Summative Evaluation:
Adirondack Youth Climate Summit

Prepared for
The Wild Center
Tupper Lake, NY
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INTRODUCTION

Randi Korn & Associates, Inc. (RK&A) contracted with The Wild Center in Tupper Lake, New York to evaluate its 2010 Adirondack Youth Climate Summit. The Summit is a two-day convening of high school students, teachers, and professionals that strives to create Carbon Reduction Action Plans for participating schools that will “green” their facilities, reduce their carbon footprints, and increase cost savings. The evaluation explores students’ and teachers’ experiences at the 2010 Summit as well as students’ and teachers’ ability to successfully implement their proposed Carbon Reduction Action Plans (Plan) following the Summit. The following summary is organized around study objectives and seeks to identify overall trends in case study schools’ experiences as well as the nuanced variability among schools.

The findings presented here are among the most salient. Please read the body of the report for a more comprehensive presentation of findings.

SAMPLE AND METHODOLOGY

Case studies were used to examine the 2010 Summit experience and implementation of schools’ Carbon Reduction Actions Plans (Plan). Case studies typically examine the interplay of variables to provide as complete an understanding of one event or situation as possible. The case studies do not produce information that can be generalized to all the schools. Rather, case studies demonstrate the unique nature of the program at the school level as well as the range of possible outcomes.

For this study, one case study was defined as one school. Wild Center staff selected five schools from among 30 that participated in the Summit. RK&A conducted one observation of the 2010 Summit for context and conducted telephone interviews with 19 students and five teachers from selected schools.

DESCRIPTION AND EVOLUTION OF CARBON REDUCTION ACTION PLANS

- Most schools scaled back their original Summit Plan, prioritizing aspects they could more easily accomplish. For example, most schools prioritized recycling, composting, and planting a garden over initiatives aimed at reducing energy use (e.g., carpooling, turning off computers).
- Most schools’ Plans included education and building awareness among students, faculty, and administration, and most schools had built some awareness by the time of the phone interviews. Methods of building awareness varied from single events to multiple initiatives and included: Earth Day dances and assemblies, formal presentations to faculty and classes about “green” initiatives, and hands-on demonstrations or activities about how to compost or recycle.
- A few schools focused their education and awareness efforts on elementary students at their school. For example, a couple schools had established an elementary Green Team to help promote and implement various aspects of their Plan.
A few schools successfully secured funds or donations to aid in the implementation of their Plan, including grants, funds generated from special events, and donated reusable water bottles.

STRENGTHS OF CARBON REDUCTION ACTION PLANS

- All schools said the passion and motivation of Green Team members was one of the greatest strengths of their Plan. The extent to which schools used this passion varied. For example, in a couple schools students presented their case to faculty and administrators to gain support, and students in other schools channeled their passion into planning events.
- All schools identified relevance as a strength of their Plan; that is, their Plans addressed an issue (i.e., climate change) perceived as important to the students, their school, and their community.
- Most schools said that broad integration of their Plan was a strength; that is, targeting multiple audiences—administrators, faculty, students, and staff—at their school was important.
- Most schools identified a supportive teacher mentor who helped organize and motivate students as a key strength.
- Most schools identified a supportive administration (and other staff or faculty) as crucial to successfully implementing aspects of their Plan. Nevertheless, the degree to which these entities and individuals have demonstrated their support varied considerably from school to school.
- A couple schools said regularly scheduled meetings among Green Team members is critical to help them stay motivated and on track with implementing their Plan.

OBSTACLES TO IMPLEMENTING CARBON REDUCTION ACTIONS PLANS

- A significant challenge for all schools has been convincing administrators, faculty, and students of the value of their Plan; a couple schools have encountered out-right resistance, while others have been met primarily with apathy and/or lack of awareness of the relevance and value of “green” initiatives.
- Another common challenge among the schools has been the teachers’ and students’ limited time to implement their Plan given other academic and extracurricular responsibilities.
- Most schools originally conceived of a Plan that was overly ambitious in scope as compared to what they could realistically implement, causing them to prioritize certain aspects of their Plan over others.
- A couple schools encountered idiosyncratic challenges, including Green Team members’ discomfort advocating for their Plan to administrators and faculty and logistical challenges associated with specific initiatives (e.g., cold weather impeded planting a garden).

SOLUTIONS AND STRATEGIES USED TO ADDRESS OBSTACLES

The solutions and strategies employed by each school to address similar obstacles varied considerably.

- To address resistance or lack of awareness of the value of their Plans and gain support from administrators, faculty, staff, and students, case study schools used many different strategies, including:
Special events or presentations that communicated the value of their Plan or a specific “green” initiative to a broad audience

Targeting elementary school students to gain support for promoting and implementing specific aspects of their Plan

Students speaking passionately to faculty and administrators at scheduled meetings to gain their support

Scaling back the original Plan to accommodate administration’s concerns

Using relevance as an entry point to gain support (e.g., highlighting the economic benefits of “green” initiatives)

To address internal challenges, such as limited time and capacity of the Green Team, case study schools also used a variety of strategies, including:

Prioritizing concrete tasks (e.g., recycling) over those that require long-term changes in behavior (e.g., energy savings)

Delegating to accomplish tasks more quickly, including soliciting community volunteers or resources or other students’ assistance

Regularly scheduled meeting times to accommodate students’ schedules

Teachers assuming the responsibility of communicating with students who are unable to attend meetings

PERCEIVED LASTING EFFECTS ON STUDENTS, SCHOOLS, AND COMMUNITY

The Green Team members described being affected by the Summit and their Plan in the following ways:

Most schools’ Green Team members said they have increased awareness, understanding, and implementation of environmentally-friendly behaviors.

Many schools’ Green Team members said they have increased motivation to promote “green” practices, in school and at home.

A few schools’ Green Team members said they increased their ability to effectively communicate issues of importance to them, while a couple other schools’ members described overall gains in their ability to lead, communicate, or delegate tasks.

A couple schools’ Green Team members said they have increased interest in pursuing environmental science careers.

Teachers and Green Team members also described perceived effects on others, including their school and community; they are described below:

Most schools described increased awareness of and support for their Plan among faculty and administration. The level of this support ranged among schools, from several advocates representing many departments (administration, teachers, and staff) to a couple advocates from one department (e.g., principal or teacher).

Most schools perceived positive changes in the environmentally-friendly behaviors of students and teachers (e.g., increased use of reusable water bottles, recycling, etc.).
A few schools described increased interest of the student body in joining Green Team efforts (i.e., membership in the Green team grew, established an elementary school Green Team).

Most schools had made isolated and limited strides in their community. However, one school described significant increases in the community’s awareness of their Green Team’s efforts and a willingness of community members to provide their support.

STRENGTHS AND WEAKNESSES OF THE SUMMIT

Teachers and students described the following as strengths of the Summit:

- All schools appreciated plenary sessions that provided concrete ideas to implement as part of their own Plan (e.g., composting, gardening, Casella Zero-Sort recycling, etc.).
- All schools described an increased motivation or rejuvenation that occurred after interacting with others who are passionate about “green” efforts (e.g., hearing passionate professionals speak, interacting with other schools and students).
- A couple schools said they appreciated the time allotted to work on their Plan during the Summit, including the organizing framework provided by the Wild Center.
- A couple schools said they appreciated hearing students (as opposed to adults) speak about the environmental efforts at their school.

Teachers and students had the following suggestions to improve the Summit, listed from most- to least-often suggested:

- Provide more time to discuss ideas with other schools and students implementing initiatives they also hope to implement
- Broaden the applicability of “green” initiatives shared at sessions and provide more presentations that emphasize concrete ideas to implement
- Incorporate more student-led presentations
- Provide more structure and/or guidance for breakout groups
- Have schools that attended previous summits mentor new groups as they develop a plan
- Provide a synopsis of the plenary sessions on the Web site to review later for context
- Provide more information about “green” careers
INTRODUCTION

Since November 2009, The Wild Center has facilitated the Adirondack Youth Climate Summit, a two-day convening of high school students, teachers, and professionals that strives to create Carbon Reduction Action Plans for participating schools that will “green” their facilities, reduce their carbon footprints, and increase cost savings. RK&A designed an evaluation study to explore students’ and teachers’ experiences at the 2010 Summit as well as students’ and teachers’ ability to successfully implement their proposed Carbon Reduction Action Plans (Plan). The following discussion examines study findings through the lens of three questions: (1) What effects did the Summit have on students, their schools, and their community?; (2) What are key elements for successfully implementing Action Plans?; and (3) How can the Wild Center support schools in achieving greater effects?

WHAT EFFECTS DID THE SUMMIT HAVE ON STUDENTS, THEIR SCHOOLS, AND THEIR COMMUNITY?

Study findings reveal many important outcomes resulting from students’ participation in the Summit and in designing and implementing their Carbon Reduction Action Plans.

INCREASED MOTIVATION AND INTEREST AMONG PARTICIPATING STUDENTS

An important outcome of the Summit is increased interest, motivation, and confidence in promoting “green” practices, which enabled teachers and students to move forward with their Plans once they returned to school. Motivation is essential if one is to advocate for an issue as complex and controversial as climate change. Advocating for a polarizing issue can be isolating and requires patience and perseverance. And, as findings show, resistance and apathy among the students’ school populations remains a significant obstacle. Another important outcome of Summit participation is that students have become more knowledgeable about and actively engaged in “green” practices in and outside of school, including recycling, composting, and reducing energy and water use. While students who attended the Summit are more inclined to adapt their behavior to be more environmentally friendly, it is still noteworthy that Summit participation educated them about new ways to do so. For example, students at one case study school said they learned about Casella Waste Management’s Zero-Sort recycling system and noted how it enables them to more effectively recycle at their school.

ENHANCED COMMUNICATION SKILLS AMONG PARTICIPATING STUDENTS

Students’ design and implementation of their Action Plans allowed them to practice and develop valuable life-long skills. For instance, students honed their communication skills because they had to explain the value and relevance of their Plan to various stakeholders, some in a greater position of power than the students, including administrators, faculty, and staff. Similarly, students learned negotiation skills as they communicated with these audiences by recognizing, considering, and addressing opposing needs and concerns. Such skills are integral to one’s ability to solve problems; in this case, students were faced with the obstacle of building awareness and gaining support for their Plan. Problem solving, along with critical thinking, creativity, communication, and collaboration, have been coined “21st Century Skills” and embraced by educators, policy makers, and business leaders as essential to success in today’s society (IMLS, 2009). The premise is that thinking skills are far more valuable in
today’s complex world than encyclopedic knowledge of content. Findings from this study suggest that informal learning organizations, such as the Wild Center, can play an important role in helping students build these skills through initiatives like the Youth Summit.

EFFECTS BEYOND PARTICIPATING STUDENTS

An important goal of the Climate Summit and Carbon Reduction Action Plans was to positively affect the school and community audiences. Most notably, teachers and students reported an increased awareness and support among various stakeholders, including administration, faculty, staff, and students; this increased awareness and support varied among case study schools depending on the extent of resistance from stakeholders and the strategies employed to address it. For example, a couple schools created broad awareness and gained the support of a variety of audiences, while other schools reported more isolated instances of the same. Another effect that teachers and students at most case study schools reported was anecdotal instances of behavior change among faculty and students (such as more students using reusable water bottles). When it came to the community beyond the school, effects were understandably limited, with just one school reporting increased awareness of the Plan in the community. It is important to consider that most case study schools are still in the early stages of building awareness among stakeholders and modifying their Plans as they encounter various obstacles; thus, it is not surprising that they have yet to see significant effects on others. Effects such as behavior change are especially difficult to achieve and even anecdotal instances should be celebrated. The fact that case study schools are first focusing on building support is important, since without it other effects are not likely to occur.

WHAT ARE KEY ELEMENTS FOR SUCCESSFULLY IMPLEMENTING ACTION PLANS?

While the Summit was an important first step in the process, the most crucial aspect of teachers’ and students’ involvement came after they attended the Summit—implementing their Carbon Reduction Action Plans in the reality of their school environment. Findings reveal key elements necessary for successful implementation: designing plans that emphasize student passions and encourage student leadership; and remaining flexible and adaptable during Plan implementation. Findings also reveal that some schools were more successful in how they integrated these elements into their Plans.

DESIGNING PLANS THAT EMPHASIZE STUDENT PASSIONS AND ENCOURAGE STUDENT LEADERSHIP

One fairly obvious but important element is that each Plan reflects the passions and interests of the students who created it, which enabled students to embrace and take ownership of it. And, students not only viewed their Plan as reflective of their own passions and interests, but they also felt it addressed an issue (i.e., climate change) that was important to their school and community. While students’ passions and interests seem to have been well-established before attending the Summit, the Summit played a crucial role in reigniting these passions and setting the stage for them to be integrated into schools’ Plans by: (1) convening audiences with a passion for protecting the environment (e.g., plenary sessions); and (2) creating space and guidance for schools to develop a concrete plan of action.

Successful implementation of students’ Plans also necessitated building awareness among and gaining support from various school audiences, including administration, faculty, staff, and students. Gaining this support was a truly active process that proved most successful when students were the primary advocates for their Plan, as their passion and sincerity became obvious to those listening. Findings also show that acting as the primary advocates of their Plan helped students develop important skills. For
instance, at a couple schools where students were the primary advocates of their Plan, they described gaining leadership, communication, and negotiation skills.

REMAINING FLEXIBLE AND ADAPTABLE DURING PLAN IMPLEMENTATION

Although many aspects of the Plans were successfully implemented, teachers and students encountered obstacles, and schools varied considerably in how and to what extent they adapted to and addressed these obstacles. The most successful schools seemed to adapt to resistance or skepticism by employing a range of strategies to create awareness among a broad spectrum of audiences. For example, these schools communicated the value and relevance of their Plan to students, as well as to the school board, principal, faculty, and staff (e.g., custodians, cafeteria supervisors). To address the issue of limited time and resources, schools found it most effective to scale back their original Plan to tasks that were concrete and familiar to others and, thus, easier to implement (e.g., recycling). And, although seemingly minor, students and teachers also emphasized the importance of having regularly scheduled meetings for maintaining enthusiasm and momentum.

HOW CAN THE WILD CENTER SUPPORT SCHOOLS IN ACHIEVING GREATER EFFECTS?

Interestingly, the key elements that helped teachers and students successfully integrate aspects of their Carbon Reduction Action Plans are similar to those involved in project-based learning models. For instance, designing projects that reflect students’ passion for the environment and encourage students to advocate for change align with project-based learning models, which emphasize pursuing a project that is realistic and not school-like. That is, students tackle “real-life challenges where the focus is on authentic (not simulated) problems or questions and where solutions have the potential to be implemented” (Thomas, 2000). Further, project-based learning models emphasize projects that are primarily student-driven; students’ Plans were successful because they reflected students’ interests and passions, which lead to commitment and taking ownership. And, as mentioned previously, when students were the primary advocates of their Plan, they were more successful at creating awareness, gaining support, and growing their leadership, communication, and negotiation skills.

These similarities suggest that utilizing other characteristics of project-based learning models might help schools achieve greater effects through implementation of their Plans. For instance, Barron et al. (1998) discuss four aspects of program design that support successful project-based learning. In an effort to simplify these design principles, we have extrapolated two broad strategies that the Wild Center might realistically employ to support schools at the Summit and while implementing their Plans.

- **Create a simulated problem-based activity at the Summit that encourages teachers and students to consider the realities of implementing their proposed Plan and how they might address any obstacles they expect to encounter.** Barron et al. (1998) suggest creating a narrative that focuses on an authentic (i.e., relevant) problem and then challenging participants to solve it using information included in the narrative. When students and teachers provided suggestions for improving the Summit, they expressed a desire for more concrete ways to implement their own Plan; and teachers and students valued plenary sessions that supported them in this way. A simulated activity is one way to empower schools to think concretely about their own Plans and how they will implement them. The Wild Center might even consider pairing repeat and first-time Summit attendees during such an activity to further scaffold the experience.

- **Encourage structured teacher and student reflection as part of the Plan’s implementation process.** Barron et al. (1998) caution that learning “often does not occur
because of the tendency in project-based approaches to get caught up in the action without appropriate reflection,” leading to “doing for the sake of doing” as opposed to “doing with understanding.” During interviews, teachers and students had an opportunity to individually reflect on the successes and challenges of implementing their Plan since attending the Summit. We suggest that this type of structured reflection would be hugely beneficial if implemented throughout the implementation process (realistically, twice during the year). Such reflection can lead to learning and schools’ modification of their Plans to more effectively accomplish intended goals. There are different ways for the Wild Center to support such structured reflection: staff facilitation via video- or Web-conferencing; a pen and paper activity that teachers and students can access via the Wild Center’s Web site, etc. Such an activity should be set up as a collaborative discussion between teachers and students and could be included as a requirement of attending the Summit. Again, another layer to consider would be to pair two schools during this reflection process; the benefit of doing so would be for schools to learn from each other’s successes and challenges and to extend the camaraderie and inspiration that resulted from Summit interactions.

In conclusion, findings demonstrate many successful outcomes resulting from Summit participation and implementation of Carbon Reduction Action Plans. Findings also point to many aspects of the Summit, as well as strategies employed by individual schools, that helped teachers and students successfully implement their Plans. And, while this discussion focused on two concrete recommendations that the Wild Center might use to support schools in achieving greater effects, staff are encouraged to mine the body of the report (as well as the executive summary) for additional suggestions teachers and students had for improving the Summit to support their needs.

REFERENCES


This report presents the findings from an evaluation of the 2010 Adirondack Youth Climate Summit conducted by Randi Korn & Associates, Inc. (RK&A) for The Wild Center in Tupper Lake, New York. The Summit is a two-day convening of high school students, teachers, and professionals that strives to create Carbon Reduction Action Plans for participating schools that will “green” their facilities, reduce their carbon footprints, and increase cost savings. Summits were held in 2009 and 2010. This study explores the 2010 Summit experiences of 19 students and five teachers from five case study schools, as well as those students’ and teachers’ ability to successfully implement their proposed Carbon Reduction Action Plans following Summit participation. Data for this study were collected over the course of several months, from November 2010 to June 2011.

The study objectives are to:

- Describe the various components and steps of each school’s Carbon Reduction Action Plan;
- Gauge perceived successes and shortcomings of Plans from all perspectives and explore factors that contributed to the successes and shortcomings;
- Gauge the degree to which the project was integrated into the school (versus being an isolated event), and the estimated numbers of students affected;
- Identify resistance/obstacles which may have prevented students from following their original Carbon Reduction Action Plans and explore how those problems may have been addressed;
- Determine the skills and knowledge students perceive they gained from the Climate Summit, and the skills and knowledge they believe they used in the implementation of their Plan;
- Identify perceived lasting effects on(changes to students and the school;
- Identify the strengths and weaknesses of the Climate Summit in the context of implementing the schools’ Carbon Reduction Action Plans;
- Identify ways the Wild Center best provided support (e.g., Web site); and
- Explore ways a project-based approach contributed to program effectiveness.

**METHODOLOGY**

Case studies were used to examine the 2010 Summit experience and implementation of schools’ Carbon Reduction Action Plans. Case studies typically examine the interplay of variables to provide as complete an understanding of one event or situation as possible. The case studies do not produce information that can be generalized to all the schools. Rather, case studies demonstrate the unique nature of the program at the school level as well as the range of possible outcomes.

For this study, one case study was defined as one school. Wild Center staff selected five schools from among 30 that participated in the Summit. Data were collected using observations and telephone interviews between November 2010 and June 2011. One observation of the 2010 Summit was conducted for context in November 2010. Telephone interviews—which concentrated on teachers’ and students’ reflections of the Summit and subsequent implementation of their Carbon Reduction Action Plans—were conducted in March and May/June 2011; interviews were audio-recorded and transcribed.
to facilitate analysis (see the Appendix for the guides). Additionally, RK&A reviewed relevant documents to provide context for the 2010 Summit and Carbon Reduction Action Plans.

DATA ANALYSIS AND REPORTING METHOD

Case study observations and interviews produce qualitative data, meaning that results are descriptive. When analyzing qualitative data, the evaluator studies verbatim transcripts for meaningful patterns, and, as patterns emerge, groups similar responses and behaviors, eliciting trends in the data. Trends and themes within the data are presented in thematic sections.

This report uses verbatim quotations from interviews (edited for clarity) to give the reader the flavor of students’ and teachers’ experiences, and to illustrate their ideas as fully as possible. Within quotations, the interviewer’s comments appear in parentheses. For interviews, whether the interviewee is a student or teacher appears in brackets following the quotations. Survey findings are organized around the following six areas:

SECTIONS OF THE REPORT:

1. Introduction
2. Case Study School One
3. Case Study School Two
4. Case Study School Three
5. Case Study School Four
6. Case Study School Five
INTRODUCTION

Wild Center staff purposefully selected five case study schools in various stages of implementing their Carbon Reduction Action Plans; these case study schools provide a snapshot of the different levels of school engagement. Each case study includes interviews with teachers and students and a review of any relevant documents that provide additional context for the school’s Plan (e.g., newspaper articles, YouTube videos, etc.). Interviews were conducted in March and May/June 2011. When possible, students and teachers were interviewed twice to gauge any progress that had been made implementing their Plan.¹ Findings are presented by individual case study school.

CASE STUDY SCHOOL ONE

RK&A interviewed one teacher and four students from School One who participated in and developed a Carbon Reduction Action Plan at the 2010 Summit.² The teacher and one student had attended the Summit twice (in 2009 and 2010), and the remaining three students had attended the Summit for the first time in 2010. Most students were high school seniors, and one student was a high school junior. Data points related to School One include:

- Two teacher interviews, one in March 2011 and one in May/June 2011
- Five student interviews, four in March 2011 and one in May/June 2011

DESCRIPTION AND EVOLUTION OF CARBON REDUCTION ACTION PLAN

School One developed a Carbon Reduction Action Plan at the 2010 Summit that includes composting in the school cafeteria and growing local food in their school garden.

EVOLUTION OF PLAN SINCE THE SUMMIT

Since the Summit, School One’s Green Team has done or plans to do the following related to their Plan:

- Met with the School Cafeteria Manager, School Board, custodians, and the Elementary School Green Team to discuss integrating composting and local food into the cafeteria
- Continued many existing “green” activities and events (not necessarily developed at the 2010 Summit) such as Earth Day, a recycling program, energy saving initiatives (e.g., turning off school computers and lights), and distributing food from the school’s garden to the community
- Plan to pilot a composting program with elementary school students (5th and 6th grade) in their school in the fall of 2011
- Plan to organize a week around the upcoming 350 Day of Action, which will include speakers, daily “green” tips, a “Brown Out” day where individuals use less electricity, and a day where students plant flower bulbs as well as distribute compact fluorescent bulbs³

¹ RK&A conducted a second interview with teachers and students from two case study schools; logistical constraints prevented the other three schools from participating in a second interview.
² The teacher and one student from School One were available for a second interview to gauge the Plan’s progress.
³ Based on an e-mail communication with the teacher post-interview
**PERCEIVED STRENGTHS OF CARBON REDUCTION ACTION PLAN**

School One’s Green Team (students and teacher) discussed several successful aspects of their Carbon Reduction Action Plan:

- A plan that is concrete, relevant, and strives to integrate the entire school (see the first quotation below)
- A supportive teacher mentor (see the second quotation)
- Using students as the primary advocates of their Plan to others
- Taking small steps, such as first implementing a pilot composting program, to gain support from the administration
- Establishing an elementary school Green Team who will help with the pilot composting program

I like that [our Plan] focuses on local things rather than just trying to simply raise awareness. . . . I also like that it focuses on food because it’s something that’s alive; it’s not like trying to save energy or something’s that a really complex issue. [student]

I think [our teacher] is helpful because she is so enthusiastic, and she’s the one that pushes us to want to do this [the Plan]. . . . She guides us in a way that we want to do it more. Like, in the beginning, we said ‘well, this isn’t really going to [work] because the Board doesn’t really think it’s good so maybe we should not do it and find another way that we could help,’ but she really got on our case, and she [helped us] to [communicate] what we wanted. [student]

**PERCEIVED OBSTACLES TO IMPLEMENTING CARBON REDUCTION ACTION PLAN**

School One has encountered or perceives the following as obstacles to implementing their Plan:

- Gaining initial support from staff and administration (i.e., the Cafeteria Manager and School Board had concerns about students learning how to compost) (see the first quotation below)
- Challenges scheduling regular meetings and thus, maintaining momentum; the teacher mentor does not have daily contact with members of the high school Green Team, and Green Team members are involved in many academic and extracurricular activities
- The student body’s potential lack of interest in “green” initiatives (see the second quotation)

We had to talk to the cafeteria manager and get her on a board, and she’s not a strong environmentalist. I really tried to get her to go to the Climate Summit, but she [could not go]. . . . The Superintendent was concerned [because] he sits in the cafeteria and watches [students] put metal silverware into the trash, [and] there’s no awareness of sorting, and his concern was with the training part of it [composting]. So, it’s been much more complicated than just coming back and putting out composting bins and then moving it [the waste] into a composting pile. [teacher]

I think that the greatest weakness [is] going to be trying to get [students] to actually participate, because a lot of people just don’t care, and I think [through] the pilot group, we’re hoping to expand it [composting] and have it slowly catch on, but I think that that will be the hardest part. [student]

**PERCEIVED SOLUTIONS**

Teachers and students at School One also discussed some solutions to these obstacles:
Piloting the composting program to help gain support from staff and administrators who seem skeptical of the success of a school-wide initiative (see the first quotation below)

Having students speak passionately about their Plan to staff and administrators (see the second quotation)

Scaling back the initial plan by first implementing a pilot composting program and then tackling integration of local foods into their cafeteria (by first using foods from their school garden)

Potentially adding a co-teacher mentor at the high school level who would regularly see and interact with students

Meeting in the mornings before school starts

Having an elementary school Green Team that can motivate their peers to support the Plan

Focusing on issues relevant to the student body to address potential lack of interest in the Plan

An example would be when the superintendent brought up his concern that he sits in the cafeteria, and he watches kids put things [in the trash that are not] supposed to [be] put [in the trash can] . . . . He’s saying if we add another layer with composting, it’s just one more thing and he envisions [that students will put] everything in one container. So, we [the Green Team] listened to that and then came back with [the idea of trying] a pilot group and really training them and watching them and getting them on board, and then gradually expanding it to other groups. At that point he said, ‘yes.’ [teacher]

I know that if I had gone to our cafeteria manager and said, ‘I think we should do this,’ it would have never worked. The biggest thing that I say to the kids constantly is that adults really love to see young people who care about something more than themselves; I constantly say to them, ‘never underestimate how powerful it is when you speak to an adult about something that you care about and you speak well’ . . . . Last year, they went in front of the faculty and talked about recycling; they’ve also gone in front of the faculty in past years and talked about electrical use. They got the staff to start turning [off] their computers at the end of the day and over vacations by [presenting] some analysis [of] how much the school could save if teachers started turning off their computers at the end of the day, and I watched the staff while my [Green] Team members [were] speaking, and I see teachers nodding their heads; they love it. [teacher]

PERCEIVED LASTING EFFECTS ON STUDENTS, SCHOOL, AND COMMUNITY

EFFECTS ON GREEN TEAM MEMBERS
The teacher and Green Team members who were interviewed discussed the following as ways they have been affected by participating in the Summit(s) and implementing their Plan:

- Increased awareness and understanding of environmentally-friendly behaviors
- Increased motivation to promote “green” practices
- Increased ability to effectively communicate and negotiate with others about issues of importance (see the first quotation below)
- Increased interest in environmental careers (see the second quotation)

I think what I like best is seeing the girls go and meet with people, talk with them, and convince them, just seeing them interact with the powers-that-be and learning how to do that. I don’t know whether [the school] will be composting in ten years or not, but I do think that these girls have been affected, and I think that they’ve learned about speaking, and they’ve learned [that] you can’t go in like an army and say, ‘this is what we’re doing,’ but you have to negotiate, you
have to give and take. I’ve talked to them about how important it is that you’re polite and well-reasoned and you have facts. I think those are skills that will serve them for a lifetime and perhaps encourage them to work on issues in the future as well. [teacher]

I’m interested in going into environmental science where you’d have to talk to people about policies, and you’d have to know [how to] figure out things. When we went to meet with the administration and proposed the composting, it was interesting to see how you have to compromise because we could tell that they weren’t really into it, but we would say, ‘oh well, how [about] if we did this, this and this.’ So, we changed [our Plan] a lot, but it’s still something we can do and that can grow. [student]

**EFFECTS ON THE SCHOOL AND COMMUNITY**

The teacher and Green Team members who were interviewed described the following effects on others (although the teacher said it was challenging to determine which effects are a result of their Summit Plan and which are a result of existing “green” initiatives like Earth Day):

- Some increased awareness and support of their Plan among faculty, administration, and other students
- Increased willingness among students and faculty to recycle and save energy while on school grounds (see the quotation below)

One of the teachers said that she can’t believe how much paper this school goes through and how much gets wasted. I know in the library they have one of these central printers . . . and things get printed out in the library all the time that nobody ever comes and picks up, and if that’s happening in the library, then it’s probably happening in both computer labs as well. So, we were talking about how we could address that issue, and I know that that came as a result of my high school [Green] Team talking to the faculty about recycling paper at the school. [teacher]

And, while the teacher and students described few effects on the community-at-large, they have made the following efforts in the community:

- Donating food from their school garden to people in the community (e.g., nursing homes)
- Rallying for a county-level Climate Action Plan in danger of being voted down by the Board of Legislators by starting a petition in support of the plan

**PERCEIVED STRENGTHS AND WEAKNESSES OF SUMMIT**

**STRENGTHS**

The teacher and students from School One discussed the following as strengths of the Summit:

- Meeting interested students and hearing passionate professionals speak about environmental topics reignited their interest in environmental causes (see the two quotations below)
- Participating in workshops on composting, community gardens, and energy saving that gave them concrete ideas for implementing their own Plan

I can’t remember what workshop it was, but people broke up towards the end of it and spoke about some topics that they’d like to talk about. You could go with [different] people [and] talk about [a specific issue]. I really liked that because I got to [talk to] other people who had a very similar interest to me. [student]
[One student] was very disconnected from the Green Team after her sister graduated. . . . I really missed having her. . . . I contacted her in the summer when everything was relaxed and said, ‘look, there’s this great Climate Summit; why don’t you just go and see [it].’ I [also] really want to put in a plug for having it around Veterans Day because that’s how I convinced all of these girls to go. I said, ‘you’ll have four days to get caught up on your homework;’ that was how I convinced them to go. But, she went to the Climate Summit and came back totally on board. It got her back on the [Green] Team. I think [the Summit’s] biggest role is to just reinvigorate all of us. [teacher]

**WEAKNESSES**

Students and their teacher had the following suggestions for improving the Summit:

- Provide more structured time to network with each other while at the Summit since the teacher struggles to schedule time with her students while at school
- Provide more time to discuss ideas with other schools and students implementing initiatives they also hope to implement (see the quotation below)

I think there could have been more interactions between schools, because I was out to lunch with people from other schools, and I never really talked to the other students. . . . It would have been nice to meet with other schools about the action plan and what they’ve done and what their school is like because there was some schools where people mentioned their action plans, and I wanted to talk to them about it, but there wasn’t really an opportunity for that. [student]

**CASE STUDY SCHOOL TWO**

RK&A interviewed one teacher and five students from School Two who participated in and developed a Carbon Reduction Action Plan at the 2010 Summit. The teacher and one student had attended the Summit twice (in 2009 and 2010), and the remaining four students had attended the Summit for the first time in 2010. Three students were high school seniors, one was a junior, and one was a sophomore. Data points related to School Two include:

- One teacher interview in May/June 2011
- Five student interviews in May/June 2011

**DESCRIPTION AND EVOLUTION OF CARBON REDUCTION ACTION PLAN**

School Two developed a Carbon Reduction Action Plan at the 2010 Summit that includes promoting carpooling and use of public transportation, composting, planting a school garden, and recycling.

**EVOLUTION OF PLAN SINCE THE SUMMIT**

Since the Summit, School Two’s Green Team has done or plans to do the following related to their Plan:

- Prioritized composting, recycling, and growing local food instead of promoting carpooling and use of public transportation since the first three aspects have been more realistic to implement
- Completed individual projects related to the Plan (e.g., a hydroponic system to grow lettuce)
- Raised money through recycling efforts to fund planting the garden
- Partnered with a local farm to bring in food for the cafeteria
Hold an Earth Day assembly for middle school students
Produced a video documenting 2010 Summit activities and messages
Begun composting efforts (being modified as students encounter some barriers, see below)

**PERCEIVED STRENGTHS OF CARBON REDUCTION ACTION PLAN**

School Two’s Green Team (students and teacher) discussed several successful aspects of their Carbon Reduction Action Plan:

- A plan that is authentic, sustainable, and strives to integrate the entire school (see the first quotation below)
- Support from the superintendent and custodial staff
- A high level of passion and ownership exhibited by students implementing the Plan (see the second quotation)
- Regularly scheduled meetings with students implementing the Plan (see the second quotation)

I like how everyone [on our team] is so positive about [the Plan], and I like how possible things seem when everybody works together. And, I think the coolest thing is the garden because we are going to use the food grown from the garden and give it to our school cafeteria so we don't have to buy as much food, and it's all organic. And, I think it's pretty cool [that students] will be able to benefit from all of our projects, and we can be part of it. And, even long after we graduate, the school will still benefit from the things that we did. [student]

I like that [the Plan] is completely theirs [students’]; they all [have] complete ownership. I kind of sat back and watched as they talked about it [at the Summit]. The other piece that I really like about it [the Plan] was [that] our superintendent actually came to the Summit. And, he helped them [students] with the Plan; so because we have the support of the administration, it [the Plan] became more realistic. . . . So, having him there was really big. We would never have had him involved [in the Plan] otherwise. [teacher]

**PERCEIVED OBSTACLES TO IMPLEMENTING CARBON REDUCTION ACTION PLAN**

School Two has encountered or perceives the following as obstacles to implementing their Plan:

- Student body’s negative perceptions and lack of willingness to compost
- Complexity of the transportation aspect of their original plan (see the first quotation below)
- Challenges growing food in their garden due to cold weather
- Maintaining the “green” aspect of individual projects (e.g., hydroponic system requires energy to operate)
- Limited student time given other academic and extracurricular responsibilities
- Maintaining momentum from year-to-year after older students leave (see the second quotation)

[The] greatest weakness [of the Plan] is definitely [the] transportation [aspect] because we live in a community that’s really spread apart and most of the adults who work around here commute daily and don’t think a lot [about] carpooling. . . . We [are] trying to encourage everyone to ride the bus, but there [is sometimes a] shortage of buses . . . and it’s a really hard thing to try and convince people to ride the bus because it [comes] really early, school starts early [at an]

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4 RK&A reviewed the video via YouTube
inconvenient time, and the bus system is pretty bad because it takes a lot longer than driving directly to school would. [student]

The challenging part [of the Plan] is finding time [to discuss and implement it]. Students are so overbooked with activities and things that they do, especially the leaders. They’re the ones that are in the school play and in every other club in the high school. So, that’s the [biggest challenge] looking from year to year, [and] the fact that I have all these great kids that are invested in what they’re doing, and they’re going to leave next year. So, continuing [the] momentum when you have a whole new group coming in, a whole new dynamic, that’s [another] challenge. [teacher]

**PERCEIVED SOLUTIONS**

Teachers and students at School Two also discussed some solutions to these obstacles:

- Addressing the student body’s resistance to composting by creating better signage and systems (see the first quotation below)
- Turning to a local farm to obtain organic food for their cafeteria when the weather impeded their ability to plant in their own garden (see the second quotation)
- Establishing regular meeting times to address the time constraints of students

The greatest weakness is probably the student [body’s] involvement with the composting of cafeteria waste, just because things need to be separated. But, we are starting to come up with ideas to overcome that. (And, can you talk about that, how are you overcoming it?) We were introduced to a new system where you dump your food waste over a screen to separate the liquid parts. We’re also testing the waters with different signs, putting new labels with what should go where and how things should be properly disposed. [student]

The garden was a little slower starting; it’s difficult with our climate, with it being too cold of a winter. But, they [students] did [research] it [a solution], so they visited a whole bunch of CSA farms in the area and were able to get food for the cafeteria; they basically worked for a day on the farm and would bring home food for the cafeteria which was great. [teacher]

**PERCEIVED LASTING EFFECTS ON STUDENTS, SCHOOL, AND COMMUNITY**

**EFFECTS ON GREEN TEAM MEMBERS**

The teacher and Green Team members who were interviewed discussed the following ways they have been affected by participating in the Summit(s) and implementing their Plan:

- Increased awareness, understanding, and implementation of environmentally-friendly behaviors (see the first quotation below)
- Increased motivation to promote “green” practices
- Increased comfort communicating with others about important issues (see the second quotation)
- Increased knowledge about the local impact of climate change on the Adirondacks

We all need to be better stewards of the Earth, and through the Climate Action Plan, I have been more conscientious about my composting of materials at home. At home, I don’t have anything to the point where I’m composting anything but plant matter, and it’s just for my banana peels, but I’ve added my egg shells because of what I’ve learned through the Action Plan and the Climate Summit. [student]

[I had] particularly engaging conversations at the Summit regarding single transportation and
other issues with a bunch of adult members of the upstate New York region, and I learned a lot about how things really work in that field. Students would say things like, ‘oh, be sure to recycle all the plastic’ and ‘everyone should ride the bus’ but they don’t really take into consideration reality, and I was able to do that because we had counterpoints at the Summit and those were the adults. So, we were talking about an idea and then someone would respond to our thoughts, either positively or [using] a counter argument, being realistic, [using] constructive criticism. [student]

EFFECTS ON THE SCHOOL AND COMMUNITY
The teacher and Green Team members who were interviewed described the following effects on the student body and community:

- Increased willingness among the student body to recycle (see the quotation below)
- Increased interest in the Environmental Club (membership has grown to include more students and volunteers)
- Increased support from the superintendent and custodial staff

I’ve been impressed with how well the rest of the student body actually recycles now. They [students in the Environmental Club] created boxes and put [them] in every single room, not only for recycling paper, but also for recycling bottles and cans, and I was afraid with the bottles and cans that people would be throwing garbage in them. But, they haven’t; they’ve been pretty open to it, and I think because their friends are telling them to do it, it’s working out. [teacher]

And, while the teacher and students described few effects on the community-at-large, they have made the following efforts in the community:

- Establishing connections with pro-environment community groups (e.g., local farm)
- Planning to distribute food from the garden to the community

PERCEIVED STRENGTHS AND WEAKNESSES OF SUMMIT

STRENGTHS
The teacher and students from School Two discussed the following as strengths of the Summit:

- Meeting interested students and hearing passionate professionals speak about environmental topics reignited their interest in environmental causes (see the first quotation below)
- Participating in workshops about composting, hydroponics, and transportation that gave them concrete ideas for implementing their own Plan
- Time to brainstorm about their Plan at the Summit and the organizing framework provided by the Wild Center (see the second quotation)
- Opportunities to debate both sides of an issue
- Prominently featuring the students’ ideas and voice through plenary sessions

(And what factors have helped the most in your Action Plan?) Going to the Youth Summit probably helped the most because [it] showed how many other schools are also going through challenges, but [they] are still working hard and have confidence and have the support and that just gave us the spirit to keep going with it [our Plan]. [student]

I really like the format of the paper that they give us when you’re making your action plan; there’s a bunch of questions that you fill [in]. . . . That graphic organizer helps keep us on task
because they [students] had too many ideas going all over the place after listening to all of the different [sessions]. . . . And, having the time to sit and work on it [the Plan], those two things allowed it [the Plan] to become an actual piece of work which you take home.  [teacher]

**WEAKNESSES**
Students and their teacher had the following suggestions for improving the Summit:

- Provide a synopsis of the plenary sessions on the Web site to review later for context
- Incorporate more student-led sessions
- Broaden the applicability of “green” initiatives shared at sessions (see the quotation below)

I felt that a lot of the demonstrations [were] vague because they tried to specialize them so much that they didn't help people who were outside those environments. (Can you talk more specifically about how that could have been better?) I think that [learning about] ways of doing the same thing in different situations, either inside or outside, in winter or summer, can help [broaden] the spectrum of how easy it is to do some of the things that they [described] in the lectures.  [student]

**CASE STUDY SCHOOL THREE**

RK&A interviewed one teacher and three students from School Three who participated in and developed a Carbon Reduction Action Plan at the 2010 Summit. The teacher had attended the Summit twice (in 2009 and 2010), and the three students attended the Summit for the first time in 2010. All students were high school freshmen. Data points related to School Three include:

- One teacher interview in May/June 2011
- Three student interviews in May/June 2011

**DESCRIPTION AND EVOLUTION OF CARBON REDUCTION ACTION PLAN**

School Three developed a Carbon Reduction Action Plan at the 2010 Summit that includes energy saving (e.g., turning off computers and lights), growing local food, recycling, and composting.

**EVOLUTION OF PLAN SINCE THE SUMMIT**
Since the Summit, School Three’s Green Team has done or plans to do the following related to their Plan:

- Prioritized the recycling aspect as opposed to other aspects of their Plan due to barriers encountered (see the quotation below)
- Designed recycling bins for classrooms
- Recruited the elementary art teacher and elementary students to join a Junior Green Team to help design the recycling bins
- Met with the principal/superintendent about purchasing more biodegradable utensils and plates for the cafeteria
- Plan to organize a fashion show that promotes wearing recycled or used materials at a local community college
- Plan to collect garbage for a week to increase awareness of the amount that accumulates
PERCEIVED STRENGTHS OF CARBON REDUCTION ACTION PLAN

School Three’s Green Team (students and teacher) discussed several successful aspects of their Carbon Reduction Action Plan:

- Creating a plan that reflects students’ passions and attempts to make a difference in the world (see the quotation below)
- Gaining the support of the superintendent/principal
- Having a supportive teacher mentor

I think [a strength is] that we have a lot of ambition, and we want to do a lot of different things, so we have a lot to choose from to start. And, even if we don’t get [it] all done right away, we have a lot to go on.  [student]

PERCEIVED OBSTACLES TO IMPLEMENTING CARBON REDUCTION ACTION PLAN

School Three has encountered or perceives the following as obstacles to implementing their Plan:

- Skeptical attitudes among students and faculty regarding “green” initiatives (see the two quotations below)
- Limited time due to other academic and extracurricular commitments (making it challenging to schedule regular meetings to discuss pending aspects of their Plan)

I think it’s a challenge that a lot of people in the building don’t take the environmental and climate issues we’re dealing with seriously. There’s not an environmental science class at the school, [not] every teacher [tries] to recycle and use double-sided scrap paper. People start their cars in the winter and come in and finish up their business before they leave 10 or 15 minutes later. It’s things like that which are shocking and real challenges.  [teacher]

So far, they [the student body] haven’t noticed much. Some of them have seen the recycling boxes and used them before, but I think they’re a little stubborn just because it’s something new that we’re doing. I hope that later we can get them to be more on board with the Plan because the faculty and staff are pretty excited about it for the most part, but I think the students are a little less excited and ready to see stuff change because they don’t think it’s as important.  [student]

PERCEIVED SOLUTIONS

Teachers and students at School Three also discussed some solutions to these obstacles:

- Focusing efforts on receptive parties like the elementary school art teacher, elementary students interested in the Junior Green Team, and the superintendent/principal (see the quotation below)
- Trying to meet regularly following their lunch hour (although this only allots 20 minutes)
- Focusing on one aspect of their Plan (recycling) that is more easily accomplished
- Planning to involve a small group of interested middle school students in tending the existing community garden during free classroom periods

[We try to] seek out those individuals who might be receptive; for example, the elementary kids getting involved in the recycling boxes. I had a group of students in my classroom, they were teaching 3rd and 4th grade, and one day this little boy came in with a big ball of sandwich plastic, and I said, ‘what are you doing there, what have you got?’ and he said, ‘we’re going to make as
big a ball as we can with the plastic off our sandwiches every day.’ I said, ‘oh my gosh, wait till I
tell the Green Team, they’ll be so excited to know what you’re doing.’ [teacher]

PERCEIVED LASTING EFFECTS ON STUDENTS, SCHOOL, AND COMMUNITY

EFFECTS ON GREEN TEAM MEMBERS
The teacher and Green Team members who were interviewed discussed the following as ways they have
been affected by participating in the Summit(s) and implementing their Plan:

- Increased awareness, understanding, and implementation of environmentally-friendly behaviors
  (see the quotation below)
- Increased motivation to promote “green” practices

We used a lot of electricity [at my house], and we drink a lot of soda so we didn’t recycle. After
I went to the Summit, we recycle a lot; we recycle all of the paper that we use; once we print
something out on one side, [we] put it back in the printer and print on it again. We turn off all
the lights while not using them. Normally, we [would leave] lights on for the animals, but we
shut [them] off and just open the windows up. And, when we brush our teeth, we used to have
the water on the whole time, but while brushing [now], we turn [it] off. [student]

EFFECTS ON THE SCHOOL AND COMMUNITY
The teacher and Green Team members agreed that effects on the student body were limited, but
described the following effects on specific school audiences:

- Increased interest of elementary school students in a Junior Green Team that has already helped
  create recycling bins for school classrooms (see the quotation below)
- Gained support of the superintendent/principal and the elementary school art teacher

I don’t think they [the Green Team have] had much effect [on the student body] yet. I think
that probably the most important thing this year will be the work that they do and the
connections that they make with the younger grades. When we get the little buddy system going
with the high school kids and the 3rd and 4th graders to distribute the [recycling] boxes and work
out the collection plan, and [then] come back next year and build on that, I think that’s where
we’re going to have the most impact. [teacher]

And, while the teacher and students described few effects on the community or the student body, they
have attracted the interest of a few volunteers to help with their garden (see the quotation below).

The garden is relevant to the community in that there are a number of people now who plant
there. And, I just got an email yesterday from a woman who has helped us the last couple of
years who said that there are a number of women in the community who are willing to help out
in the summer. I live an hour away so I don’t come up here to water so there are some people
who are coming forward who want to help out with that, which is great. [teacher]

PERCEIVED STRENGTHS AND WEAKNESSES OF SUMMIT

STRENGTHS
The teacher and students from School Three discussed the following as strengths of the Summit:

- Opportunities to attend workshops that gave them concrete ideas for implementing their Plan
  (i.e., composting, display on wearing recycled materials that inspired their idea for the fashion
  show, and local gardening) (see the first quotation below)
Seeing an inspirational speaker who discussed recycling that the teacher hopes to bring in to speak to her students

Hearing sessions that promoted students’ voices and ideas (see the second quotation)

A post-Summit opportunity to bring students together with another high school that had students who went to Finland to learn about “green” practices (a suggestion of the Wild Center)

Certainly, the session on [one] school’s meals and the involvement of their garden in the whole school’s meal program and their waste and recycling [plans was helpful]. I think [those] were the things they [my students] could hang their hats on, really digest and see how we could do [that] here. There [also] were some displays from last year’s Junk to Funk Show which got the kids thinking, ‘we could do that at our school.’ [teacher]

I think the best part [of the Summit] was the other schools there. You could listen to an adult preach to you all day, but having the students actually tell you what [they’ve] done in their school, from their point of view, makes you want to listen to them more because they’re at your speed. [student]

**WEAKNESSES**
Students had the following suggestions for improving the Summit:

- Provide more presentations that emphasize concrete ideas to implement
- Have schools that attended previous Summits mentor new groups like theirs as they develop a Plan (see the quotation below)

I think it would have been more helpful if someone had really been looking over what you were doing. . . . If you’re totally new, then have a more experienced group teach you about getting started, which would have been nice. . . . I know when I was there, I felt like I was completely clueless because it seemed like everyone there really knew what they were doing. I think it would be helpful if they would just tell you how to get started in your school. [student]

**CASE STUDY SCHOOL FOUR**

RK&A interviewed one teacher and two students from School Four who participated in and developed a Carbon Reduction Action Plan at the 2010 Summit. The teacher had attended the Summit twice (in 2009 and 2010), and the two students had attended the Summit for the first time in 2010. One student was a high school junior, and one student was a high school sophomore. Data points related to School Four include:

- One teacher interview in May/June 2011
- Two student interviews in May/June 2011

**DESCRIPTION AND EVOLUTION OF CARBON REDUCTION ACTION PLAN**

School Four developed a Carbon Reduction Action Plan at the 2010 Summit that includes reducing plastic water bottle use, composting, tracking electrical consumption, and an Earth Day celebration to raise awareness.

**EVOLUTION OF PLAN SINCE THE SUMMIT**
Since the Summit, School Four’s Green Team has done or plans to do the following related to their Plan:
Planned the Earth Day celebration, which includes booths devoted to environmental topics (e.g., Wind is Energy), reusable bags that students can decorate and keep, and earth-related activities

Raised money from recycling to purchase energy-efficient water fountains for their school that include a water-bottle-fill feature for reusable water bottles

Received a donation from Casella Waste Systems of 600 reusable water bottles for student use

At the time of the interviews, the teacher and students had not made significant progress on the composting or electrical consumption aspects of their Plan due to various barriers (described below). Yet, they planned to tackle these aspects of the Plan during the summer and/or the following year.

PERCEIVED STRENGTHS OF CARBON REDUCTION ACTION PLAN

School Four’s Green Team (students and teacher) discussed several successful aspects of their Carbon Reduction Action Plan:

♦ Creating a plan that reflects students’ ideas (see the first quotation below) and has broad relevance (i.e., benefits the school, economically and ethically) (see the second quotation)

♦ Gaining the support of some teachers (e.g., health teacher) and the administration

♦ Having motivated students working on the Plan

♦ Having a supportive teacher mentor

What I like best about it [the Plan] is that it comes from the students because I can’t do everything by myself and if they’re not motivated to do it, it’s not going to happen. I need them. So, I think that is the strongest point, that it [the Plan] is student-generated. [teacher]

I like how we got the [reusable] water bottles and the water fountains to stop using [disposable plastic] water bottles, so [they] won’t go to our landfills. (And why do you like the water bottle project the best?) [Because] you’re saving money for your school; you’re saving our money; and it’s putting less garbage in the landfills. [student]

PERCEIVED OBSTACLES TO IMPLEMENTING CARBON REDUCTION ACTION PLAN

School Four has encountered or perceives the following as obstacles to implementing their Plan:

♦ Large scope of the Plan given available teacher and student time and resources to implement it

♦ Only two out of five students who attended the Summit remained actively involved in the Green Team, and the commitment of other members of the Green Team has been transient

♦ Students’ discomfort or inability to implement certain aspects of the Plan (see the first quotation below)

♦ Difficulty raising students’ and faculty’s awareness of their Plan and why it is important (see the second quotation)

There was something on leadership [at the Summit] that really influenced a couple of my students, saying that they need to step up, and they [people they are trying to influence] need to hear their [students’] voices instead of mine. And, to this day, none of my [students] feel comfortable getting up in front of a crowd and talking. That’s why I end up doing most of it. [teacher]

(At this point, what has been the most challenging part of following through with your Action Plan?) Probably getting the students to understand how they can help stop the garbage from
going into landfills [by] recycling more. [student]

**PERCEIVED SOLUTIONS**
Teachers and students at School Four also discussed some solutions to these obstacles:

- The teacher has assumed a great deal of responsibility for the Plan and individually touches base with students if regular meetings are not possible
- Limiting the Plan to three primary objectives at next year’s Summit
- Working to create awareness among the student body and faculty by bringing in speakers at assemblies and through the Earth Day event (see the quotation below)
- Giving teacher-led presentations to all the health classes about using reusable water bottles to save energy
- Emphasizing the economic benefits of being “green” to gain the support of environmental skeptics among faculty

A lot of times people won’t listen to what we mean when we say ‘Be green, turn things off.’ They automatically think that we mean shut everything off [and that you are] not allowed to touch electronics. That’s not what we mean. (Have you found any ways to address that so they don’t misinterpret it?) That’s one of the things we are trying to accomplish with our green Earth Day celebration. I’m also a member of the science school team at our school, and I have the science school team doing a demonstration and [communicating] information at the event. They will be telling people how they can be green without specifically meaning to shut off every electronic in your life [off] forever. [student]

**PERCEIVED LASTING EFFECTS ON STUDENTS, SCHOOL, AND COMMUNITY**

**EFFECTS ON GREEN TEAM MEMBERS**
The teacher and Green Team members who were interviewed discussed the following as ways they have been affected by participating in the Summit(s) and implementing their Plan:

- Increased awareness, understanding, and implementation of environmentally-friendly behaviors (see the first quotation below)
- Enhanced communication and social skills (see the second quotation)

My family goes camping a lot so we use water bottles a lot, and we’re trying to convince my parents to use the [reusable] water bottles more often, and it’s working so far; we have the stainless steel ones and most of the time when we go camping, we just fill those up and bring those along with us. [student]

I liked that they interacted with a lot of other students their own age and college age, and I think it helped them work on their communication skills and their social ability skills in a positive way because some of the [students] on my team tend to be quite withdrawn and quiet. They’re very reflective individuals so for them to be out and having to participate and [communicate] information back and forth [is good]; I see them really starting to blossom and realizing that their voice is important, trying to find their voice. [teacher]

**EFFECTS ON THE SCHOOL AND COMMUNITY**
The teacher and Green Team members who were interviewed described the following effects on the student body and community:
Reduction in the use of disposable plastic bottles among some students (see the quotation below)

Gaining the support of the health teacher (who has been supportive due to a desire to encourage students to drink water) and the principal

Every day when I see [students] in the hall, they hold up their reusable water container [and say], ‘look, Mrs. [teacher’s name], I’ve got one.’ Or they say, ‘Look Mrs. [teacher’s name], I’m recycling.’ Or my favorite is when [they] tell mom or dad and get them to recycle at home. And that really is another underlying goal, whatever they learn at the high school, they’re going to take home with them. [teacher]

PERCEIVED STRENGTHS AND WEAKNESSES OF SUMMIT

STRENGTHS

The teacher and students from School Four discussed the following as strengths of the Summit:

- Seeing what other schools are accomplishing, which is inspiring (see the first quotation below)
- Gathering concrete ideas to implement as part of their Plan (see the second quotation)

So many great things [came from the Summit]. In some ways, it was just hearing what the other schools were doing and getting their ideas. And then the free and open exchange of information and ideas [about] what to do, and it’s been beautiful. I think it was just so inspiring, and [students thought,] ‘well if they can do it, we can do it.’ So I think that’s the [greatest strength], getting us all together to brainstorm and talk about how to do things better. [teacher]

(What ideas did you get [from the Summit]? Implementing junk-to-funk at our school. . . . Basically, you take what somebody would consider junk and turn it into art and, for our purposes, we are giving prizes the day of our Earth Day Celebration. (What is the goal?) We’re hoping to show people that we can reuse materials to make something useful or pleasant. In fact, I had an idea [that] I was thinking of implementing next year; it’s kind of like junk-to-funk except from an engineering standpoint. (What’s an example of something that could be turned into something useful?) From the engineering standpoint, taking like a broken DVD player and turning it into a fan. [student]

WEAKNESSES

The teacher and students from School Four did not have any suggestions for improving the Summit.

CASE STUDY SCHOOL FIVE

RK&A interviewed one teacher and five students from School Five who participated in and developed a Carbon Reduction Action Plan at the 2010 Summit. The teacher and four students had attended the Summit twice (in 2009 and 2010), and the remaining student had attended the Summit for the first time in 2010. Three students were high school seniors, and two students were high school sophomores.

Data points related to School Five include:

- Two teacher interviews, one in March 2011 and one in May/June 2011
- Nine student interviews, five in March 2011 and four in May/June 2011

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5 The teacher and four students from School Five were available for a second interview to gauge the Plan’s progress.
DESCRIPTION AND EVOLUTION OF CARBON REDUCTION ACTION PLAN

School Five developed a Carbon Reduction Action Plan at the 2010 Summit that includes composting, energy saving initiatives, recycling, and introducing spider plants to improve air quality.

EVOLUTION OF PLAN SINCE THE SUMMIT

Since the Summit, School Five’s Green Team has done or plans to do the following related to their Plan:

- Awarded a grant to rewire the school with energy efficient technology (e.g., motion sensors for the lights)
- Signed a contract with Casella Waste Management to implement the company’s Zero-Sort recycling system
- Given numerous presentations to faculty and students to raise awareness of how to recycle using the new Zero-Sort system
- Hosted a “Love Your Earth” dance that encouraged wearing recycled materials and raised money to buy composting bins for the elementary school
- Plans to encourage carpooling and/or use of public transit (by designating an energy week)
- Plans to begin composting in fall 2011 using a two-step approach: integrating composting into the elementary science curriculum and hands-on demonstrations of how to compost

PERCEIVED STRENGTHS OF CARBON REDUCTION ACTION PLAN

School Five’s Green Team (students and teacher) discussed several successful aspects of their Carbon Reduction Action Plan:

- Creating a Plan that is flexible, has broad reach, and is making a difference in the world (see the first quotation below)
- Having students that are persistent, motivated, and skilled communicators (see the second quotation)
- Focusing their initial efforts (following the 2009 Summit) on consistent and broad communication of their message to educate students, faculty, and staff before attempting to implement any concrete aspects of their Plan
- Having a supportive teacher mentor, superintendent, and school board who have designated resources for implementing the Plan

I think that [students are] getting the message out. I think that their strength is communication. Our Green Team president is a natural born educator and that is definitely a strength that the Green Team has in distributing information. He has given presentations to our Rotary, School Board, and school, and I would have to say that that is our biggest strength, [effective] communicators. We have grown as a Green Team from five to 22 members, so we’re getting [students] on board. [teacher]

I like how we’re getting a lot of [people to] recycle in our schools, and we’ve extended that to the elementary school, and we’ve [given] a lot of presentations to both the faculty and students. And, we’ve had a lot of coverage in the newspaper. So, we’re educating a lot of people and that’s really important to me. [student]

RK&A reviewed a hard copy of the school’s Plan that informed this finding.
PERCEIVED OBSTACLES TO IMPLEMENTING CARBON REDUCTION ACTION PLAN

School Five has encountered or perceives the following as obstacles to implementing their Plan:

- Naysayers among students and faculty that have made it challenging to convince individuals to change their behavior (see the quotation below)
- Limited time given other academic and extracurricular responsibilities
- Implementing a Plan that is ambitious in scope
- Having a flexible Plan also means it is more challenging to impose deadlines (since things often change)

One day, somebody asked me which bin to put their bottle or can in so I told them; it was during class, and this teacher said, ‘oh, it doesn’t matter because it’s going in the landfill because nobody does their job’ . . . It’s very disheartening to have an adult say that to you. We [also] did a project about computer usage and, until last year, our computers in school stayed on all night so we hit [the faculty] with hard statistics saying you could save $10,000 [per] year if you shut off your computers when you leave at night or put them on a timer . . . And, they laughed at us. They said ‘oh, this can’t be real, you’re making this up.’ [student]

PERCEIVED SOLUTIONS

Teachers and students at School Four also discussed some solutions to these obstacles:

- Creating awareness and encouraging changes in attitudes and behavior by implementing the following strategies:
  - As mentioned previously, educating the school (following the 2009 Summit) before implementing any concrete steps in their Plan (following the 2010 Summit) (see the first quotation below)
  - Using students as the primary voice when communicating the message to faculty, administration, and other students
  - Focusing communication efforts on younger students who will replace them and continue their efforts
  - Creating points of relevance (e.g., helping individuals see the benefits of their actions)
  - Creating an entertaining video presentation to communicate relevant facts
  - Avoiding overwhelming requests (e.g., one individual completing one action is effective) (see the second quotation)
  - Appealing to individuals’ sense of philanthropy

- Addressing logistical challenges by:
  - Delegating tasks to other student members
  - Setting regular meetings and having the teacher communicate important information to individual students who are unable to attend
  - Focusing on completing one aspect of their Plan at a time

Last year, we decided that before we took on any jobs such as the dance and the Casella Zero-Sort [plan], we were going to have to educate our faculty and staff before we did any kind of project. We were not a group until we came home from the [2009] Climate Summit. [student]
I think it [our communication efforts have been effective] because of how serious we are and how [persistent] we were at telling [students], ‘Look, this is the issue, this is what you can do.’ Our motto is ‘What can one person do?’ and it’s one person’s share. So, the whole idea [of climate change] is so scary to think about and people shy away from it because they think ‘oh, it’s a project that’s too big for me.’ People have to realize that you can only do your share and maybe recycling that bottle in your hand is your share for the day. So, I think people have become more comfortable with the idea instead of it being an ‘I can’t do it; it’s too big for me’ kind of scenario. [student]

PERCEIVED LASTING EFFECTS ON STUDENTS, SCHOOL, AND COMMUNITY

**EFFECTS ON GREEN TEAM MEMBERS**
The teacher and Green Team members who were interviewed discussed the following ways they have been affected by participating in the Summit(s) and implementing their Plan:

- Increased awareness, understanding, and implementation of environmentally-friendly behaviors (see the first quotation below)
- Increased awareness that their actions can create positive change
- Increased interest and motivation in pursuing environmental careers (see the second quotation)
- Enhanced leadership and delegation skills

I recycle more at my house; I’ve learned a lot about going green and how important it is; I teach my family about it and what they should do to help. (Can you give me a couple of examples of some things that you’ve done at home?) We’ve switched a lot of our light bulbs to compact fluorescent bulbs, and we’ve composted for a really long time, and we’ve gotten better at it, in choosing which foods to compost more. [student]

The Action Plan [is] important because it helps students be educated and [know] how to set goals, because a lot of students sometimes don’t even know how to set goals . . . . I’m a senior, and it made me realize [that] I want to do something involved with the outdoors. So, I’m going to a college next year which is the SUNY School for Environmental Sciences so it’s really sculpted my whole learning experience outside of high school. [student]

**EFFECTS ON THE SCHOOL AND COMMUNITY**
The teacher and Green Team members who were interviewed described the following effects on the student body and school:

- Gaining support of the superintendent, school board, several teachers, custodians, and cafeteria staff
- Raising awareness and changing behaviors of some teachers and students (e.g., witnessed more carpooling, student body asks Green Team what and where they can recycle) (see the first quotation below)
- Growing Green Team membership from five to about 30 students
- Gaining the support of the community who has praised the Green Team’s efforts in the local newspaper and in person and has donated funds to help them achieve their goals
- Becoming known in the community as “green” experts (see the second quotation)

It was very hard getting off the ground last year because [students] would make fun of us; they said, ‘oh, that’s not cool, that’s not fun. Who wants to be in a club like that?’ Now, we’re known throughout the school, and they say, ‘When’s that dance coming up?’ We’re so ready for
that and we’re going to make the coolest dresses outfits.’ And, [students] come up to me before they go to the garbage and hold something out, and they say, ‘Where does this go?’ So [students] are getting more enthused about it [the Plan] and that makes us really happy and feel like we’re having an effect. [student]

We have had a lot of attention given to us by the media and, [a community group] has issued us an award and certificate. . . . In the community, we have been asked by local businesses, ‘Can you come and teach us composting? Can your Green Team come? We will pay for all of your expenses and give a donation to your cause. Teach us composting.’ So, we are out in the community, giving back to the community, and the community is connecting with us [through] donations, requests for our expertise in composting, [and] our expertise in solar panels, all of which is stemming from our learning at the Summit. [teacher]

PERCEIVED STRENGTHS AND WEAKNESSES OF SUMMIT

STRENGTHS

The teacher and students from School Five discussed the following as strengths of the Summit:

♦ Opportunities to attend plenary sessions that inspired concrete ideas for their own Plan (e.g., composting, Casella Waste Management’s presentation on Zero-Sort, etc.) and communicated important facts about climate change (see the quotation below)

♦ Meeting others who care about the environment and are making an effort to protect it was inspiring

♦ Being included in planning efforts for the 2010 Summit (i.e., providing their feedback and ideas to improve the 2010 Summit)

♦ Having time to brainstorm about their Plan while at the Summit

I feel [that] the plenary sessions they had were excellent. They had scientists like Jerry Jenkins come in who is a specialist on climate change in our region. I really feel that the plenary sessions that were giving us the raw facts really brought down to Earth how serious climate change is and what we need to do to fix it. There’s no one key thing that we need to do, but we all realize that something needs to happen and change does need to happen. [student]

Following the Summit, the Wild Center has also provided a great deal of support to School Five, including supplying the spider plants, checking the accuracy of the information that School Five presents to others, sponsoring a School Five student’s trip to Finland to learn about “green” practices, and providing worm composting bins.

WEAKNESSES

Students and the teacher had the following suggestions for improving the Summit:

♦ Modify breakout groups to include more structure and/or guidance (see the quotation below)

♦ Incorporate more student-led presentations

♦ Provide more information about “green” careers

There was one activity that we did at the very end where we had a break out session where we went [in] our own group and discussed a topic of our own interest which I felt, both years, was a little unorganized and aimless. We had the direction we wanted to go, but we had no way to get there, and we didn’t have anybody who knew what they were talking about; we were all just wondering what we were talking about. We weren’t really making any progress. [student]
APPENDIX

STUDENT INTERVIEW GUIDE #1

Today we are talking about your experiences in the Wild Center’s Climate Summit held in November of 2010 [confirm that they attended]. To make sure I remember exactly what you say, I would like to record this conversation; no one will know these are your thoughts because we will not use your name. Is it ok if I audio-record?

[Once agreement is reached] Thank you. Remember, I do not work for the Wild Center and anything you say will be confidential. Also keep in mind that this is not a test and there are no right or wrong answers. Your responses are voluntary. Feel free to take your time and reflect on each question; there is no rush. If you want, we can even skip a question and come back to it later.

PRESS RECORD AND ANNOUNCE ID#: 

1. Can you start by describing the Climate Action Plan that you developed at the Summit?
   a. In what ways has your Action plan changed or evolved since the Summit? Please tell me more about that.
   b. And, how far along are you in the process of implementing your plan?

2. What do you feel is the greatest strength of (or what do you like best about) your Action Plan? Why is that? What is the greatest weakness? Why is that?

3. Describe the team of people who are involved in implementing your Action Plan. In other words, who is involved in implementing the Action Plan [probe to see if it only involves students who attended the Summit or if students who did not attend the Summit are also involved]?
   a. In what ways have you affected [or do you plan to affect] the rest of the student body with your Action Plan?

4. At this point, what has been the most challenging part of following through with your Action Plan? Why is that? [Probe for external and internal challenges]
   a. Have you found ways to address those challenges? How so?

5. And what factors have helped the most in your Action Plan? [probe for external and internal factors]

6. In what ways is your work on the Action Plan relevant to your life? Your learning? Your community?

7. Now let’s talk about the Climate Summit you attended in November at the Wild Center.
   a. What was the best part of the Summit? Why is that?
   b. What part of the Summit best prepared you to develop and follow through with your Action Plan? In what specific way did that help/prepare you?
      [Probe for skills or knowledge gained at the Summit]
c. Is there any way in which the Summit did not prepare you to develop and implement your Action Plan? What could the Summit have done differently?

   [Probe for skills or knowledge they wish they had gained at the Summit]

d. In what ways, if any, has the Wild Center continued to provide you support or resources?
STUDENT INTERVIEW GUIDE #2

Today we are talking again about your experiences in the Wild Center’s Climate Summit held in November of 2010. Just like the first interview, I would like to record this conversation; no one will know these are your thoughts because we will not use your name. Is it ok if I audio-record?

[Once agreement is reached] Thank you. Remember, I do not work for the Wild Center and anything you say will be confidential. Also keep in mind that this is not a test and there are no right or wrong answers. Your responses are voluntary. Feel free to take your time and reflect on each question; there is no rush. If you want, we can even skip a question and come back to it later.

PRESS RECORD AND ANNOUNCE ID#:

[Probe for concrete examples throughout]

1. Can you start by telling me where you are in the process of developing your school’s Climate Action Plan (CAP)?
   a. In what ways has your CAP changed or evolved since the last time we spoke? Please tell me more about that.
   b. And, how far along are you now in terms of implementing or completing your plan?
   c. Last time we spoke you mentioned [fill in the blank] being a challenge. How (if at all) have you addressed that?

2. Now that you are coming to the end of the school year, can you talk about the ways in which you feel you have been most affected by your participation in the CAP?
   a. For instance, what specific skills do you feel you have developed?
   b. Also, what new knowledge have you gained?
   [probe students to talk about specific examples of skills and knowledge in relationship to the CAP rather than generally]
   c. What (if any) lasting effect do you think your participation might have on you (career choices, college choices, activism, etc)?

3. In what ways do you feel the rest of your student body (or greater community, if applicable) has been affected by the CAP (in other words, what have they gained, either directly or indirectly)?
   a. Do you see those effects lasting? Why or why not?
   b. Are these all the effects you had hoped for? [if not] What more would you have liked to have happen? What were the barriers to that happening?

4. What do you expect to have happen with regard to the CAP after the school year ends, either this summer or next year?
   a. What is necessary for your CAP to continue to be implemented or used? Can you please give me an example?
TEACHER INTERVIEW GUIDE #1

Today we are talking about your and students’ experiences with the Wild Center’s Climate Summit held in November of 2010 [confirm that they attended]. To make sure I remember exactly what you say, I would like to record this conversation; no one will know these are your thoughts because we will not use your name. Is it ok if I audio-record?

[Once agreement is reached] Thank you. Remember, I do not work for the Wild Center and anything you say will be confidential. Also keep in mind that this is not a test and there are no right or wrong answers. Your responses are voluntary. Feel free to take your time and reflect on each question; there is no rush. If you want, we can even skip a question and come back to it later.

PRESS RECORD AND ANNOUNCE ID#:

1. Can you start by describing the Climate Action Plan that students developed at the Summit?
   a. In what ways has their Action plan changed or evolved since the Summit? Please tell me more about that.
   b. And, how far along are they in the process of implementing their plan?
2. What do you feel is the greatest strength of (or what do you like best about) their Action Plan? Why is that? What is the greatest weakness? Why is that?
3. Who is involved in implementing the Action Plan [probe to see if it only involves students who attended the Summit or if students who did not attend the Summit are also involved]?
   a. How (if at all) have you been involved as a teacher? [Probe for examples]
   b. In what ways have students affected [or do students plan to affect] the rest of the student body with their Action Plan?
4. At this point, what has been the most challenging part of following through with the students’ Action Plan? Why is that? [Probe for external and internal challenges]
   a. Have they found ways to address those challenges? How so? [Probe for ways the teacher might have helped address challenges]
5. And what factors have helped the most with their Action Plan? [probe for external and internal factors]
6. In what ways is the Action Plan relevant to students’ lives? Your teaching? Your community?
7. Now let’s talk about the Climate Summit you attended in November at the Wild Center.
   a. What was the best part of the Summit? Why is that?
   b. What part of the Summit best prepared students to develop and follow through with their Action Plan? In what specific way did that help/prepare them?
      a. What part best prepared you to support students? Tell me about that.
      [Probe for skills or knowledge gained at the Summit]
c. Is there any way in which the Summit did not prepare students to develop and implement their Action Plan? What could the Summit have done differently?
   
a. Is there any way in which the Summit did not prepare you to support students? What could the Summit have done differently?

   [Probe for skills or knowledge they wish they had gained at the Summit]

d. In what ways, if any, has the Wild Center continued to provide you or students support or resources?
TEACHER INTERVIEW GUIDE #2

Today we are talking again about your and students’ experiences with the Wild Center’s Climate Summit held in November of 2010. To make sure I remember exactly what you say, I would like to record this conversation; no one will know these are your thoughts because we will not use your name. Is it ok if I audio-record?

[Once agreement is reached] Thank you. Remember, I do not work for the Wild Center and anything you say will be confidential. Also keep in mind that this is not a test and there are no right or wrong answers. Your responses are voluntary. Feel free to take your time and reflect on each question; there is no rush. If you want, we can even skip a question and come back to it later.

PRESS RECORD AND ANNOUNCE ID#:

[Probe for concrete examples throughout]

1. Can you start by telling me where you and students are in the process of developing the Climate Action Plan (CAP) that students developed at the Summit?
   a. In what ways has the CAP changed or evolved since we last spoke? Please tell me more about that.
   b. And, how far along are you and students now in the process of implementing their plan?
   c. Last time we spoke you mentioned [fill in the blank] being a challenge. How (if at all) have you and students addressed that?

2. Now that you are coming to the end of the school year, can you talk about the ways in which you feel students have been most affected by their participation in the CAP?
   a. For instance, what specific skills do you feel they have developed?
   b. Also, what new knowledge have they gained?
      [probe teachers to talk about specific examples of skills and knowledge in relationship to the CAP rather than generally]
   c. What (if any) lasting effect do you think their participation might have (career choices, college choices, activism, etc)?

3. In what ways do you feel the rest of the student body (or greater community, if applicable) has been affected by their CAP (in other words, what have they gained, either directly or indirectly?)
   a. Do you see those effects lasting? Why or why not?
   b. Are these all the effects you and students had hoped for? [if not] What more would you and they have liked to have happen? What were the barriers to that happening?

4. What do you expect to have happen with regard to the CAP after the school year ends, either this summer or next year?
   a. What is necessary for their CAP to continue to be implemented or used? Can you please give me an example?