and following up after the field trip?

A variety of qualitative methods such as interviews, focus groups, and document analysis were used to collect data. A qualitative approach is particularly well suited for the kind of questions HVEEP program staff explored. The data was analyzed using Miles and Huberman's (1994) approach to sorting descriptive observation data and interviews were transcribed to illuminate key emergent issues.

The table below depicts the types of evaluation procedures conducted.

Interviews

6 HVEEP teacher-naturalists

Focus Groups

8 Classroom teachers (grades 2-6)¹

12 HVEEP volunteer guides

Written Questionnaire

38 Teachers (grades 2,3,4, and 6)²

Observations (by evaluator)

3 in-class presentations by HVEEP staff members prior to the field trip

6 field trips

Several staff meetings

Documents

Curriculum and training manuals

Field trip planning tools

Brochures

Annual reports

2002-07 strategic planning documents

Research reports on the effectiveness of environmental education

Bay Area Environmental Education Collaborative material

¹ 14 teachers were invited and 8 teachers accepted the invitation. The group represented a broad mix of experienced and new teachers; teachers who have come to Hidden Villa numerous times and teachers for whom 2003-04 was their first field trip; teachers from inner-city and under-resourced school districts and one teacher from a wealthy, private elementary school.

² The questionnaire was sent to 128 teachers who participated in 2003-04 in a Farm and Wilderness Exploration. 41 returned questionnaires, of which 38 were valid.

2. Findings and Discussion

With the Farm and Wilderness Exploration field trip, HVEEP intends to provide children with a sense of wonder and awe and to connect them to their local natural environment, while offering them the opportunity to experience joy and fun outdoors. HVEEP also tries to convey to children the importance of developing a caretaking ethic towards all life by increasing awareness of the consequences of individual and community choices and actions on living things. Teachers' statements demonstrate that this experience is not trivial. Some students leave Hidden Villa with such strong impressions that their attitudes and behaviors are affected in ways that their teachers can readily observe and articulate. The responses we received from teachers support HVEEP's goal to connect students to nature and wilderness while instigating in them personal, as well as academic growth.

Each of the following sections is detailed in the full report:

- Goal Alignment between HVEEP and Teachers
- Student Outcomes from a Teacher's Perspective
- Evidence of the Field Trip's Staying Power
- Integration of the Field Trip throughout the School Year
- Teacher Support

2.1. Goal Alignment between HVEEP and Teachers

This section of the report compares teachers' objectives for choosing the Farm and Wilderness field trip with HVEEP's program goals. The result of that comparison shows a high alignment between teachers' rationale for coming to Hidden Villa and HVEEP's goals for environmental education. This is an indication that HVEEP communicates its mission well and that teachers value what Hidden Villa has to offer.

HVEEP Program Goal: Introduction to basic ecological concepts

- *To introduce students to basic ecological concepts in a hands-on, experiential way, emphasizing the interconnection between human social systems and natural cycles*

Teacher Response

- Field trip provides age-appropriate, standard-correlated curricular enhancements
- Hands-on, experiential program serves as a motivator for students back in the classroom
- Field trip clarifies connections between farm and food, animals and many daily products, preservation of wilderness, and opportunity for recreational experiences and well-being

HVEEP Program Goal: Sense of discovery and wonder

- *To awaken a sense of discovery and wonder toward the natural world, including its diverse human population*

Teacher Response

- Field trip provides new experiences that instigate students' interest, curiosity and awe
- New experiences are particularly effective as motivators for students who lack opportunities for traveling and exposure outside their immediate environments

- Field trip provides privileged students with unstructured time

HVEEP Program Goals: Caretaking ethic

- *To instill a caretaker ethic toward all life, raising awareness of the consequences of individual and community choices and actions on living things*
- *To provide program participants (children and adults) with tools and information that inspire a caretaking ethic in others and encourage responsible choices that will positively affect life on earth*

Teacher Response

- Field trip puts environmental themes into a context for students
- Caretaking of the environment translates into caretaking of each other

2.2. Student Outcomes from a Teacher’s Perspective

Teachers provided rich observations of the effects of the field trip on their students during the field trip and back in the classroom:

Academic impact

- **Increase in knowledge**
Teachers noticed that their students improved on making connections, for instance between dairy products and farm animals.

Emotional impact

- **Increase in students’ awareness for their environment**
Many students seemed overwhelmed and in awe when they hiked in the forest. Students who otherwise have a difficult time staying focused were able to be quiet and attentive.
- **Increase in students’ comfort in being outdoors**
Hiking in the forest often poses a challenge, including physical discomfort and fear, especially for those students who have never been on a hike before. Teachers reported an increase in self-confidence and a sense of empowerment after students completed the hike. This was particularly true of the Alone Walk, an activity in which children are asked to hike by themselves for a brief period of time

Behavioral and attitudinal impact

- **Increase in students’ empathy toward their immediate environment**
Some teachers reported that their students are more considerate and careful (e.g., putting bugs and spiders back into the grass, picking up litter in the school yard, and being more affected by petty vandalism in their school garden).
- **Increase in students’ skills in using environmental action strategies**
When HVEEP staff members visit students in their classroom prior to the field trip, they challenge the students to bring a no-garbage lunch to Hidden Villa. A no-garbage lunch contains ingredients that are healthy and that can be composted, and are packaged in a recyclable or reusable container. Teachers described how some of their students continued with a no-garbage lunch after the field trip. Other students

used scrap paper more often during class projects and were more engaged in recycling activities.

Social impact

- **Increase in social cohesiveness in the classroom after the field trip**

HVEEP field trips are organized in small groups with six to eight students per group. Teachers valued this aspect of the program, especially because it brings their students closer together. Students bonded throughout the field trip, making the class as a whole more cohesive.

2.3. Evidence of the Field Trip's Staying Power

One measure of a program's effectiveness is the degree to which the desired outcomes are realized during the weeks, months or years of direct intervention. On another level, a program that claims to create change of any sort – whether in students, teachers, whole schools or communities – also looks to measure its effectiveness in terms of its ability to create sustained or lasting change *after* its period of direct intervention.

- **Hidden Villa field trip remembered as favorite field trip**

Several teachers reported that the Farm and Wilderness Exploration is often remembered as the favorite field trip of their former students. Students sometimes talk to their former teacher years later about their Hidden Villa field trip.

- **No-garbage lunch**

Some students continued the no-garbage lunch long after the field trip to Hidden Villa, and asked their teachers in the following grades to take no-garbage lunches on field trips.

- **Other outdoor experiences reinforce and reconnect them with earlier Hidden Villa-related experiences**

Several school districts on the Peninsula participate in a science camp in the 5th grade. One teacher in the focus group and one teacher in the questionnaire were interested in how students compared science camp to their Hidden Villa field trip. They were also interested in how another outdoor experience reconnected the students with their experience at Hidden Villa.

2.4. Integration of the Field Trip throughout the School Year

Students' exposure to Hidden Villa is not limited to the field trip itself. Teachers provided a variety of examples of how they prepared their students for the field trip and how they used the field trip experience afterwards.

The most salient findings for this section are:

- Teachers liked the content and process of the pre-field trip presentation by HVEEP staff. They found the in-classroom visit well balanced between hands-on activities and interactive presentation. Students and teachers favored the Manure-to-Meadow-to-Milkshake skit because it illustrated the abstract concept of the life cycle and the food chain in a humorous way. They liked the teaching stations because the students

were directly involved with the material. The only criticism pertained to the length of the slideshow (too long to keep students focused) and the slides (too outdated).

- In the questionnaire, the majority of teachers stated that they prepared their students through science-related activities that match the state-required standards for earth and life science. Most teachers integrated the field trip throughout the school year, although we did not receive much information about the specific details of follow-up activities.
- More than two-thirds of the teachers from the questionnaire, and almost all teachers from the focus group, had creative writing and arts-and-crafts-related activities immediately after the field trip.
- Teachers in the focus group talked about the importance of environmental stewardship as a concept that they include in their preparation and throughout the school year. In the questionnaire, about one-third of the teachers considered this a central part of their Hidden-Villa related teaching. Less clear, however, is what teachers did to keep the enthusiasm the students had right after the field trip alive throughout the rest of the school year.

2.5. Teacher Support

The following summary presents the responses to questions about how HVEEP can improve its support for teachers and what challenges teachers encountered in coming to Hidden Villa.

Additional topics to be covered during the Farm and Wilderness Exploration

Teachers suggested the following additional topics to be covered during the field trip:

- Organic pest control for vegetable gardens
- More discussions about farm equipment (e.g., early farm life vs. modern day technology)
- Information about amphibians and reptiles
- Information about the sustainable buildings on the farm

Additional teaching resources

- Teachers suggested they be provided with grade-specific lesson plans and follow-up activities that support them in systematically integrating the field trip.

Multiple field trips

- One teacher suggested introducing an option for multiple field trips.

Inconsistency among volunteer guides

- The Farm and Wilderness Exploration field trips are staffed with volunteer guides up to fifty percent of the time. Only three of the thirty-eight teachers who responded via questionnaire wrote about inconsistencies in the volunteer guides' abilities to capture students' interest due to a lack of teaching experience.

Lack of ethnic diversity among HVEEP staff

- Two teachers in the focus group talked about the predominance of white teacher-naturalists and volunteer guides. They would like to see more people of color and more Spanish-speaking guides.

Interactive website

- A majority of the teachers would find an interactive website useful offering additional resources and opportunities for uploading trip-related pictures or conversing with other teachers about their recommendations for integrating a field trip.

Challenges

- For about one third of the teachers in the questionnaire the cost of the program is the biggest challenge.
- The rising cost for transportation was the next biggest challenge.
- Making a reservation per phone in a very limited time frame was the third most frequently mentioned challenge.

3. Conclusions and Recommendations

Louise Chawla, a researcher from Kentucky State University, made an interesting discovery when she reviewed studies about the childhood experiences of environmentalists to find why they grew up with strong ecological values. She found that most environmentalists track their commitment back to two sources: a) many hours spent outdoors in a keenly remembered wild or semi-wild place in childhood or adolescence, and b) an adult who taught respect for nature (Chawla 1998).

When asked what they think influenced them most strongly in their desire to be involved in environmental education, HVEEP staff echoed Chawla's findings. Teachers provided strong evidence of how HVEEP's staff and volunteer guides inspire their students through their capacity to share their love for nature and the outdoors with the children.

Throughout the field trip, HVEEP staff involves students in activities and inquiries that are designed to help them connect what they see at Hidden Villa with their daily lives. The environmental awareness, knowledge, and skills needed for this localized learning provide a basis for moving out into larger systems, broader issues, and a more sophisticated comprehension of causes, connections, and consequences. HVEEP's teaching strategy is learner-centered and provides students with opportunities to form their own understanding through hands-on, minds-on investigations. Children are engaged in direct experiences in real world contexts and issues, from which concepts and skills can be learned.

Another important pattern emerged from the data. What we learned from teachers demonstrates that they play a significant role in facilitating the kind of behavioral and attitudinal changes that HVEEP strives for in its programs. The findings show a potential among teachers that HVEEP currently does not tap into: intentionally and consciously forming an alliance with the classroom teacher to strengthen the impact of a one-day field trip. Teachers' responses demonstrate how they make environmental education

experiential, helping the students to frame their knowledge and increase their consciousness after the field trip to Hidden Villa.

The recommendations were designed to not only strengthen the Farm and Wilderness Exploration, but also to find ways to actively involve teachers in the preparation for and follow-up of the field trip throughout the school year.

Selection of Recommendations:

- **Consider encouraging teachers to prepare students more intentionally and actively for the field trip** through closer interaction with HVEEP staff before the field trip and online resources after the field trip.
- **Consider turning the no-garbage lunch request into a preparatory field trip tool** by including suggestions for activities in the classroom. The findings clearly show that the no-garbage lunch has some staying power with students, and that they feel empowered by being able to make a contribution to waste reduction.
- **Consider reviewing the current set-up for the Farm and Wilderness Exploration for opportunities to individualize the field trip to address the different needs** of the huge variety in student populations that visit Hidden Villa. For instance, outdoor-experienced students might enjoy more unstructured time to play in the creek or attempt more challenging activities.
- **Consider revising the field trip curriculum for the Farm and Wilderness Exploration** to better reflect the differences in background knowledge depending on the time of the school year the students come to Hidden Villa and depending on teachers' requests.
- **Consider developing a design workshop at Hidden Villa, for teachers** to design their own lesson plans and activities under the guidance and help from HVEEP staff. The Hidden Villa online-curriculum is an important first step towards bringing HVEEP and the teachers closer together. As the Center for Ecoliteracy in Berkeley found out, it is often not enough to support teachers by just giving them additional resources. It is the interaction with the teacher naturalists and their own hands-on learning that inspires them to better integrate environmental education.

I. Introduction

“Becoming aware of the relationship of all living things to other living things is the key of knowing ourselves. It is the basis of understanding the intricate web of life. By what means can such experience be brought about? The challenge for the teacher is to set the stage so that this kind of learning can take place.”

Josephine Duveneck, Life on Two Levels

1. Program Evaluation at Hidden Villa

Hidden Villa is a nonprofit 1,600-acre organic farm and wilderness preserve dedicated to inspiring a just and sustainable future through multicultural and environmental education programs for children, youth and the community.

In 2004, Hidden Villa hired an evaluation specialist to develop and implement an evaluation framework and to design appropriate evaluation instruments for its environmental education programs. The following report documents in detail the process of, and findings from, 2004 evaluation activities with the Hidden Villa Environmental Education Program or HVEEP.

The results of this report are intended to support Hidden Villa’s program staff, leadership team, Hidden Villa Board of Trustees, and other interested stakeholders, in their efforts to make existing programs more effective and to find innovative approaches to reach constituents in an even more lasting way.

This report is organized into the following subsections:

- Evaluation Process and Methods
- Findings and Discussion
- Conclusions and Recommendations

2. Context for Program Evaluation at Hidden Villa

Since 2003, Hidden Villa has been a member of the Environmental Solutions Forum (ESF) under the sponsorship of the Center for Venture Philanthropy, through the Peninsula Community Foundation. ESF is designed to strengthen the Bay Area’s environmental education programs by increasing the capacity of the participating organizations to deliver the most effective programs possible, so that more citizens in Silicon Valley demonstrate environmentally responsible behavior.

Strengthening an organization’s capacity to successfully implement long-term program evaluation has been identified as a core strategy for achieving the kind of behavioral and attitudinal changes environmental education organizations are striving for. Supported by ESF, Hidden Villa decided to focus on the following goals:

- To develop thorough evaluation methodology across all programs with guidance from environmental education and evaluation experts;

- To coach program staff to be reflective practitioners, continually documenting and refining practices and making program-related decisions based on systematically gathered data; and
- To research, develop, and pilot new program enhancements that will intensify the learning process and increase multiple exposures that correlate with building environmentally sensitive behavior.

II. Evaluation Process and Methods

One of the first evaluation-related activities evaluators focus on is goal clarification. As veteran evaluation researcher and practitioner Michael Patton points out, “when we are invited in, we seldom find a statement of clear, specific, prioritized, and measurable goals.” (Patton 1997: 152). Even when goals exist, he continues, they are often unrealistic and exaggerated to secure funding. Evaluability assessment that includes goal clarification has become an increasingly important pre-evaluation tool. This assessment supports programs in preparing for evaluation and thereby acknowledges the common need for a period of time to work with program staff and other key stakeholders on clarifying goals – making them realistic, meaningful, agreed upon, and evaluable.

Getting a program ready for evaluation consists of field work (e.g., acquiring a first-hand understanding of how the program works by shadowing program staff) and interviews to find out how much consensus there is among various stakeholders about program goals and also to identify the differences. This first phase also includes dealing with basic questions such as purpose of the evaluation, how the information from the evaluation will be used, comparison if what program staff has learned from the evaluation, and what actions will be taken based on the evaluation findings. Answers to these and related questions will determine everything else that happens in the evaluation. As evaluators and program staff interact around these questions, the evaluation takes shape.

This section of the report summarizes the evaluation process that took place with HVEEP in 2004 and the evaluation questions and strategies that were developed. Table E 1 provides a snapshot of the sequence of steps that emerged between December 2003 and May 2004. A more detailed description of the stages follows.

Table E 1. 2004 HVEEP Program Evaluation Process

Stage	Evaluation Activities	Timeline
Stage 1	Evaluability Assessment	
<i>Step 1</i>	Interviewing HVEEP staff	December 2003
<i>Step 2</i>	Clarifying HVEEP’s program goals and outcomes for the Farm and Wilderness Exploration	January through June 2004
Stage 2	Outcome Clarification	
<i>Step 1</i>	<i>Outcome Clarification 1:</i> Small-group interview with teachers who participated in the 2003/04 Farm and Wilderness Exploration	May 2004
<i>Step 2</i>	<i>Outcome Clarification 2:</i> Larger-scale questionnaire to all teachers who participated in the 2003/04 Farm and Wilderness Exploration	May 2004
<i>Step 3</i>	<i>Outcome Clarification 3:</i> Mountain View’s Castro School and Hidden Villa Partnership with multiple field trips for two 4 th and 5 th grade classes (evaluation results of this partnership are not included in this report; they will be published separately)	September 2004-May 2005

1. Stage 1: Evaluability Assessment

1.1. Step 1: Interviewing HVEEP staff (December 2003)

As part of an evaluability assessment, HVEEP staff members have been interviewed about their professional background, their experience and satisfaction with working in

environmental education at Hidden Villa, their perceived program strengths and challenges, and what they would like to learn from program evaluation. The interviews provided:

- An authentic description of strengths and challenges and the impact on children, phrased in staff's terms and vocabulary
- A chance to build trust between evaluator and program staff through a face-to-face conversation including an opportunity for staff to ask questions and voice reservations usually associated with program evaluation
- Questions HVEEP staff would like to see answered through an evaluation – without regard to methods, measurement, design, and resources

Interviews lasted 1 1/2 hours on average, and were tape-recorded and transcribed.

1.2. Step 2: Clarifying HVEEP's program goals (January 2004 through June 2004)

The second step consisted of engaging HVEEP staff in making explicit their "program theory of change" through a process that is called "program logic mapping."

The Harvard Family Research Project, which has been instrumental in developing and refining the method of program logic modeling, gives a succinct description of purpose and process:

"A logic model provides the basic framework for an evaluation. It is a graphic that describes a program or organization in evaluation terms. It illustrates a program's theory of change, showing how day-to-day activities connect to the results or outcomes the program is trying to achieve. Similar to a flowchart, it lays out program activities and outcomes using boxes, and, using arrows to connect the boxes, shows how the activities connect with one another. ... Once the model is completed the evaluation can be designed to determine whether the program is working as shown in the logic model." (Coffman 1999: 1)

"Theory" is used casually in this particular context. It refers to the reasoning program staff uses to link cause and effect for the program. This particular process has been promoted by United Way of America³ and the W. K. Kellogg Foundation (Kellogg Foundation 2001) to support service-oriented, non-profit organizations in their efforts to ascertain, discern, and document a) how they plan to make a difference through their program, b) what the steps are that lead to a desired outcome, and c) what the desired outcomes look like over a number of years.

Although by no means the only way to gain a better understanding of how a program is supposed to make a difference, program logic mapping is a widely used tool in making explicit program staff's assumptions about the causal relationships and connections between inputs (resources), program activities, immediate and intermediate outcomes

³ United Way of America's Outcome Measurement Resource Network provides United Way of America's and other organizations' outcome measurement resources and learning (<http://www.unitedway.org/outcomes/>)

(changes in participants), and the ultimate program goals (distal and persistent changes in participants).

Creating program logic maps is an iterative process with a series of meetings usually lasting several hours and ideally involving all critical stakeholders. In HVEEP’s case, the mapping process happened in a much more casual way, with meetings spread out over several months. HVEEP staff members decided to focus on the more extensive Farm and Wilderness Exploration field trip. They felt more confident in their ability to formulate short-term and longer-term outcomes and indicators than for the Farm Tours program which is offered to much younger children. Subsequently, the 2004 HVEEP program evaluation concentrated exclusively on the Farm and Wilderness field trip.

Program logic mapping is an ongoing process, especially in cases where evaluation is evolving as it is in HVEEP’s case. It is common to re-visit a program’s logic maps, revising them regularly and thereby creating a visual repository of a program’s learning and growth.

Table E 2 shows the program logic map for HVEEP’s No Garbage Lunch Activity (introducing students to healthy nutrition and how to avoid creating garbage by using reusable containers):

Table E 2. Program Logic Map for “No-Garbage Lunch”

Program Input	Short-term Outcome	Long-term Outcome	Ultimate Goal
No Garbage Lunch activity providing students with information on healthy nutrition and how reusable packaging reduces waste	Increase in students choosing healthy snacks and lunches Increase in students choosing reusable containers for their snacks/lunches	Students forming healthy eating habits and environmentally responsible behaviors in upper grades	Lifelong commitment to healthy nutrition and environmental stewardship through recycling and reusing resources

The HVEEP program logic maps yielded important findings that determined the next steps in the evaluation process:

- A high degree of consistency existed between staff talking about their program in an interview, the program logic models they created, and the program’s overall goals and mission as stated in training manuals, curriculum and brochures.
- As with all service-oriented programs, staff found it easiest to describe immediate outcomes for the program (from the end of the field trip to half a year after the field trip). It was far more challenging to describe the longer-term impact of a one-time, five-hour field trip.
- Subsequently, staff felt confident about determining indicators that describe immediate outcomes and often felt at a loss when asked to define indicators for short-term and more distal outcomes.
- Teachers were noticeably absent in the program logic models. Changes in students’ attitudes and behaviors were solely attributed to their experience at Hidden Villa. Teachers, however, play a key-role in keeping the field trip experience alive for

students. They provide constant opportunities for students to process their insights and what they learned, and to facilitate the kind of change HVEEP would like to see in children.

- Outcomes for the same activity might differ depending not only on a child’s age, but also on any previous outdoor experiences, or lack thereof.

2. Stage 2: Outcome Clarification

2.1. Step 1 and 2: Soliciting responses from teachers

HVEEP staff decided to host a conversation with a diverse group of teachers to learn more about their reasons for coming to Hidden Villa, the kind of changes they observe in their students during and after the field trip, and the ways they integrate the field trip into ongoing classroom activities.

Of the fourteen teachers invited, eight participated in the two-hour focus group sharing their experiences, stories, and observations. The group represented experienced and new teachers, teachers who have come to Hidden Villa for years and those for whom 2003-04 was their first time, teachers from private and public schools, and teachers from predominantly low-income to affluent areas. The only imbalance is due to the high percentage of women in the elementary teaching field: of the eight participants, seven were women.

This conversation with these teachers proved so successful, rich in detail, and informative, that an open-ended questionnaire went out to all teachers who participated in a 2003-04 Farm and Wilderness Exploration. The focus group session was tape-recorded and then transcribed. Teachers’ responses to the survey questions were also transcribed and analyzed. Table E 3 summarizes the questions for both, the focus group conversation and the teacher questionnaire.

Table E 3. Questions for Teacher Focus Group Conversation and Teacher Questionnaire 2004

Area of focus	Questions
Reasons for coming to Hidden Villa	<ul style="list-style-type: none"> • What were your reasons for picking HV as the destination for your field trip? • What did you hope your students would gain from a field trip to HV?
Preparing students for the HVEEP F/W trip	<ul style="list-style-type: none"> • What of HVEEP’s in-class presentation seemed to make the deepest impression on your students? • What, if anything, did you do to prepare your students for the field trip, including lesson plan and pre-visit enrichment activities?
Observations during the field trip	<ul style="list-style-type: none"> • What seemed to make the biggest impression on your students during the field trip itself?
Observations back in the classroom	<ul style="list-style-type: none"> • How did you follow up with your students after the field trip? • What have your students retained from a field trip to HV? How did you integrate the trip into your classroom activities?
Hidden Villa’s support for teachers	<ul style="list-style-type: none"> • Which curricular objectives did the field trip support? • What can HVEEP do to better support your field trip objectives and follow-up activities?

2.3. Step 3: Adding students' perspective

Many important insights were gleaned from the data that has been collected for this evaluation project. One important perspective, however, was still missing: the students' perspective on the field trip. A student-focused evaluation took place the following year, in 2004-05, where we followed two combined 4th and 5th grade classes who came out for three field trips throughout the year and whose teachers integrated the field trips into their ongoing classroom activities. The findings of this case study will be published in a separate report.

3. Evaluation Instruments

For the 2004 HVEEP evaluation, multiple methods were used. Semi-structured interviews and focus groups were conducted with HVEEP program staff, teachers, HVEEP interns, and HVEEP volunteer guides. A larger-scale questionnaire for all teachers whose students participated in the 2003- 04 Farm and Wilderness Exploration, an observation of in-classroom participation by HVEEP staff before the field trip and of the field trips themselves, and an extensive document review, served to triangulate the data. Table E 4 on the next page summarizes the data sources for the 2004 HVEEP evaluation project.

Table E 4. 2004 Data Sources for HVEEP Program Evaluation

Instrument	Type and Number Administered
Interviews	6 HVEEP staff members
Focus Groups	8 Classroom teachers 12 HVEEP volunteer guides
Written Surveys	Questionnaire sent to 128 classroom teachers 41 teachers returned (response rate of 33%) 38 returns were valid
Observations	<ul style="list-style-type: none"> • HVEEP in-classroom presentations before field trips • Field trips at Hidden Villa • Staff meetings • Volunteer guide training
Document Reviews	<ul style="list-style-type: none"> • Program fliers, brochures, Logic Model • Training and teaching manuals • 2002-2007 Strategic Planning documentation • HVEEP Annual reports • Literature review

4. Data Analysis

Documents, transcribed interviews, and responses to the questionnaire were coded to capture key emergent issues and to answer the evaluation questions. Codes are “tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study” (Miles and Huberman, 1994). They are attached to words, phrases, sentences, or whole paragraphs, connected or unconnected to a specific question. They are sometimes a category label such as “Motivation to come to Hidden Villa” or a more complex one such as “Providing safe risks in outdoor education”. The most prevalent themes and patterns emerging from the data were analyzed and are synthesized into this report. They are presented in greater detail in the next section “Findings and Discussion”.

III. Making a Difference in Nature: Findings and Discussion

*A child's world is fresh and new and beautiful
full of wonder and excitement. It is our misfortune that for most of us
that clear-eyed vision, that true instinct for what is beautiful and awe-inspiring
is dimmed and even lost before we reach adulthood.*

*If I had influence with the good fairy who is supposed to preside over the christening of
all children I should ask her gift to each child in the world be a sense of wonder so
indestructible that it would last throughout life, as an unfailing antidote against the
boredom and disenchantments of later years, the sterile preoccupation with things that
are artificial, the alienation from the sources of our strength.*
~ Rachel Carson, *A Sense of Wonder*

Rachel Carson's musings about how to protect a child's sense of wonder seem as necessary today as when they were first published in 1965 – if not more so. New disorders are being “discovered” that describe children's growing alienation from the outdoors: nature deficit disorder, for example, as described in a recent New York Times–article (McKee 2005). Very much in agreement with Rachel Carson's plea to instill and protect a child's sense of wonder are David Sobel's efforts in his book *Beyond Ecophobia*. This book demonstrates the importance of connecting children to the natural landscape before they are filled with the names of trees, birds, and geologic formations. As Jennifer Sahn points out in the introduction: “Those names won't stick unless there's a bedding of empathy where that knowledge can take root.” *Beyond Ecophobia*, with its programmatic subtitle *Reclaiming the Heart in Nature Education*, is a passionate discussion of the importance of children having an opportunity to bond with the natural world and to learn to love it, before asking them to heal its wounds (Sobel 1996: 9).

Chief among HVEEP's formally and informally stated goals is exactly that ideal: to provide children with a sense of wonder and awe and to connect them to their local natural environment while offering them the opportunity to experience joy and fun outdoors. As teachers' statements demonstrate, this is not trivial. Some students leave Hidden Villa with such strong impressions that their attitudes and behaviors are affected in ways that their teachers can observe and articulate. The responses we received from teachers support HVEEP's goal to connect students to nature and wilderness while instigating personal as well as academic growth.

Another important finding that emerged from the data was the central role of the teacher in making environmental education experiential and in facilitating students' learning. Without having ongoing opportunities to reflect upon the impressions, discoveries, and observations they gathered during the field trip, students were likely to remember Hidden Villa as a fun place but were not as likely to develop the skills and changes in behavior and attitudes that HVEEP (and most other environmental education programs) desire. Teachers are important allies in achieving what HVEEP aims for in its Farm and Wilderness Exploration program. The most salient points of the findings presented in greater detail in the rest of this section are the following:

- HVEEP’s program goals and teachers’ objectives for choosing a field trip to Hidden Villa were in close alignment
- Teachers provided rich evidence for the academic, emotional, behavioral, attitudinal, and social impacts and effects a one-day field trip had on their students
- Several teachers put equal emphasis on the academic as well as on the personal growth of their students coming to Hidden Villa, which is congruent with HVEEP’s values-based approach to environmental education

Table F 1 summarizes the evaluation questions that HVEEP staff developed and that guided the design of the evaluation instruments.

Table F 1. Evaluation Questions for 2003-04 HVEEP Evaluation Project

Themes	Evaluation Questions
<i>HVEEP Program Goals</i>	<ul style="list-style-type: none"> • To what degree are teachers’ goals for the field trip to Hidden Villa aligned with HVEEP’s program goals for environmental education?
<i>Integration after the Field Trip</i>	<ul style="list-style-type: none"> • How do teachers integrate the Farm and Wilderness Exploration into ongoing classroom activities?
<i>Student Outcomes</i>	<ul style="list-style-type: none"> • What impacts does a daylong, five-hour experience at Hidden Villa have on students from a teacher’s perspective?
<i>Teacher Support</i>	<ul style="list-style-type: none"> • How can HVEEP support teachers in preparing for and following up after the field trip?

In the sections that follow, we present teachers’ responses to these questions in greater detail. The major purpose of the analysis was to organize teachers’ responses so that overall patterns would become clear. The emphasis throughout is on letting teachers speak for themselves. Their responses often contained several experiences, observations, and thoughts. The challenge for the evaluator was to present such variety from one response in a cogent fashion.

A trend between the two groups⁴ of participating teachers emerged: because of the face-to-face situation in the focus group, participants could develop and elaborate certain themes in greater detail. Their responses tended to be more specific. This was, of course, not possible in the questionnaire, where the responses to the questions were more general.

⁴ The data was collected from two different groups of participants. The first group consisted of eight teachers who participated in a focus group conversation and the second group consisted of thirty-eight teachers (of a total of 128 teachers) who returned the questionnaire.

The presentation of the data follows the five themes that structured the focus group conversation and the questionnaire:

- Alignment between HVEEP program goals and teachers' reasons for coming to Hidden Villa
- Teachers' observations about the effect of the field trip on students (short-term outcomes)
- Evidence of the field trip's staying power (longer-term outcomes)
- Integrating the field trip throughout the school year
- Teacher support

1. Alignment between HVEEP Program Goals and Teachers' Reasons to Come to Hidden Villa

This section compares teachers' objectives and expectations for choosing the Farm and Wilderness Exploration field trip with HVEEP's program goals. The result of that comparison shows a high alignment between teachers' rationale for coming to Hidden Villa and HVEEP's goals for environmental education - an indication that HVEEP communicates its mission well and that teachers value what Hidden Villa has to offer.

HVEEP program goals will be discussed individually below. In summary, they are:

- To introduce students to basic ecological concepts in a hands-on, experiential way; emphasizing the interconnection between human social systems and natural cycles
- To awaken a sense of discovery and wonder toward the natural world including its diverse human population
- To instill a caretaker ethic toward all life, raising awareness of the consequences of individual and community choices and actions on living things
- To provide program participants (children and adults) with tools and information that inspire a caretaking ethic in others, and encourage responsible choices that will positively affect life on earth

1.1. HVEEP Program Goal: Introduction to basic ecological concepts

The first program goal refers to knowledge-related aspects of the field trip:

- To introduce students to basic ecological concepts in a hands-on, experiential way, emphasizing the interconnection between human social systems and natural cycles

Teacher Response

- Field trip provides age-appropriate, standard-correlated curricular enhancements
- Hands-on, experiential program serves as a motivator for students back in the classroom
- Field trip clarifies connections between farm and food, animals and many daily products, preservation of wilderness, and opportunity for recreational experiences and well-being

This program goal refers most explicitly to the knowledge-related parts of the field trip. Teachers listed “curricular enhancement” among their major motivations for coming to Hidden Villa. Several teachers emphasized the importance of HVEEP’s hands-on and experiential teaching, considered a best practice for non-formal environmental education programs (NAAEE 2004). Interdependence and interconnection, the relationship between all living things, is a core concept of HVEEP’s environmental education programs. A good portion of the teachers cited this as their prime motivation for coming to Hidden Villa. They expected their students to leave not only with a better intellectual understanding of, but also with an emotional connection to, the meaning of interdependence of all living things.

1.1.1. Curricular enhancement

“We are a science magnet school. We want as much field experience as possible to make the science more meaningful and interesting (and understandable).” (4th grade teacher, questionnaire)

Teachers in both the questionnaire as well as the focus group mentioned curricular enhancement most frequently as their reason for coming to Hidden Villa. This might include the enhancement of zoology and botany studies, or the teaching of Native American history. Table F 2 summarizes the subject matters that teachers listed in the questionnaire and referred to in the focus group conversation.

Table F 2. Curriculum-Related Topics Mentioned by Teachers

Curricular Topics
<ul style="list-style-type: none"> • Soil science, compacting food for fertilizers, organic farming photosynthesis, plant life, seeds • Animals and animal adaptation • Life cycles, food chains • Wildlife and ranching • Habitats • Ecology, ecosystems and natural resources, interdependence between nature and humans; protecting and care for the environment • Social studies unit on food, farm to table • Pioneer life, Native Americans

About one-third of the teachers who responded to the questionnaire placed a high emphasis on their students leaving a Hidden Villa field trip with an increased knowledge of their local environment.

For a second-grade teacher, the HVEEP field trip “starts as a springboard for all the science we do, and HVEEP presents the curriculum in the most wonderful manner ever.” (2nd grade teacher, questionnaire)

The previous quote indicates that HVEEP is successful in its efforts to connect field trip activities to curricular standards.

The focus group, too, mentioned curricular enhancement among their first priorities. “Curricular enhancement” for this group of teachers meant an increase in students’ excitement and motivation that made it easier for teachers to engage their students back in the classroom. Students experienced so much during the one day at Hidden Villa that they felt they had something meaningful to share:

“The field trip helps me push my standards of writing and research because they have such a rich experience here that they are really excited to go back and write that essay or write that personal narrative that they might not be so excited about writing were I just to assign it. The actual experience that is shared is really important.” (4th grade teacher, focus group)

1.1.2. Hands-on, experiential environmental education

Several teachers chose HVEEP because of its hands-on, experiential teaching that involves students directly with the garden, the animals, and the wilderness; and enhances their excitement about these different subjects. One teacher summarized well how this approach supported her when back at school:

“Having the students getting the dirt under their fingernails and shovel it and smell it and taste it and feel it is such a motivator for writing. It takes the burden off me because they are so excited, it’s so new, it’s so fresh.” (3rd grade teacher, focus group)

1.1.3. Interconnection between human social systems and natural cycles

A core concept of environmental education is letting children experience how they are part of nature and natural cycles, and how their food is connected to animals and the land. Several teachers wrote about the importance of their students’ understanding that all life is related and important to the well being of planetary ecology:

“I think the field trip is teaching them that there are cycles, where do things come from, connectedness.” (4th grade teacher, focus group)

The relationship between farming and food is part of the 2nd and 3rd grade science standard. A small group of teachers expressed a desire for their students to increase their understanding of that connection as the prime motivation for coming to Hidden Villa.

1.2. HVEEP Program Goal: Sense of wonder and discovery

The second HVEEP program goal represents a core approach in many environmental education programs of fostering feelings of comfort in, and empathy toward, natural areas and wildlife:

- To awaken a sense of discovery and wonder toward the natural world, including its diverse human population

Teacher Response

- *Field trip provides new experiences that instigate students’ interest, curiosity and awe*
- *New experiences are particularly effective as motivators for students who lack opportunities for traveling and exposure outside their immediate environments*
- *Field trip provides privileged students with unstructured time*

Exposing students to a new experience, namely being outdoors in a forest and on a farm, was the second most frequently mentioned reason why teachers come to Hidden Villa.

This is especially true for students with little or no outdoor experience.

“Our children have never been anywhere. This opens their eyes, their range, their possibilities. When Chris and his crew come to class, they show the slides of Hidden Villa Ranch and my children look at the mountains and wonder ‘Will we fall off if we hike on them?’ They never have been on a hike, they don’t know the word ‘hiking’ and ‘path’, they are just amazed.” (2nd grade teacher, focus group)

Teachers found their students more excited and motivated after they experienced something new:

“I videotaped our last trip where there is a girl who never has been out and touch anything looking at things in the creek. She lets out a scream ‘Uhhh ... what is THAT?’ and then the next second she was getting closer to look at it. And then I asked her ‘What is that yucky thing that you found there?’ And she says ‘Yeah, but it is cool!’ That sense of you can get in the creek and then you can see it and the assumption is that, of course, you’re gonna be interested about what you’re looking at.” (4th grade teacher, focus group)

Whereas inner city and urban or suburban students often lack exposure to an outdoor environment, students from an economically privileged background do not usually lack exposure to the world. One teacher from a private school in an affluent town described her students as needy in a different way. It was the unstructured time in the forest that excited her students the most:

“A lot of the children that I teach are very privileged. These kids are so pushed, their lives are so busy, they don’t lack places to go. I love to bring them here because they get to be children. These kids don’t have the time to dig in the dirt, they don’t have the time to do things that children do. The children that I teach are needy in a different way.” (2nd grade teacher, focus group)

To protect that space for them, she decided to not take parents along for the field trip:

“We don’t allow parents to come. And the parents want to. But I think that gives the students some of that freedom too. Because they don’t have a parent saying ‘Don’t get in that water, don’t get wet, don’t get muddy, don’t do that, don’t touch that’ or worrying that they’re going to fall off a rock. They’re just out for the day having the freedom to be kids.”

1.3. HVEEP Program Goal: Caretaking ethic

The third and fourth program goals represent a core component of HVEEP’s values-based approach to environmental education, combining knowledge and skills with the value of caretaking and environmental stewardship. The fourth goal will be referred to in greater detail in the next section on the impact of the field trips on students.

- *To instill a caretaker ethic toward all life, raising awareness of the consequences of individual and community choices and actions on living things*

- *To provide program participants (children and adults) with tools and information that inspire a caretaking ethic in others and encourage responsible choices that will positively affect life on earth*

Teacher Response

- Field trip puts environmental themes into a context for students
- Caretaking of the environment translates into caretaking of each other

One of the defining characteristics of effective environmental education is combining increasing awareness about the natural environment with actions that are age-appropriate and that take into account a student's cultural and socio-economic background. Non-formal environmental education programs usually go beyond the accumulation of knowledge and skills (NAAEE 2004). A study conducted by Harold Hungerford and Trudy Volk about the major and minor variables involved in environmentally responsible citizenship behavior, has demonstrated that an increase in knowledge about nature and environmental stewardship is not enough to facilitate the kind of long-term behavioral and attitudinal change in students that environmental education strives to facilitate (Hungerford and Volk 1990).

The teachers in the focus group put a high degree of emphasis on this goal of caretaking. In the questionnaire, about one third of the responding teachers described a desire for increasing awareness for the environment, combined with instilling a caretaker ethic in their students, as their primary motivation for a field trip to Hidden Villa. Four teachers stressed this aspect of the field trip throughout the questionnaire in a number of responses. Caretaking ethic includes resource consciousness, recycling and reusing, and students taking care of their immediate environment. The following quotes illustrate the importance some teachers put on this particular goal:

"I hope that they realize that the world is not something that is maintained for them. And the education garden really speaks to that, that they are in charge or that they're going to be in charge." (5th grade, focus group)

"The larger ideals of taking care of the earth are a HUGE concept I care about conveying to the kids." (2nd grade teacher, questionnaire)

"I wanted my students to gain an appreciation for the natural environment including plants and animals. I hoped they would realize how many things we get from plants and animals. I wanted them to be motivated to take care of the environment that they live in." (2nd grade teacher, questionnaire)

1.3.1. Caretaking of each other

In their work with students, HVEEP staff emphasizes the connection between caretaking of the environment and caretaking of each other. Throughout the five-hour tour, staff members model not only how to interact with the plants in the garden, the animals on the farm, and the vegetation in the wilderness in a respectful and caring way, but also how to take good care of oneself and each other. The effects of this teaching strategy that teachers observed in their students support the effectiveness of modeling caretaking behavior.

For two teachers in the focus group, the social dimension of the field trip is an important reason for coming to Hidden Villa. Classmates bonded in their small groups throughout the day, which helped increase a sense of community back in the classroom:

“I value the focus on appreciation, appreciating the environment. I think there is something that goes on socially. They begin to appreciate each other. I like them to thank their guide before we leave. I want them listening to this person. They have something to learn and awareness to gain, so I think it’s all interconnected.” (3rd grade teacher, focus group)

1.4. The effectiveness of small groups

Small groups are an important part of HVEEP’s success with teachers and students. Small groups are also regarded as best practice for non-formal environmental education, especially when combined with experiential, hands-on teaching (NAAEE 2004). In her doctoral thesis, Janette Griffin found out that children preferred and learned more from field trip experiences that were more like family visits, with an emphasis on choice and interaction (Griffin 1997 cited in Powers 2000).

Several teachers in the focus group commented on the effects small groups have on the capacity of their students. Their students seem to be more focused and more engaged in the field trip, and the intimacy of small groups allows for bonding among classmates. The following quote summarizes other teachers’ observations:

“I like the small groups, I like the expertise of the guides, and that’s really what I am always looking for in a field trip. The volunteers who love nature, which comes through in their teaching. It motivates the kids, it inspires them and yet there is the structure to learn provided. They really focus the kids.” (3rd grade teacher, focus group)

Field trips that are associated with a good time and fun in safe ways may inspire children to choose outdoor exploration in their free time (Powers 2000).

1.5. Other reasons for coming to Hidden Villa

Important but less prevalent reasons teachers cited for choosing the Farm and Wilderness Exploration as a field trip destination include:

- A field trip to Hidden Villa ends up being the class’ favorite field trip of the school year
- Hidden Villa is close to school
- Hidden Villa’s environmental education programs have an excellent reputation

2. Teachers' Observations about the Effect of the Field Trip on Students

This section is of particular relevance to HVEEP staff and their efforts to conceptualize specific, meaningful, and measurable goals and outcomes. Teachers provided rich observations of the effects of the Farm and Wilderness Exploration on their students, both during the field trip and back in the classroom.

The findings are organized in the following subsections:

Academic impact

- Increase in knowledge (e.g., students improved on making connections, for instance between dairy products and farm animals)

Emotional impact

- Increase in students' awareness for their environment
- Increase in students' comfort in being outdoors

Behavioral and attitudinal impact

- Increase in students' empathy toward their immediate environment
- Increase in students' skills in using environmental action strategies

Social impact

- Increase in social cohesiveness in the classroom after the field trip

2.1. Academic impact

In informal conversations after field trips, HVEEP staff noted that students are more and more puzzled by questions related to the origin of their food. For children, carrots come from the freezer and meat from the grocery store. Throughout the field trip, HVEEP staff involves students in activities and inquiries that are designed to help them connect what they see at Hidden Villa with their daily lives.

The environmental awareness, knowledge, and skills needed for this localized learning provides a basis for moving out into larger systems, broader issues, and a more sophisticated comprehension of causes, connections, and consequences. HVEEP's teaching strategy is learner-centered and provides students with opportunities to construct their own understanding through hands-on, minds-on investigations. Children are engaged in direct experiences in real world contexts and issues from which concepts and skills can be learned.⁵

Teachers observed how their students' capacity to make connections increased after the field trip, in some cases unprompted. Among the core activities during the HVEEP staff's pre-field trip visit to the classroom is the "Manure to Meadow to Milkshake" activity. Using a variety of props including a plastic model of cow-poop, strawberries, milk, and

⁵ HVEEP incorporates many features that are recommended by the North American Association for Environmental Education in their Guidelines for Excellence for Nonformal Environmental Education Programs (NAAEE 2004).

hay, staff has students line up in a food chain representing the major steps necessary to go from manure to milkshake. The relevance of something as “yucky” as manure is reinforced throughout the field trip when students come across different kinds of animal droppings on the farm and during their hike or when they feed the soil in the garden by carting manure to the vegetable beds.

The following two quotes illustrate the impact that teachers noticed in their students after the manure-to-milkshake activity:

“We were walking the other day on the side walk and there was dog poop in the middle of the side walk. Before Hidden Villa, they all went ‘Yew, yuk!’ and held their noses. And after Hidden Villa, they walked past and said ‘Oh, strawberry milkshake.’” (2nd grade teacher, focus group)

“They now really know that poop goes back to the earth and before that they’ve never thought about it.” (4th grade teacher, focus group)

In the questionnaire, several teachers reported that their students seem to make connections between farm animals, the garden, and the products we receive from them, understanding how interconnected all living beings are and the role of wilderness for general well-being:

“They mention connections when we do science lessons, especially.” (3rd grade teacher, questionnaire)

“I think they did have a better understanding of the connection between farm animals and food. They saw and touched plants they eat but have only seen at the grocery store.” (3rd grade teacher, questionnaire)

“Better understanding of wilderness as a necessity for wildlife; better understanding of the role of decomposers, composting – manure to milkshake.” (4th grade teacher, questionnaire)

2.2. Emotional impact

“They simply seemed in awe of all aspects of the day. Just being outdoors and instructed was more than some of them have ever experienced.” (3rd grade teacher, questionnaire)

One HVEEP staff member described Hidden Villa as “nature in the raw where we help children to feel at home in the wilderness and at ease in the woods, ultimately encouraging them to experience that they belong here in the forest, in a wild place.” Some teachers observe in their students an increase in awareness and appreciation for nature and wilderness. They find them “in awe of their surroundings, the mountain, the trees” (2nd grade teacher, questionnaire).

In his book *Beyond Ecophobia*, David Sobel quotes the author Paul Shepard who in *The Arc of the Mind* observes that “animals have a magnetic affinity for the child, for each in its way seems to embody some impulse, reaction, or movement that is ‘like me’” (Sobel

1996: 13). Touching a farm animal is part of each Farm and Wilderness Exploration at Hidden Villa. For many students this is the first time they have come close to a chicken, goat, sheep, cow, or pig. According to some teachers “Touching and holding [the farm animals] was so exciting and sometimes scary” (2nd grade teacher, questionnaire). However, as with the other challenges that students face during the field trip, having mastered this one and overcoming fear can result in a sense of accomplishment:

“I ask this student who is so afraid of chickens ‘What’s the worst thing that this chicken is going to do?’ Then he is okay and we walk towards the chickens. He still won’t touch one. But at least, he was in there and standing near the chickens. This child faced the fear and worked through it.” (2nd grade teacher, focus group)

2.2.1. Students become more comfortable outdoors

Hiking in the forest poses the most challenging aspect of the field trip for those students who have never been on a hike before. Mastering unfamiliar territory, literally and metaphorically speaking, and experiencing the joy of having met a challenge, left students with a greater comfort for being outdoors:

“Most of the students have never been hiking nor have they seen so many plants and animals. Many of them were frightened at first but overcame their fear – did something new.” (3rd grade teacher, questionnaire)

2.2.2. Students’ self-confidence increases

Another theme related to the emotional impact of the field trip was an increase in self-confidence and a sense of empowerment after students completed the hike. This was particularly true for the Alone Walk, an activity in which the children are asked to hike by themselves for a brief period of time. The following two quotes describe this outcome:

“Students developed some confidence after hiking alone on the trail.” (3rd grade teacher, questionnaire)

“They love the solo hike, they feel empowered when allowed to hike to on their own.” (2nd grade teacher, questionnaire)

For some students, especially those who are overweight, hiking uphill is meeting a challenge that provides them with a sense of accomplishment:

“I have a little boy in my classroom who is extremely overweight and I thought ‘Oh, my!’ and even he came back with confidence because in the classroom he couldn’t do this and he couldn’t do that. I agree with what other colleagues here are saying: if you just take one step at a time and take another step. He is not the child now that he was before we came to Hidden Villa. It gave him that confidence ‘I can do it’. It means a lot.” (2nd grade teacher, focus group)

A teacher in the focus group elaborated another facet of this finding. She noticed that a particularly shy student who expressed her pride at having completed the Alone Walk in a writing assignment started to become more involved in classroom activities. Another observation she shared relates to students’ hiding behind certain accepted group norms

and cultural expectations. She found that for some students a field trip to Hidden Villa allowed them “to crack that shell”:

“What impressed me so much about this student is what she wrote in her personal narrative: ‘I walked alone and it was my first time and I did it and it felt wonderful.’ And since then I see that growth in this person that now participates in class. I think I kind of pinpoint that experience at Hidden Villa when she started to crack out of her shell. And other students who have a different kind of shell in that they are so cool and that they are really tough. That happens with kids when they are here: that sense of breaking out of the shell is whatever your culture expects of you to be and to be vulnerable and experience and be touched by what it is that you’re doing.” (4th grade teacher, focus group)

A teacher in the questionnaire offered another interesting observation. She valued the opportunity the Farm and Wilderness Exploration offered for her students to take risks while being safe, something they do not often experience:

“Some of my students are very hesitant to take any risk in part because they don’t have the opportunity to do that.” (2nd grade teacher, questionnaire)

2.3. Behavioral and attitudinal impact

“I don’t expect students to get everything. But if they respect HV and think it is a good example of how we should live I would be content with that finding.” (HVEEP staff member)

Right after the field trip, some teachers observed in their students a variety of changes in behaviors and attitudes regarding their interaction with their immediate environment at school (e.g., the classroom, the school yard or the school garden). Students became more pro-active (e.g., pulling weeds in the garden, bringing their lunch in recyclable containers).

Some teachers in the focus group pointed out that their students had a context for environmentally aware behavior after the field trip, which they did not have before:

“What I want them to get out of it is that they’re the ones who are in control of the wilderness and so I think after being here they realize how important that is, that transition, and they get more interested in our school garden. Everything about the environment suddenly means more to them and we do more in the classroom around it. The other day, I talked to them about the environment in the classroom and immediately they would pick things up and put them in the recycling bin. They get a whole new appreciation and understanding and consideration for the environment.” (2nd grade teacher, focus group)

“I don’t know if my students talked much about their environment before. A little bit but not that much. And now, it’s floating around in their head. We talk a lot about it in class.” (4th grade teacher, focus group)

2.3.1. Reinforcing the three R's: recycling, reusing, and reducing

Hidden Villa does not provide waste bins. Visitors are expected to carry their waste with them. As part of their presentation in the classroom prior to the field trip, HVEEP staff talks to students about the problem with increased waste production, landfills, and the effects on the environment. Students are asked to pack a lunch where leftovers can be composted and containers recycled. HVEEP calls this activity the “no-garbage lunch”. Teachers noticed that some of their students became more resource-conscious after the field trip and more eager to recycle paper and to bring their lunch in a recyclable container.

One teacher described vividly how empowered her students became as a result of packing a no-garbage lunch. Her following quote is a good example for the potential impact of an age-appropriate environmental activity that is within the control of elementary school children:

“My students have become a no-garbage lunch Gestapo. [My students] are going around [other classroom] and say ‘Do you know how lunchables land in the California landfills?’ ... I think that the no-garbage lunch in particular is something that because they can have some daily influence on that is so powerful for them because they can see that immediately every day that they come to school they can do something that is good for this world. And it’s a small thing and they can handle it and they can control it but it makes a big difference.” (3rd grade teacher, focus group).

Some teachers reported that their students continued with a no-garbage lunch on their own. A 2nd grade teacher wrote that parents frequently told her how they get lectures from their children regarding recycling, buying pre-packaged foods, etc. Another teacher observed that her students were bringing more recyclable lunch containers and fewer lunchables. In one case, the no-garbage lunch seemed to have taken on a life of its own:

“They often bring up the no garbage lunch and on a recent field trip to the beach many people chose to bring no garbage lunches.” (6th grade teacher, questionnaire)

One teacher, however, found the activity too difficult for her students:

“Several students tried to bring no garbage lunches. They found it was too difficult to do.” (3rd grade teacher, questionnaire)

The no-garbage lunch and the emphasis on recycling and reusing during the field trip provided some teachers with good opportunities to reinforce recycling back in the classroom:

“Many (can’t say all) try to recycle more and make less trash.” (2nd grade teacher, questionnaire)

2.3.2. Garden activities

During a Farm and Wilderness Exploration students spend time in the education garden where they learn about organic gardening, organic pest control and about composting. If time permits, they also participate in a garden project.

Those teachers who have access to a garden plot at their school found their students more engaged in garden activities after the field trip:

“Students have developed the initiative to go to the garden and check the plants they’ve grown, water them and clean the area.” (3rd grade teacher, questionnaire)

“We are composting with worms. Yes! They love feeding worms their lunches.” (2nd grade teacher, questionnaire)

One teacher reported that her students became more concerned about petty vandalism:

“We looked at our compost heap with fresh insight and more appreciation. Kids show more concern about acts of petty vandalism that occur in the garden from time to time.” (4th grade teacher, questionnaire)

2.4. Social Impact

An important part of HVEEP’s work with children is the modeling of empathy as integral to environmental stewardship and caretaking ethics. Empathy in combination with the intimacy of small groups and the excitement of a new environment where students are constantly encouraged to work together seems to have a tangible effect on some classrooms.

Several teachers in the focus group conversation talked about the field trip offering an opportunity for their students to bond, especially when it took place in the first quarter of the new school year. The following quote illustrates well how the field trip to Hidden Villa brought students closer together:

“Because we came in the fall, it was a bonding experience for them. And because so much of being here is about taking care of each other, it’s not necessarily that Hidden Villa puts too much emphasis on that. But I see what I believe is the effect of the philosophy of Hidden Villa and why I am interested in Hidden Villa in my classroom. Coming in the fall and using that at a time when kids were in groups, where they weren’t together and different friendship were forming. On the ride home it was ‘Oh, you almost fell off the mountain, and can I help you with this’. Someone came without water or ran out of water and they would share their water and it was all of a sudden taking care of each other as well, sort of reinforcing it.” (5th grade teacher, focus group)

3. Evidence of the Field Trip’s Staying Power

One measure of a program’s effectiveness is the degree to which the desired outcomes are realized during the weeks, months, or years of direct intervention. On another level, a program that claims to create change of any sort – whether in students, teachers, whole schools or communities – also looks to measure its effectiveness in terms of its ability to create sustained or lasting change *after* its period of direct intervention.

In the focus group conversation and in the questionnaire, we asked teachers what kind of longer-term impacts they observe in students who participated in a Hidden Villa field trip. We were interested in finding out what they remember years after the field trip.

3.1. Hidden Villa field trip remembered as favorite field trip

Several teachers reported that the Farm and Wilderness Exploration is often remembered as the favorite field trip of their former students. Sometimes, students walk up to their former teacher years later to reminisce about the field trip:

“In their 5th grade memory book it is often their best memory of 2nd grade.” (2nd grade teacher, questionnaire)

“This is one of the field trips that they remember. Many write about it on the on-demand writing prompt in fourth grade.” (2nd grade teacher, questionnaire)

“I have spoken to several former students and they always mention this field trip as being one of the best.” (3rd grade teacher, questionnaire)

“I have 6th graders come back to me and say ‘Do you remember when we went out to Hidden Villa?’ Four years later they still remember.” (2nd grade teacher, focus group)

“We’ll come back from our field trip and the older kids went ‘Oh, you went to Hidden Villa today!’ They hold on to the memories.” (2nd grade teacher, focus group)

3.2. No-garbage lunch

Some students seemed to continue the no-garbage lunch long after the field trip to Hidden Villa as this quote from a 2nd grade teacher demonstrates:

“They also tell every teacher after us about no garbage lunch, and sing them ‘Dirt made my lunch.’” (2nd grade teacher, questionnaire)

3.3. Other outdoor education reinforces and reconnects them with earlier Hidden Villa-related experiences

Several school districts on the Peninsula participate in a science camp in the 5th grade. One teacher in the focus group and one teacher in the questionnaire were interested in how students compared science camp to their Hidden Villa field trip and how another outdoor experience reconnected them with their experience at Hidden Villa:

“For our two 4th grade classes last year, we had every single kid participate in the overnight program. ... This year, the 5th grade was able to go to Science Camp for a week. ... When they came back from Science Camp they talked to me about it: ‘We did this at Science Camp and that was like when we went to Hidden Villa. And this is what is different. And this is what I liked more about Hidden Villa. And this is what I learned here at Science Camp.’ So, that was interesting: going back to the woods sort of motivates them to come back and reconnect with their teacher and talk about it and compare their experiences.” (4th grade teacher, focus group)

“Our 5th graders participate in outdoor education too. And I have them come back and they compare or relate again to nature. There is reinforcement of their earlier experiences.” (4th grade teacher, questionnaire)

4. Integrating the Field Trip throughout the School Year

“The background knowledge that students gain is such a valuable learning tool. It allows them to make connections to stories and assignments with related topics.” (2nd grade teacher, focus group)

Students’ exposure to Hidden Villa is not limited to the field trip itself. Teachers provided a variety of examples of how they prepared their students for the field trip and how they used the field trip experience afterwards. This section is divided into the following subsections:

- HVEEP’s in-classroom visit prior to the field trip
- Preparing students for the field trip
- Integrating the field trip throughout the school year

The most salient findings for this section are:

- Teachers liked the content and process of the pre-field trip presentation by HVEEP staff. They found the in-classroom visit a well-balanced mix between hands-on activities and interactive presentation. Students and teachers favored the Manure-to-Meadow-to-Milkshake skit because it illustrated the abstract concept of life cycle and food chain in a humorous way. They liked the teaching stations because the students were directly involved with the material. The only criticism pertained to the length of the slideshow (too long to keep students focused) and the slides (too outdated).
- In the questionnaire, the majority of teachers prepared their students through science-related activities including earth- and life science that match the state-required standards in those topics. Most teachers integrated the field trip throughout the school year, although we did not receive much information about the specifics and details of follow-up activities.
- More than two-thirds of the teachers from the questionnaire and almost all seven teachers from the focus group did creative writing and arts-and-crafts-related activities immediately after the field trip.
- Teachers in the focus group talked about the importance of environmental stewardship as a concept that they include in their preparation and throughout the school year. In the questionnaire, about one-third of the teachers considered this a central part of their Hidden-Villa related teaching. Less clear, however, is what teachers did to keep the students’ enthusiasm right after the field trip, alive throughout the rest of the school year.

4.1. HVEEP’s in-classroom visit prior to the field trip

Before students come to Hidden Villa for a Farm and Wilderness Exploration, HVEEP staff visits the class for a two-hour presentation. Students are introduced to the history of Hidden Villa, to some of the concepts (and the real things) that they will encounter, to the

basics of trail etiquette, and what to bring for the day. Staff also talks about how to prepare and pack a no-garbage lunch.

Presentations consist of the following components:

- A 45-minute slideshow showing Josephine and Frank Duveneck, the garden and the farm animals, and the trails in the forest
- The Manure-to-Meadow-to-Milkshake activity which introduces students to the concept of a food chain via a participatory puppet game, forming a food chain with all the necessary steps from cow poop to ice-cream
- The six plant parts costume where a volunteering student dresses up with all the six different parts that constitute a plant
- Four different hands-on teaching stations that the teacher chooses prior to the classroom presentation; small groups of students working together and rotating through the stations
- Hidden Villa songs
- No garbage lunch (optional)

Table F 3 summarizes teachers' comments on the different activities HVEEP performed during the in-classroom presentation.

Table F 3. HVEEP In-Classroom and Pre-Field Trip Presentation

HVEEP Activity	Teacher Response
Manure-to-Meadow-to-Milkshake	<ul style="list-style-type: none"> • According to teachers, this was students’ favorite activity • It helped students to better understand the concept of a food chain and life cycle • It helped students see the value of the different parts in a process in nature <p><i>“The connection between poop and strawberry milkshake helped them to see the value of all parts of the process in nature.” (2nd grade teacher, questionnaire)</i></p>
Hands-on Teaching Stations	<ul style="list-style-type: none"> • This activity followed closely behind MMM in popularity among students • It provided students with tangible information about where things come from • The animal-skull and fiber-stations seemed to be students’ favorites <p><i>“Activity with the skulls is also a favorite. I like the crop rotation pizza because that can be a hard concept to grasp.” (6th grade teacher, questionnaire)</i></p>
Six plant parts costume	<ul style="list-style-type: none"> • This was the third most frequently mentioned activity that was popular with students
Slide Show	<ul style="list-style-type: none"> • The slide show helped teachers manage students’ expectations about their trip to Hidden Villa • It provided them with visual information about the history of and current life at Hidden Villa • Some teachers found the presentation too long and the slides too outdated
Process-related Comments	
	<ul style="list-style-type: none"> • Teachers liked how well-paced and well-formatted the classroom visit was: <p><i>“I actually think the lessons are pretty well balanced. They have stations, there are the slides. I think it’s paced well and I like the strategy of one talks while the other does. It’s well-formatted.” (3rd grade teacher, focus group)</i></p>
	<ul style="list-style-type: none"> • HVEEP staff knew how to talk to children: <p><i>“I think all the docents know how to talk to the children. I think they’re scared to death sometimes; they sometimes don’t have a clue how to talk to seven year olds, of how to handle a seven year old. I have never encountered anybody from your program who didn’t know how to talk to a seven year old.” (2nd grade teacher, focus group)</i></p>

4.2. Preparing students for the field trip

Teachers’ responses about how they prepared their students for the Farm and Wilderness Exploration have been fairly general and not very detailed. Surprisingly, few teachers utilize the HVEEP staff’s visit to the classroom to prepare for the field trip. Table F 4 summarizes the most important findings.

Table F 4. Summary of Teacher Responses Regarding Preparation for the Field Trip

Teachers’ Preparatory Activities	Summary of Responses
Curriculum-related Activities	<ul style="list-style-type: none"> • Two-thirds of all teachers in the questionnaire used science-related activities for preparation, including earth- and life-science • Two teachers mentioned using HVEEP’s “Schoolyard to Barnyard” for activities • For several teachers, F & W-Exploration supported their year-long nature or ecology program <p><i>“Eventually, we are doing a year-long conservation nature program that consists of vocabulary, activities, building watersheds. Hidden Villa, especially this year, is really tied in with science curriculum and writing.” (3rd grade teacher, focus group)</i></p> <p><i>“We have an ongoing science program. We combine text, science lab hands-on activities, outdoor classroom and garden.” (4th grade teacher, questionnaire)</i></p>
No-garbage lunch-related Activities	<ul style="list-style-type: none"> • Several teachers reviewed the reasons for and ways to prepare a no-garbage lunch as their main pre-field trip activity • One teacher in the questionnaire used the no-garbage lunch math activity <p><i>“Counting garbage at lunch time by days of the year – how much we can save our earth by not generating garbage.” (2nd grade teacher, questionnaire)</i></p>
Using the School Garden	<ul style="list-style-type: none"> • A small group of five teachers in the questionnaire and one teacher in the focus group mentioned that they take the students to work in school garden prior to coming to Hidden Villa. <p><i>“Tend our garden so they can share what has happened to the plants; tied to our lesson about ecosystem. Give and take relationship between living things in the environment.” (3rd grade teacher, questionnaire)</i></p>

When I was a Camper at Hidden Villa – Personal Stories	<ul style="list-style-type: none">• Two teachers in the focus group and one teacher in the questionnaire came to Hidden Villa when they were teenagers. They used their personal experience and the impact Hidden Villa had on their lives to get students excited about the field trip.
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4.3. Integrating the Farm and Wilderness Exploration throughout the school year

4.3.1. Immediate post-field trip follow-up

More than two-thirds of the teachers in the questionnaire, and almost all the teachers in the focus group, debriefed the field trip by giving their students an opportunity to share their impressions the next day. Writing activities included personal narrative and fictional story writing, thank-you letters and cards to their HVEEP tour guides, letters to a fictional friend, arts and crafts activities, classroom books and paper quilts.

Teachers in the focus group found the field trip particularly helpful for engaging their students in writing projects. The wealth of impressions and new experiences with which their students returned increased their motivation to write about the trip. The increased motivation seemed to be especially powerful for students who do not normally perform well in writing assignments. As one teacher explained:

“For most of my kids who are ELD learners it helps me push my standards of writing and research because they have such a rich experience here that they are really excited to go back and write that essay or write that personal narrative that they might not be so excited about writing were I just to assign it. The actual experience that is shared is really important.” (4th grade teacher, focus group)

Some teachers combined writing with arts and crafts activities, like this 2nd grade teacher:

“We made a book bound on dried twig with pages like ‘in the garden we learned that...’, a separate page for the garden, farm, wilderness, then the best thing about HV is ... and a portrait page ‘Here I am’.” (2nd grade teacher, questionnaire)

Three teachers in the questionnaire mentioned science activities as their way to debrief the students directly after the field trip.

4.3.2. Subsequent integration of the Farm and Wilderness Exploration field trip

When asked how they integrate the field trip into classroom activities throughout the school year, teachers’ responses tended to resemble their responses earlier about their preparations for the field trip. In the responses from the questionnaire, participants were general and not very specific or detailed. For instance, many teachers (about half of them in the questionnaire) referenced the field trip during science-related lessons and activities. As a 6th grade teacher described it: *“We discuss our experiences when it fits into our curriculum. It comes up when we discuss ecosystems, natural cycles, natural resources and farming.”*

Several other teachers stressed the importance of background knowledge that the Farm and Wilderness Exploration provides for students. Having the opportunity, for instance, to see an organic garden, composting and hiking are *“such a valuable learning tool. It allows them to make connections to stories and assignments with related topics” (2nd grade teacher, questionnaire)*. Another 2nd grade teacher wrote about the many times she

said ‘remember at Hidden Villa when ...’ The field trip helped build her students’ knowledge base for many topics throughout the year.

One way to discern students’ learning is to look for their unprompted connections to Hidden Villa. Several teachers in the questionnaire and in the focus group confirmed that students refer to the field trip on their own:

“When we’re talking about other topics or things that we’re learning such as the Mission, they bring up HV ‘Do you remember when we were at HV we saw a carrot like this growing’ or ‘That’s like in that textbook you remember the tree we saw at HV that’s the kind of tree we’re talking about in this book.’ And same thing with fiction books: ‘You were out hiking at HV and you now can relate to how this character feels as well.’ It’s an experience that we all share and they all had that experience of hiking and being in the garden. And then they go ‘Oh, yes’ [...] They make unprompted connections to HV which is fabulous.” (4th grade teacher, focus group)

We asked teachers if their school has a garden and if their students have their own garden plot or garden bed. Seventeen of the thirty-eight teachers who returned the questionnaire indicated that they have a school garden with their own space. Four teachers from this group either participated in a special program with no garden activity, or their special program focused on garden activities. Eight of the remaining thirteen teachers used their garden plot to either prepare for and/or integrate the garden-related part of the Farm and Wilderness field trip. In the focus group one teacher’s school has a school garden and she used their garden plot for Hidden Villa-related activities.

“Tend our garden so they can share what has happened to the plants; tied to our lesson about ecosystem. Give and take relationship between living things in the environment.” (3rd grade, questionnaire)

“We also have a school garden. Different classrooms have a bed that they attend to. One of the teachers that came through HV had her class make prayer flags and put it around their box. It’s adorable. She got her idea from your garden.” (4th grade teacher, focus group)

Keeping the no-garbage lunch alive and encouraging students to recycle, reduce, and reuse, was mentioned by about half of all the teachers who participated in the questionnaire as an effort to integrate the field trip throughout the school year. Several teachers commented on how some of their students continue to bring lunch in recyclable containers to school and on other field trips. Some teachers engaged their students in projects such as recycling water bottles or feeding their leftover lunch to worms for composting. As one teacher commented:

“I really stress recycling and reusing materials in my classroom and I think that the visit to Hidden Villa really helped enforce those ideas.” (2nd grade teacher, questionnaire)

5. Supporting Teachers

Table F 5 summarizes the responses to questions about how HVEEP can improve its support for teachers and the challenges teachers encountered coming to Hidden Villa.

Table F 5. Supporting Teachers

Topics	Teacher Response
Additional topics to be covered during the Farm and Wilderness Exploration	<p>Teachers suggested the following additional topics to be covered during the field trip:</p> <ul style="list-style-type: none"> • Organic pest control for vegetable gardens • More discussions about farm equipment (e.g., early farm life vs. modern day technology) • Information about amphibians and reptiles • Information about the sustainable buildings on the farm
Additional teaching resources	<ul style="list-style-type: none"> • Teachers suggested providing them with grade-specific lesson plans and follow-up activities that support them with systematically integrating the field trip
Multiple field trips	<ul style="list-style-type: none"> • One teacher suggested introducing an option for multiple field trips: <i>“I would like to see a three-part trip: a) early in the year – class visit; b) toward fall – a series of lessons and interact and prepare; c) follow-up trip in the spring to see changes – compare contrast.” (3rd grade teacher, questionnaire)</i>
Inconsistency among volunteer guides	<ul style="list-style-type: none"> • Farm and Wilderness Exploration field trips are frequently staffed up to fifty percent of the time with volunteer guides. Only three of the thirty-eight teachers who responded via questionnaire wrote about inconsistencies in the volunteer guides’ abilities to capture students’ interest due to a lack of teaching experience
Lack of ethnic diversity among HVEEP staff	<ul style="list-style-type: none"> • Two teachers in the focus group talked about the predominance of white teacher-naturalists and volunteer guides. They would like to see more people of color involved in guiding and more Spanish-speaking guides.

<p>Interactive website</p>	<ul style="list-style-type: none"> • A majority of the teachers would find an interactive website useful, offering additional resources and opportunities for uploading trip-related pictures or conversing with other teachers about their recommendations for integrating a field trip.
<p>Challenges</p>	<ul style="list-style-type: none"> • For about one third of the teachers in the questionnaire, the costs of the program are the biggest challenge • The rising cost for transportation was the next biggest challenge • The challenge of making a reservation per phone in a very limited time-frame was the third most frequently mentioned challenge

IV. Conclusions and Recommendations

Louise Chawla, a researcher from Kentucky State University, made an interesting discovery when she reviewed studies about the childhood experiences of environmentalists to find why they grew up with strong ecological values. She found that most environmentalists track their commitment back to two sources: a) many hours spent outdoors in a keenly remembered wild or semi-wild place in childhood or adolescence, and b) an adult who taught respect for nature (Chawla 1998).

When asked what they think influenced them most strongly in their desire to be involved in environmental education, HVEEP staff echoed Chawla's findings. Teachers provided strong evidence how HVEEP's staff and volunteer guides inspire their students through their capacity to share their love for nature and the outdoors with the children.

Throughout the field trip, HVEEP staff involves students in activities and inquiries that are designed to help them connect what they see at Hidden Villa with their daily lives. The environmental awareness, knowledge, and skills needed for this localized learning provide a basis for moving out into larger systems, broader issues, and a more sophisticated comprehension of causes, connections, and consequences. HVEEP's teaching strategy is learner-centered and provides students with opportunities to form their own understanding through hands-on, minds-on investigations. Children are engaged in direct experiences in real world contexts and issues from which concepts and skills can be learned.

Another important pattern emerged from the data. What we learned from teachers demonstrates that they play a significant role in facilitating the kind of behavioral and attitudinal changes that HVEEP is striving for in its programs. The findings show a potential among teachers that HVEEP currently does not tap into: Intentionally and consciously forming an alliance with the classroom teacher to strengthen the impact of a one-day field trip. Teachers' responses demonstrated how they make the experience of environmental education experiential, helping the students to frame knowledge and increased consciousness from their day at Hidden Villa.

The recommendations were designed to not only strengthen the Farm and Wilderness Exploration, but also to find ways to actively involve teachers in the preparation for and follow-up of the field trip throughout the school year. They are divided into the following three subsections:

Recommendations for Deepening Field Trip-Classroom Integration

- General Process Recommendations
- Recommendations Being Implemented

1. Recommendations for Deepening Field Trip-Classroom Integration

The relationship between teacher and student plays a central role in a student's learning. The rich data we received from teachers about the impact of the field trip on their students corroborates this. Furthermore, evaluation research in environmental education

has demonstrated that supporting teachers in becoming competent and engaged allies increases the likelihood that a field trip to Hidden Villa becomes more than a fun day on the farm for the students.⁶ The following recommendations are designed with this goal in mind. This section of recommendations is divided into three categories:

- Preparation for a Farm and Wilderness Exploration at Hidden Villa
- During the field trip
- After the field trip

1.1. Preparation for a Farm and Wilderness Exploration at Hidden Villa

The following recommendations are designed to support teachers actively preparing their students for the field trip:

- **Consider encouraging teachers to prepare students more intentionally and actively for the field trip.** Currently, HVEEP staff contacts teachers prior to the classroom visit to talk to them about the details of the field trip. Such a conversation provides a good opportunity to ask teachers about their specific goals for the field trip, what they plan to do to prepare the students, how they would like to integrate the field trip into ongoing classroom activities, and any special requests they may have for coming to Hidden Villa. Regarding the latter, HVEEP staff would have to agree on the exact parameters on the kind of special requests staff would feel comfortable with.
- **Consider revising the current pre-field trip intake forms and consider the inclusion of the following components in conversations with the teachers:**
 - Asking teachers to clarify their goals for the field trips
 - Talking to teachers about any preparatory activities offering additional resources if appropriate (e.g., Schoolyard to Barnyard, HVEEP staff's own experience, Hidden Villa's online curriculum developed by Kristina Underdal)
 - Discussing with teachers their specific plans for integrating the field trip throughout the school year
 - Asking teachers what they will focus on during the field trip and offering suggestions if appropriate (e.g., some teachers choose a particular challenging student to observe in a different environment)
 - Any special requests they might have (e.g., focusing on the different decomposers at Hidden Villa, group building activities)
- **Consider making it a request that teachers complete this form prior to the field trip and even prior to HVEEP's visit to the classroom.** It will encourage them to articulate their goals for the field trip early in the process.

⁶ The evaluations conducted by the Place-based Education Collaborative (PEEC) researched the effects of integrated, community-based environmental education.

- When revising communication with teachers, especially forms, **consider developing both, electronic and hard copy versions.**
- **No-garbage lunch activity**
 - **Consider turning the no-garbage lunch request into a preparatory field trip tool by including suggestions for activities in the classroom.** The findings clearly show that the no-garbage lunch has some staying power with students and that they feel empowered by being able to make a contribution to waste reduction.
 - **Consider expanding the current no-garbage leaflet into a bi-lingual brochure including culturally appropriate and economic ways to package a no-waste lunch (e.g., wrap-style ethnic food, plastic containers to reuse).** The target population for such a brochure would not only include teachers but also students and their parents or guardians, with age-appropriate activities that children can do at home.
 - **Consider including a demonstration of the different amounts of garbage that different packaging produces.** In our case study of a multiple field trip program with Castro School, students found it challenging to understand that small-sized, individually wrapped bags of pretzels produced more garbage than a large bag. They associated small with less and large with more garbage. Also, students found it challenging to understand that food that tastes yummy, such as Doritos, are bad for their health. They found it challenging to understand how long it takes for inorganic packaging to break down. The no-garbage lunch provides an excellent opportunity for subject matter integration, especially for the small but significant cadre of teachers putting high emphasis on this particular activity.
 - **Consider re-naming the “no-garbage” lunch reformulating the activity.**

1.2. During the field trip

Teachers talked and wrote about the different aspects of a field trip to Hidden Villa that their students remember and find exciting. For students with no or little previous outdoor exposure, it is “the newness” of petting a farm animal, of harvesting a carrot, and of overcoming fear in unknown territory such as the forest. For students with lots of exposure, it is the unstructured time during an Alone Walk or playing in the creek that they remember from their time at Hidden Villa. The same field trip most likely does not fit all students. The following recommendations encourage individualizing parts of the Farm and Wilderness Exploration.

- **Consider reviewing the current set-up for the Farm and Wilderness Exploration for opportunities to individualize the field trip to address the different needs of the huge variety in student populations that visit Hidden Villa.** For instance,

outdoor-experienced students might enjoy more unstructured time to play in the creek or participate in more challenging activities.

Field trips most likely serve a different purpose, depending on what time during the school year students come to Hidden Villa. A field trip in the beginning of the year will most likely be an introduction to certain concepts, whereas towards the end of the school year it will serve as a review or illustration of previously studied topics.

- **Consider revising the field trip curriculum for the Farm and Wilderness Exploration to better reflect the differences in background knowledge, depending on the time of the school year the students come to Hidden Villa, and depending on teachers' requests.**

A field trip to Hidden Villa is an exciting adventure for most students. Many teachers took advantage of their students' increased motivation to facilitate otherwise tedious tasks, such as writing about their experiences.

- **Consider developing a 'writing-on-the-trail' option for those teachers who plan to use the field trip for creative writing back in the classroom.**

1.3. After the field trip

The majority of teachers in the focus group conversation and in the questionnaire asked for additional support with grade-specific, age-appropriate, and integrated lesson plans that they can use to prepare their students and to integrate the field trip throughout the school year. Some teachers indicated that they would like to receive more in-depth training and guidance on how to consistently integrate environmental education into a standards-based curriculum.

Hidden Villa just completed the development of an on-line integrated curriculum for 3rd through 5th grade. The curriculum, based on a field trip to Hidden Villa, provides lesson plans and activities to prepare and follow-up with students throughout the school year. Kristina Underdal, the author of this project and an elementary school teacher, based the curriculum on her own experience of teaching an entire school year based on three field trips her class of combined 4th and 5th graders took to Hidden Villa.

- **Consider evaluating to what degree teachers take advantage of this new resource and if they find it helpful to work with.**
- **Consider developing a design workshop for teachers at Hidden Villa. The workshop would have teachers design their own lesson plans and activities with guidance and help from HVEEP staff.** The Hidden Villa online-curriculum is an important first step toward bringing HVEEP and the teachers closer together. As the Center for Ecoliteracy in Berkeley discovered, it is often not enough to support teachers by just giving them additional resources. It is the interaction with the teacher naturalists and their own hands-on learning that inspires them to better integrate environmental education.

Strong evidence emerged from the data of the emotional and social impact the Farm and Wilderness Exploration has had on students. Evidence pointed to a surge in caretaking behavior in some of the students.

- **Consider developing a set of specific activities that support students' surge in caretaking behavior right after the field trip.** The data indicates that some students responded positively to HVEEP's modeling of caretaking behavior, which emerged as a strong feature of the field trip. Students felt inspired to recycle and to take care of their classroom pets. Some teachers also noticed that the students were more careful when they worked in the school garden. As research shows and practitioners know: change in attitudes and behaviors takes continuous encouragement, reinforcement and practice.
- **Consider the integration of bonding games and trust-building activities for field trips taking place in the first quarter of each school year.** Several teachers pointed out that a field trip to Hidden Villa is especially effective for community building in the beginning of the school year.
- **Consider developing a set of follow-up activities for teachers and parents around the theme of "overcoming fear of the outdoors."** Teachers' feedback provided strong evidence that HVEEP has an emotional impact on students. Activities that give students a chance to re-visit those experiences and impressions in the classroom, at home, or during family outings, might inspire not only children but also adults as well.

2. General Process Recommendations

The following set of recommendations regards process-related aspects of the field trip:

- **The current number of students per group for a Farm and Wilderness Exploration should not be compromised.** Small groups are among the reasons why teachers choose the Farm and Wilderness field trip. Small groups are considered a best practice in environmental education because they provide the necessary intimacy for a successful learning context.
- **Consider clarifying the expectations for and role of parents/guardians during the field trip, prior to the field trip.** They should be aware of and understand the field trip objectives and Hidden Villa's teaching philosophy so that they can support the field trip guide's message.
- Some research findings indicate that follow-up activities provided by field trip educators after a field trip enhance student learning (e.g., Farmer and Wott 1995 cited in Powers 2000). **Consider the development of follow-up HVEEP visits**, providing local support to review and reinforce concepts, behaviors and attitudes students were introduced to during the field trip, to make the field trip relevant to students' communities.

Teachers welcome the diversity and enthusiasm that volunteers bring to the tours. However, some teachers also pointed to a challenge in volunteer-led tours: potential for inconsistencies.

- **Consider the development of core components** for the Farm and Wilderness Exploration, including content and process to ensure consistency in those areas that are critical to students' successful completion of a field trip to Hidden Villa.
- **Consider periodic “refreshers”** to ensure that volunteer guides stay consistent in modeling desired behavior, such as not picking up leaves or feathers, touching farm animals in a particular way, etc. (with students and chaperones alike) and that they stay consistent in core teaching strategies such as asking students questions and involving them actively in the tour.
- **Consider providing volunteer guide enhancements**, especially on inquiry-based teaching strategies. Inquiry-based teaching is an important method and recognized as best practice in environmental education because it provides students with opportunities to “own” their learning. However, such teaching takes experience, practice, and guidance. Some volunteers enthusiastically welcomed the idea of additional training in this area.

Much of the evaluation work with HVEEP has been focused on helping the department prepare for program evaluation, clarifying goals to make them realistic, meaningful, agreed on, and, ultimately, evaluable. To continue the process of shifting towards outcome-oriented program and evaluation:

- **Revise HVEEP's Farm and Wilderness Exploration goals and outcomes** as documented in the 2003-04 program logic maps to reflect the findings from the 2003-04 evaluation.
- In close cooperation with the evaluation specialist, **develop a framework for conceptualizing outcomes that are meaningful and measurable** for use in facilitating outcomes-oriented programming and evaluation.

3. Recommendations Being Implemented

Some of the recommendations listed above are in the process of being implemented. They include:

- **No-garbage lunch brochure**
The online curriculum that Kristina Underdal developed for Hidden Villa includes a section titled “Eco-healthy lunch” with information for teachers, parents and students about the no-garbage lunch. These web pages are a starting point for developing a separate brochure, distributed as part of HVEEP's in-classroom presentation.

- **Pre-field trip sign up process**
HVEEP has committed to redesigning the process and content of the pre-field trip sign up procedures for teachers. The goal is to have the project completed by the end of the 2005-06 school year.
- **Slide-presentation**
The visual presentation of Hidden Villa was updated in Spring 2005.
- **Weekly notes for volunteer HVEEP tour guides**
With the 2005-06 school year, HVEEP provides weekly electronically distributed notes for volunteer HVEEP tour guides to share with them, ahead of time, information about the students they will guide in the next week.
- **Guidance for parents and chaperons**
To ensure the successful participation of parents and chaperons throughout the field trip, HVEEP plans to develop documents that explain the expectations for adults accompanying the students to Hidden Villa.
- **Multiple field trips to Hidden Villa**
HVEEP is continuing its partnership with Castro School, Mountain View, for a third year of three field trips for its 4th and 5th grade students in the 2005-06 school year.

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