SWANA: 2009 PUBLIC EDUCATION EXCELLENCE AWARD

Nomination Packet

North Shore Recycling Program

Mission: Zero Waste

Prepared by:
Amanda Gee
Community Program Coordinator
North Shore Recycling Program

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Executive Summary

Mission: Zero Waste was developed as one component of a year-long quest to discover which format of Elementary School Program would enable the North Shore Recycling Program (NSRP) to reach the greatest number of students, deliver an enduring message and work towards its goal of reducing waste in North and West Vancouver, BC, Canada.

The goals of this pilot program were two-fold: 1) To support NSRP Purpose and Goals by educating students about the importance of waste reduction and motivating them to work towards achieving a Zero Waste Community; and 2) To answer unresolved questions regarding NSRP’s School Programs.

This school-wide program was designed and implemented by NSRP staff and delivered twice in the spring of 2008 to a total of 772 students.

The program consisted of six main components:

a) A pre-program Staff Meeting
b) A Program Launch Assembly
c) In-class presentations
d) A school-wide event
e) In-class garbage weighing
f) A celebration assembly

In general, Mission: Zero Waste was a successful program. Both objectives originally set out were achieved: NSRP was able to present the waste reduction message to a wide range of classes and answer a number of unresolved questions regarding elementary school waste reduction programming.
1) **Statement of Intent:**

*Mission: Zero Waste* is a comprehensive educational program developed specifically to educate students about the importance of waste reduction and to help motivate them to work towards achieving a Zero Waste Community, both at school and at home. *Mission: Zero Waste* also allowed the North Shore Recycling Program to improve our school program planning and efficiency, increasing the organization’s ability to offer sustainable and good quality waste reduction education to North Shore Schools. We chose to submit our application in the Public Education category due to the fact that our nominated program, *Mission: Zero Waste* was developed to change the attitudes and behaviours of North Shore Schools regarding solid waste management issues.

*Paper-making at Canyon Heights Elementary*
2) Research/Planning

Background
North Shore Recycling Program is the tri-municipal agency responsible for recycling collection, waste reduction and environmental education in three municipalities: the District of North Vancouver, the City of North Vancouver, and the District of West Vancouver, together referred to as the “North Shore”.

North Shore Recycling Program’s School Workshops have been offered to North Shore Schools since 1996. The School Programs were originally developed in response to the “many requests for educational programs relating to recycling”.1 After successful pilots in that same year, two 30-minute, interactive in-class programs were put in place for primary grades (Kindergarten to Grade 3): “Recycling in the Schools” and “Creative Reuse Craft Workshop”. Following requests for programming for intermediate grades (Grades 4-7), a Worm Keepers Pilot Workshop was developed and launched the following year.

In the past few years, the Creative Reuse Craft Workshop was phased out and various Bug Workshops were added to school program offerings in response to funding for Pesticide Reduction Education. “Train the Trainer” workshops as well as a Garbage Audit Program were also a part of NSRP’s school program lineup over the years.

NSRP’s School Programs have always been extremely well received. Programs were frequently booked to capacity and feedback for the programs was generally excellent. These programs have reached over 15,000 students since 1996.

Need for Program
Since 1996, individual program evaluation was accomplished regularly; however, very little comparison between programs or evaluation of programs in relation to NSRP’s organizational goals was completed, especially in the past few years. This was due to insufficient staff time and the undeniable difficulty of evaluating environmental education. With an additional staff person added at the end of 2007, an attempt was made to increase school workshop research and evaluation, in the hope that this would lead to better program planning and efficiency. Evaluation was completed in the form of surveys, interviews, data analysis and pilot programs. One such pilot program was “Mission: Zero Waste”, which was designed to test a school-wide format of program delivery as well as help NSRP answer a number of unresolved questions regarding elementary school waste reduction programming (See Mission: Zero Waste Goals).

Target Audience
The direct target audience for the Mission: Zero Waste pilot program was the students and teachers of both participating schools; however, an attempt was made to indirectly target the families and friends of participating students through the use of a take-home pamphlet prize draw as well as school-wide assemblies and concerts.

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In the future, this program will target all schools across both the West Vancouver and North Vancouver School Districts. The school-wide format of Mission: Zero Waste will make it possible to reach every student in these districts, without relying on the individual invitation of teachers. Future programs will benefit from the lessons learned at the first two pilot schools and are expected to yield greater results at a lower cost.

**Mission: Zero Waste Goals**
The goals of the Mission: Zero Waste School Program were:

1. To support NSRP Purpose and Goals by educating students about the importance of waste reduction and motivating them to work towards achieving a Zero Waste Community, both at school and at home (See Appendix A for NSRP Goals).

2. To answer unresolved questions regarding NSRP’s School Programs:
   - What is the best format to reach all students on the North Shore?
   - Does partnering with another organization increase program effectiveness?
   - How can we reach beyond the classroom into the home?
   - How can we evaluate program success?

**Goal one** was achieved through program content. Each Mission: Zero Waste program imparted information about waste reduction and left students with a number of simple things they could do to work towards a Zero Waste Community. As this program involved all elementary grades, four different presentations were developed in order to best incorporate learning outcomes for each age group as well as utilize the appropriate teaching styles for each grade (See Appendix B for a sample Presentation Outline). Each workshop included a PowerPoint Presentation, a craft and an activity. Mission: Zero Waste was designed to correspond with the British Columbia Ministry of Education’s Prescribed Learning outcomes for each grade. Teachers were required to be in attendance during the presentation to help with ‘crowd control’ and to become familiar with the topics covered. Anecdotal evidence suggests that teachers are more likely to incorporate waste reduction into their everyday classroom as a result of this familiarity.

**Goal two** was achieved through program format and careful planning. Our plan to answer each question is seen below:

**What is the best format to reach all students on the North Shore?**
Since their inception, NSRP’s school workshops have been offered to teachers on a first come, first serve basis. This format resulted in teachers that were already very enthusiastic about incorporating 3Rs education into their classroom booking the majority of programs year after year. In fact, over 56% of programs from Spring 2005 to Spring 2007 were delivered to repeat classes. To address this unbalanced distribution of resources and attempt to reach new teachers, Mission: Zero Waste was designed to test a school-wide format of program delivery. This format would then be compared to data from our ‘request-a-workshop’ style programs as well as other pilot programs.
One pilot program that was compared against Mission: Zero Waste was Holiday Trash Attack. This program was designed to test a “one grade across the board” format of school program delivery and found that although the program was successful in many ways, it was not sustainable as it required a lot of coordination and would only reach teachers who were already interested in waste reduction.

**Does partnering with another organization increase Program effectiveness?**

Recommendations from previous NSRP School Programs Reports suggested partnering with an organization that is trying to achieve similar results. As this had potential to increase program efficiency, Mission: Zero Waste was offered twice: once with a partner and once without. The organization we chose to partner with was the Artist Response Team. This organization’s ‘Voice of Nature’ program was offered at the same time as Mission: Zero Waste to one of the pilot schools. Data from each offering of Mission: Zero Waste could then be compared to determine the effectiveness of a partnership.

**How can we reach beyond the classroom into the home?**

As a large amount of garbage is generated in the home, a mechanism for reliably conveying the key program messages beyond the classroom is important. Pamphlets sent home with the students have always been part of NSRP’s school programs; however, the effectiveness of this approach had never been tested. As part of Mission: Zero Waste a handout that required parents’ involvement for completion was developed. This handout could then be returned for the chance at a prize. This system allowed NSRP to gauge how many parents actually saw the pamphlet and whether this method of reaching beyond the classroom is effective.

**How can we evaluate program success?**

One of the most important questions to answer is whether or not NSRP’s school programs are successful in helping to achieve organizational goals. Since NSRP’s School Program inception in 1996, all program evaluation has been in the form of teacher questionnaires. This form of evaluation is great for determining the value of the program to individual teachers, but is lacking in its ability to correctly estimate the program’s contribution to waste reduction on the North Shore. Many times the outcome of environmental education in not seen for many years – instead it is just a small change in the way someone reacts to the world around them. In an attempt to gather information about program effectiveness, both pilot programs involved asking participating classes to measure their class garbage production, before and after the program. It was the hope that through this activity, NSRP would be able to gauge Mission: Zero Waste’s effect on waste reduction.

**Anticipated Obstacles**

The main anticipated obstacle was not having cooperation from every teacher in the pilot school. This was overcome by requiring each teacher to sign a document containing the following paragraph:

*Garbage Weighing Scale*

Holly Arntzen of the Artist Response Team

*Mission: Zero Waste*
“By signing this you are assuring the North Shore Recycling Program that you understand what is included in the Mission: Zero Waste pilot Program, will support your school in minimizing waste, and will make time for your class to participate in a one-hour in-class program, scheduled at your convenience during the weeks of the program.”

The obstacle was also addressed by holding a pre-program staff meeting to answer any questions or concerns. Designing all in-class programs to correspond to the British Columbia Prescribed Learning Outcomes for each grade also helped teachers welcome this program into their classroom.
3) Implementation/Execution

**Program Implementation**

*Mission: Zero Waste* included:

- Thirty minute Staff Meeting involving a “Q & A” Period and Scheduling
- Fifteen minute Program Launch Assembly (could be combined with another assembly)
- One-hour long, in-class, curriculum-linked presentations for every class in the school (included a multi-media presentation, craft and follow-up activity)
- School-wide event such as a Zero-Waste Lunch Day (*See Appendix C for a list of suggested events*)
- One month of in-class garbage tracking (or in future programs, a pre- and post-program weighing week)
- Program wrap-up celebration assembly

*Mission: Zero Waste* was delivered to two North Shore Schools in the spring of 2008: Eastview Elementary (Eastview) and Canyon Heights Elementary (Canyon Heights). As a goal of the program was to test the benefit of having a partner, the Eastview Program was presented simultaneously with the Artist Response Team’s “Voices of Nature” Program (*See Appendix D for more information about this Program*). *Mission: Zero Waste* at Canyon Heights was delivered without a partner as a comparison. Handouts were sent home with every student and could be completed, returned and entered into a prize draw for $75 to Grouse Mountain, a local ski hill. This enabled NSRP to gauge the effectiveness of sending information home with students.

**Timeline**

<table>
<thead>
<tr>
<th>Date</th>
<th>School</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 2007 – Dec. 2007</td>
<td>-</td>
<td>Researched, designed and planned program</td>
</tr>
<tr>
<td>Dec. 2007</td>
<td>Eastview</td>
<td>Contacted school and partner: Artist Response Team</td>
</tr>
<tr>
<td></td>
<td>Eastview</td>
<td>Staff Meeting</td>
</tr>
<tr>
<td>Jan. 25, 2008</td>
<td>Eastview</td>
<td>Pre-program assembly</td>
</tr>
<tr>
<td>Feb. 4, 2008 – Feb. 21, 2008</td>
<td>Eastview</td>
<td>In-class programs</td>
</tr>
<tr>
<td>Feb. 2008</td>
<td>-</td>
<td>Sent promotional material to all North Shore Schools and received 6 application forms.</td>
</tr>
<tr>
<td>Feb. 22, 2008</td>
<td>Canyon Heights</td>
<td>Confirmed successful application and commenced planning</td>
</tr>
<tr>
<td>Mar. 3, 2008</td>
<td>Canyon Heights</td>
<td>Staff meeting</td>
</tr>
<tr>
<td>Mar. 6, 2008</td>
<td>Canyon Heights</td>
<td>Teacher committee meeting</td>
</tr>
<tr>
<td>Mar. 14, 2008</td>
<td>Eastview</td>
<td>Rehearsal for “Voices of Nature”</td>
</tr>
<tr>
<td>Mar. 31, 2008</td>
<td>Eastview</td>
<td>Rehearsal for “Voices of Nature”</td>
</tr>
<tr>
<td>Apr. 1, 2008</td>
<td>Eastview</td>
<td>Dress rehearsal and concert at Centennial Theatre</td>
</tr>
<tr>
<td>Apr. 7, 2008</td>
<td>Canyon Heights</td>
<td>Pre-program assembly</td>
</tr>
<tr>
<td>Date</td>
<td>Location</td>
<td>Event</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Apr. 7, 2008 – Apr. 21, 2008</td>
<td>Canyon Heights</td>
<td>In-class programs</td>
</tr>
<tr>
<td>Apr. 22, 2008</td>
<td>Canyon Heights</td>
<td>Begin garbage weighing</td>
</tr>
<tr>
<td>Apr. 22, 2008 – Apr. 25, 2008</td>
<td>Canyon Heights</td>
<td>Zero waste lunch week</td>
</tr>
<tr>
<td>May. 23, 2008</td>
<td>Canyon Heights</td>
<td>End garbage weighing</td>
</tr>
<tr>
<td>May. 26, 2008</td>
<td>Canyon Heights</td>
<td>Final assembly</td>
</tr>
<tr>
<td>June, 2008</td>
<td>-</td>
<td>Received evaluation forms from schools</td>
</tr>
</tbody>
</table>

**Eastview**

*Mission: Zero Waste* was delivered to 382 Students in 16 classes at Eastview. The Principal acted as liaison between teachers and NSRP staff. Only about half of the teachers came to the initial staff meeting.

The pre-program assembly was delivered during the Artist Response Team’s first school-wide rehearsal on January 25, 2008 and the in-class presentations took place from February 4, 2008 to February 21, 2008. Every class received an in-class presentation. Classes were asked to begin weighing their garbage for the month following their in-class presentation.

The celebration assembly was incorporated into a Centennial Theatre Concert with Holly and the Dream Band that took place on the evening of April 1, 2008. NSRP staff had a 10 minute spot to let the 600 person, paying audience know about the *Mission: Zero Waste* Program and congratulate the school on their completion of the program. Two Eastview Grade 7 students stood up to recount what they had learned during the program.

Eastview decided to count their participation in Voices of Nature as their school-wide event and no other waste-reduction activities were planned.

**Canyon Heights**

390 Students in 16 classes were reached during the *Mission: Zero Waste* Program at Canyon Heights. The Vice Principal acted as liaison and a small teacher committee was formed to help out with program implementation. 100% of teachers attended the pre-program staff meeting.

The pre-program assembly took place during a previously scheduled assembly on April 7, 2008. The in-class presentations started that afternoon and were completed in every class by April 21. The entire school kicked off a month long, in-class garbage weighing activity on Earth Day (April 22) with daily results posted in the school’s front foyer. A Zero-Waste Lunch week took place during this time.
The program wrap-up celebration assembly also took place during a previously scheduled school-wide assembly on May 26, 2008. About 50 parents attended this event. NSRP staff created a 10-minute slideshow of pictures taken during the program (with the Voices of Nature song “Landfill Blues” playing in the background) and it was presented to the entire school during the celebration assembly. A trophy made out of reused items was created and presented to the school by Allen Lynch, Manager of the North Shore Recycling Program.

**School Selection**

*With a Partner*

The Artist Response Team determined the first school selected to receive *Mission: Zero Waste* as it was harder to find a school to commit to the Voices of Nature Program than the *Mission: Zero Waste* Program. Because of this, the teachers didn’t sign an application form and were harder to engage in program activities.

*Without a Partner*

An application form was developed and sent out via NSRP’s school email list in order to select the second school to receive *Mission: Zero Waste*. Six schools completed the application process, which included submitting every teacher and principal’s signature and writing a paragraph about why they should be chosen. Canyon Heights was chosen as they were similar in size and location to Eastview and had a very enthusiastic Vice Principal.

**Program Promotion**

As previously mentioned, the non-partnered *Mission: Zero Waste* was primarily publicized utilizing the NSRP School Contact Email List. Some information about the program was sent by email after general phone inquiries about NSRP’s school programs. No direct costs were associated with promotion.

*Media*

*Mission: Zero Waste* received media coverage in both North Shore community newspapers. The North Shore Outlook covered the Eastview Program and the North Shore News covered the program at Canyon Heights. Mention was made in both school newsletters and a temporary web page was developed on the Canyon Heights School website.
Program Requirements

Budget Expenditures
The total direct cost to host both Mission: Zero Waste Programs in the Spring of 2008 was $1273.17. There was no firm budget set out at the start of the program, but the North Shore Recycling Program’s annual expenditures for school programming over the past few years has averaged about $6000.00. (See Table 1 for a break down of budget expenditures).

<table>
<thead>
<tr>
<th>Account</th>
<th>School</th>
<th>Item</th>
<th>Supplier</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>14000.8571</td>
<td>Both</td>
<td>Scales</td>
<td>Canadian Tire</td>
<td>$67.09</td>
</tr>
<tr>
<td>14000.8571</td>
<td>Eastview</td>
<td>Prize</td>
<td>Grouse Mountain</td>
<td>$75.00</td>
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<tr>
<td>14000.8571</td>
<td>Canyon Heights</td>
<td>Prize</td>
<td>Grouse Mountain</td>
<td>$75.00</td>
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<td>14000.8571</td>
<td>Canyon Heights</td>
<td>Supplies for Trophy</td>
<td>Lapidus Trophies</td>
<td>$37.13</td>
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<td>14000.8571</td>
<td>Canyon Heights</td>
<td>Supplies for Trophy</td>
<td>Windsor Plywood</td>
<td>$7.84</td>
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<td>14000.8571</td>
<td>Canyon Heights</td>
<td>Supplies for Trophy</td>
<td>Salvation Army</td>
<td>$11.11</td>
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<tr>
<td>14000.8571</td>
<td>Eastview</td>
<td>Program Subsidy</td>
<td>Artist Response Team</td>
<td>$1000.00</td>
</tr>
</tbody>
</table>

Total Eastview: $1108.55
Total Canyon Heights: $164.62
Total: $1273.17

Table 1: Budget Expenditures for Mission: Zero Waste

Most supplies required for Mission: Zero Waste were already in NSRP’s inventory or available for free (i.e. burlap, old magazines, toilet paper rolls, etc.). The direct cost for supplies included the in-class scales, prizes for the winners of the prize draw and trophy-making supplies. The scales were collected after each program and used again. NSRP subsidized the Voices of Nature Program for Eastview by $1,000.00.

As email was utilized for program promotion, minimal print materials were used pre-program. Student handouts made up the bulk of the printing, and were all created in-house in black and white. Each student received a one-page handout with a half-page insert to return. Teacher instructions and evaluation forms were also printed in-house.

Staff Time
NSRP staff designed, developed and delivered the program. Each in-class presentation required about 2.5 hours of staff time, including preparation, travel, set-up and clean-up. Both assemblies involved about the same time requirement. Program development, a one-time requirement, took about 150 hours. For a school of 16 classes, Mission: Zero Waste took about 50 hours of staff time, including 10 hours of miscellaneous coordination: arranging the schedule with the principal, answering emails, photocopying handouts and meeting with the teachers.

The amount of time spent by NSRP staff per individual reached through the Mission: Zero Waste program was about 7.4 minutes. This does not include program development time or take into account the over 650 people that attended the final assembly or concert. By comparison, NSRP staff spent over 3 minutes of time

Mission: Zero Waste
per individual reached in 2006, when NSRP was just coordinating the school programs. When staff time costs are factored in, *Mission: Zero Waste* required about $4.68 per individual reached during its second run. $5.20 was spent per individual reached during the 2006 Contractor delivered programs.

<table>
<thead>
<tr>
<th>Year</th>
<th>Program</th>
<th>Specifics</th>
<th>Individuals reached</th>
<th>Direct Costs per Individual Reached (Includes contractor cost)</th>
<th>Staff Time Spent per Individual Reached (Minutes)</th>
<th>Staff Time Cost (including overhead) per Individual Reached</th>
<th>Total Cost per Individual Reached (Direct Cost plus staff time costs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring and Fall 2006</td>
<td>Bug, Worm, 3R</td>
<td>NSRP: Program Coordination Contractor: Program Delivery</td>
<td>1685</td>
<td>$3.25</td>
<td>3.3</td>
<td>$1.95</td>
<td>$5.20</td>
</tr>
<tr>
<td>Spring 2007</td>
<td>Bug, Worm, 3R</td>
<td>NSRP: Program Coordination Contractor: Program Delivery</td>
<td>1763</td>
<td>$3.66</td>
<td>3.2</td>
<td>$1.85</td>
<td>$5.52</td>
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<tr>
<td>Winter 2007</td>
<td>Holiday Trash Attack</td>
<td>NSRP: Program Coordination and Delivery</td>
<td>165</td>
<td>$1.39</td>
<td>9.8</td>
<td>$5.76</td>
<td>$7.15</td>
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<tr>
<td>2008 Eastview</td>
<td>Mission: Zero Waste</td>
<td>NSRP: Program Coordination and Delivery</td>
<td>401</td>
<td>$2.76</td>
<td>7.5</td>
<td>$4.39</td>
<td>$7.15</td>
</tr>
<tr>
<td>2008 Canyon Heights</td>
<td>Mission: Zero Waste</td>
<td>NSRP: Program Coordination and Delivery</td>
<td>411</td>
<td>$0.40</td>
<td>7.3</td>
<td>$4.28</td>
<td>$4.68</td>
</tr>
</tbody>
</table>

*Table 2: Comparison of resources used for 2008 Mission: Zero Waste program with resources used for 2006 School Programs.*

**Partnerships**

As previously mentioned, NSRP partnered with the Artist Response Team for one of the two schools involved in the *Mission: Zero Waste* Pilot Program. The Artist Response Team ran their “Voices of Nature” Program at the same time as NSRP was running *Mission: Zero Waste* at Eastview. For further discussion regarding this partnership, view “Measuring Success” under Section 4: Results/Evaluation.
Accomplishments

Mission: Zero Waste was implemented very well. All of the elements originally planned for the program were carried out and objectives were met. Further information regarding the results of this pilot program are included under Section 4: Results/Evaluation.

Creativity

Mission: Zero Waste is a unique program. Most other waste reduction programming in British Columbia is run on a classroom by classroom basis. There are a few programs that use the “one grade across the board” format of program delivery, such as the City of Surrey’s Waste Action Program for Grade Five (or “SWAP for 5”) and there are other organizations that focus on sustainability issues at the school district level, such as Pacific Resource Conservation Society’s “Destination Conservation” multi-year program; however, NSRP staff were unable to find any other school-wide waste reduction programs.

The school-wide format of program delivery is very advantageous as it allows for momentum to be built around waste reduction in a school and allows a support system of teachers and staff to come forward and get organized. This format also ensures that Mission: Zero Waste is delivered to every class in the school, regardless of the teacher’s prior interest in waste reduction.
4) Results/Evaluation: 30 points

**Target Audience Participation**
Overall the program content seemed to resonate with the students. The four programs allowed NSRP staff to make each presentation, craft and activity age appropriate and exciting for the participating students. A number of classes took it upon themselves to take their waste reduction efforts further than required by the program. For instance, one class at Canyon Heights created instruments out of reused materials and presented a waste reduction song at the final assembly.

Teachers also seemed to get into the “waste reduction spirit”, with many actively participating in the in-class program as well as the school-wide events. Further discussion on teacher response is located under the heading “Measuring Success”.

**Measuring Success**

**Teacher Evaluation**
After the program, a package of personalized evaluation forms was delivered to the school to be distributed to each teacher. A total of 12 out of 16 evaluations were returned from Eastview and 10 out of 16 evaluations were returned from Canyon Heights. Canyon Heights rated the program slightly better than Eastview on average; however, both schools gave the program a good review. Improvements suggested at Eastview were put in place at Canyon Heights, which could have contributed to improved results at the second school. Responses of varied enthusiasm are to be expected in a school-wide program as all teachers, regardless of interest in the subject, are required to participate.

**Garbage Weighing**
In an effort to develop a reliable way of determining program success, classes were provided with scales and asked to weigh their garbage every day for one month following the in-class presentation. 6 out of 16 classes at Eastview attempted weighing their garbage and none of them made it the entire month. 100% of classes at Canyon Heights weighed their garbage and the majority of them made it the entire month.

In asking classes to weigh their garbage, the hope was that garbage weights would steadily decrease as classes implemented actions learned in the class workshops. No steady decrease was seen in any of the classes; however, less garbage was made during zero-waste lunch days and lots of garbage was made during hot lunch days. Many classes implemented waste reduction measures directly after the in-class presentation, but before garbage weighing commenced. This resulted in
untracked changes to waste production. Although garbage weighing did not show NSRP exactly what we had hoped, it was a great eye-opening opportunity for students.

**Fulfilling Objectives**

One of the main objectives of the *Mission: Zero Waste* Program was to answer some questions NSRP had about its School Programs. A large measure of success was our ability to answer these questions:

*What is the best format to reach all students on the North Shore?*

A school-wide format for program delivery had both advantages and disadvantages. This format allowed us to reach teachers that didn’t have “waste reduction” at the forefront of their minds. These teachers never would have booked a NSRP program if it weren’t for the rest of their school’s momentum. One disadvantage is that these teachers, who weren’t into waste reduction in the first place, were more likely to give the program a lacklustre review.

An advantage of this format was working with one liaison to book a whole school full of presentations. This cut down on coordination time and helped make school-wide events a possibility.

In a school-wide program, every class is learning the same message and working towards the same goal. This is extremely advantageous as the entire school supports the momentum built in each individual classroom. Schools with buddy systems in place can take this even further as older students can assist younger students in working towards set goals.

*Does partnering with another organization increase program effectiveness?*

As there were benefits and disadvantages with a school wide format, there are also benefits and disadvantages in partnering with another organization.

Partnering with an organization that has the same message does increase the students’ exposure to environmental concepts and can help build energy for school-wide events; however, it can also require more coordination and resources.

The partnership with the Artist Response Team was not what was originally intended for a partnership. Due to the high cost and commitment required for the Voices of Nature Program, NSRP was obliged to offer its program to the school that was chosen by the Artist Response Team. Eastview, the school chosen to receive both programs, treated *Mission: Zero Waste* more as a nuisance than an opportunity. The principal, not having applied to receive *Mission: Zero Waste*, was hard to coordinate with; only after much convincing was NSRP able to do in-class presentations for the “very busy” older grades. On the other hand, Canyon Heights, having applied to receive *Mission: Zero Waste*, was extremely enthusiastic about the program and took a lot of initiative to make their school-wide waste reduction effort the best it could be.

Although partnering with the Artist Response Team at Eastview did not turn out as planned, if a school originally applied for the *Mission: Zero Waste* Program, and then was offered a Voices of Nature program as a prize for their participation or understood that both programs were of equal importance, a partnership may be able to work.
How can we reach beyond the classroom into the home?
Sending home pamphlets and brochures has always been a staple of NSRP School programs and is generally an effective way to reach parents, especially when the handout requires parent participation. The prize draw for completed and returned handouts was a good way of gauging the effectiveness of this method.

It was found that the percentage of handouts returned was a direct result of the teachers’ enthusiasm and willingness to remind the students. Some classes had over a 90% rate, while others had less than 10%.

Asking students to help out with recycling at home also seemed to be an effective way to reach beyond the classroom. Throughout the months after the presentation, NSRP staff has had numerous parents approach at community events and say, for example, “My child is still talking about the importance of recycling – you really made an impact on them!”

It was also discovered during the course of the program that parents were welcome to attend assemblies. This could be a good opportunity to give them some information.

How can we evaluate program success?
Measuring garbage in-class seemed to be an effective way to remind students to think about what they were throwing out; however, without pre-data, is hard to use as an indicator of program success. Some efforts to gather pre-program data, none of which worked, included gauging “fullness” of dumpsters on garbage day and asking janitors to keep track of bags used.

Weighing Garbage as an entire school (all classes start and end at the same time) and posting results where everyone can see them, worked very well. Future garbage weighing activities should follow this format.

Positive comments from parents months after the program, or the continuation of initiatives started during the program, was also a good indicator of success.

How can the program be improved?

Assemblies
The pre-program assembly was a great way to begin the program. It helped build school-wide momentum as well as anticipation for the in-class presentations. The celebration assembly was a fitting end to the program, allowing an opportunity to discuss the results of the garbage weighing activity and congratulate the school on their efforts. Eastview participated in the concert at Centennial Theatre instead of a celebration assembly. This option did not allow adequate program wrap-up, as minimal time was available at the concert for NSRP staff to go over program results with Eastview students. It is recommended that a wrap-up assembly be scheduled regardless of what else the school has planned.
School-wide Event
In addition to generating some excitement concerning waste reduction, the school-wide event offered the school an opportunity to make use of the momentum built by the pre-program assembly and in-class programs to put in place long-term initiatives such as zero-waste lunch days or beverage container recycling programs. As mentioned previously, Eastview did not make use of this opportunity; however, Canyon Heights held a zero-waste lunch week. According to one parent, zero-waste lunch days continue to be held in the school.

Teacher Liaison
At Canyon Heights, the Vice Principal was extremely helpful. The small committee of teachers also contributed to a more effective program. It is recommended that any school-wide program include the requirement for a designated liaison or committee.

School-wide format
Despite varied enthusiasm from teachers, it is clear that a school-wide format is an efficient way to reach a large number of students with an enduring waste reduction message. The school-wide format also ensures that students do not receive the program twice. It is recommended that this format be continued as part, or all, of NSRP’s school programs.

Partnership
It is recommended not to repeat the partnership format that was in place during the Eastview Mission: Zero Waste program, but possibly explore other partners or partnership formats.

Reaching beyond the Classroom
It is recommended that NSRP work with the teacher liaison to schedule school-wide reminders for the send-home pamphlet prize draw rather than leaving reminders up to individual teachers. A paragraph in the school newsletter might give parents the ‘heads-up’ that they can expect something sent home during the course of the program.

It is also recommended to invite parents to both Mission: Zero Waste assemblies.

Evaluating Program Success
It is recommended that more of an effort be made to gather pre-program data from the participating school. This could potentially be accomplished by asking the classes to weigh their garbage for a week before they receive the in-class presentation and for a week after the presentation.

It is also recommended to look into providing scales with a greater sensitivity.

NSRP should continue to require teacher evaluations. They are a good way to ensure that the program is meeting the needs of teachers. Some thought was given to utilizing Survey Monkey, an online survey tool, to complete teacher evaluations; however, based on informal conversations, teachers generally prefer a hard copy that they can complete without having to sit down at a computer.

Some long-term evaluation could also be attempted to gauge the lasting effect of the program. For example, a phone call could be
made to the school 6 months after the program to see if they are still involved in any initiatives started during the program.

**Can this program be replicated in other communities?**

In general, *Mission: Zero Waste* was a successful program and would be easy to replicate in other communities for similar target audiences, given adequate staffing resources. It allowed our organization to present the waste reduction message to classes that most certainly wouldn’t have booked a program otherwise, and would allow other communities to do the same.

*Mission: Zero Waste* allowed NSRP to efficiently and innovatively educate students about the importance of waste reduction and motivate them to work towards achieving a Zero Waste Community, both at school and at home.
North Shore Recycling Program

Purpose and Goals:

Purpose
To work with North Shore residents, businesses and municipal governments to reduce both the generation and disposal of municipal solid waste on the North Shore. We do this by designing, delivering and supporting comprehensive, convenient, cost-effective, environmentally responsible and innovative recycling collection, depot, environmental education and solid waste programs.

Goals
Goal One (PRIMARY): To reduce incoming tonnages (for disposal) at the North Shore Transfer Station by 25% over 2006 levels by 2011.

Goal Two (SUPPORTING): Operate a cost effective, efficient program with low environmental impact.

Goal Three (SUPPORTING): To be a leader in communication, community outreach, education and social marketing in support of our waste reduction and organizational goals.
Mission: Zero Waste

Sample Presentation Outline and Script:

Grade: 6 and 7
Presenter: Amanda Gee

Time Needed: 1 hr
Setup: 10 min

Materials Needed:
- Scale
- Garbage Bag
- Powerpoint Presentation
- Laptop
- Projector
- Extention Cord
- Reduce Examples
- Reuse Craft Supplies

PowerPoint Script:

1. Responsible Consumers (Title)
   - This presentation is all about being a responsible consumer
   - I know these are some big words, but don’t worry – we’re going to learn all about them in this presentation!

2. Youth X Change
   - A lot of the information in this presentation is from an organization called Youth x change. They might be a good resource if you want to learn more about this topic

3. North Shore Recycling Program
   - Who remembers where I am from?
   - That’s right – an organization called North Shore Recycling Program
   - Our organization is in charge of recycling all over the North Shore. It’s my job to teach people – especially schools – all about recycling and more importantly about making less garbage in the first place!

4. What’s the problem
   - We are putting a lot of strain on our planet by the amount that we consume
   - What does it mean to consume? That’s right – To buy stuff, to eat stuff, to use stuff
   - What kind of stuff? – Paper, plastic, toys, games, natural resources, electricity, water etc.
   - So what is a “consumer”? That’s right – Someone who buys stuff or uses stuff
   - Are you guys consumers?

5. Population
   - So I know you are thinking that you guys hardly consume enough stuff to affect the rest of the world, but if we added up everyone on this planet – it quickly turns into a big issue.
• Do you guys know how many people live on Earth?
• That’s right – about 6.2 billion people!
• And how many people do you think there will be by 2050?

6. Population
• 9 billion people! That’s a lot of people…and if we are all consumers – can you imagine how many resources we’d all use!

7. Developed World
• Does everyone in the world live like we do? (In nice houses, with enough to eat and the newest x box games?)
• No, we live in the Developed World – here we have everything we need to live and almost everything we want.
• The un-developed world is different – they don’t’ consume as much as us.
• In fact, only 20% of the people on this planet live in the developed world – and the rest live in the undeveloped world
• Can you guys guess how much of the resources we use?
• Almost all of them! We only have 20% of the people ut we consume 75% of the worlds resources!

8. 4 extra worlds
• In fact, if the rest of the world started consuming as much as each person in the developed world did we would need 4 extra earths!

9. What can we do?
• So do you think the people in the un-developed parts of the world are going to want to live like that forever?
• What happens when they finally have access to the things we have?
• Can we get 4 extra Earths?
• NO – so what can we do?

10. Consume Less
• That’s right – we can try to consume less!

11. Just a Kid?
• Now I know you guys are thinking – okay Amanda – I’m just a kid - that’s a problem for adults! Is that what you guys are thinking?

12. Fact
• Well, what if I told you that youth now make up the majority of the population!
• There are more youths in the world than kids
• There are more youths in the world than adults
• There are more youths in the world than old people.
• So…what do you think now?
• I think that any choices you guys make are going to have an impact on our World!
• And soon you guys will be the ones making all the decisions!

13. How can we become responsible consumers?
• So it IS important that we become responsible consumers
• How can we do that?
• That’s right – we can make smart choices in what we buy and how we live!

14. Choices
• Review Smart Purchasing Decisions (e.g. Ask yourself: “Do I really need this?”)

15. Garbage
• One of the areas that we need a lot of help on here in the developed world is garbage!
• We make way too much of it
• Did you know that we made 23,624 tonnes of garbage in 2006 – just on the North Shore – not even including Vancouver or Richmond or Coquitlam.
• That’s a lot of garbage…Does anybody know how much one tonne is?
• Let’s try comparing this to killer whales
• Does anybody know how much a killer whale weighs?
• That’s right – An average Killer Whale weighs about 5 tonnes.
• So how many “killer whales” is 23,624 tonnes of garbage? (Can ask them to get out their calculators or practice long division)
• 23,624 tonnes of garbage is….4725 killer whales….of garbage in one year. And remember - that’s just here on the North Shore.
• And where does garbage go?

16. Landfill
• That’s right - it goes to the Landfill!
• Are we throwing our natural resources in the Landfill?
• Once we throw garbage out- can it be used again?

17. What can we Do?
• So what can we do?
• Does anybody have any ideas about what we can do about garbage?

18. 3R’s
• That’s right – we can use our 3R’s
• Does anybody know what the 3R’s stand for? That’s right – Reduce, Reuse and Recycle!

19. Reduce
• Our first R is “Reduce”.
• Does anybody know what it means to reduce?
• That’s right – It means to “try and make less” garbage in the first place.
• This R is all about making wise/smart choices.

Reduce Game (just show two items and ask which is better)
• Let’s see…if I had to choose between two things for my snack: A banana or a bag of chips, and I wanted to reduce the amount of garbage I was making or “try and make less” garbage, what should I choose?
• Hmmm….good job, but lets see if you get this one. If I wanted to make less garbage, and I had a really cool toy that got a little bit broken, should I throw it out and go get a new one, or try to fix it?
• If I had to go shopping with my parents, would I just tag along because I had to, or would I suggest that we get reusable shopping bags and shop for bulk food at the local store?
• Wow – great job guys – can you think of any other examples where you could reduce the amount of garbage you make?

20. Reuse
- Does anybody remember what our second R is? That's right – Reuse!
- What does it mean to reuse?
- Reusing something means “Using it again”. – taking something that might have been garbage and instead using it again. You could use it again for the same thing (like a reusable shopping bag or snack container, or you could use it again as something else. E.g. making a craft out of a toilet paper roll)
- Reusing is a great way to keep our resources out of the garbage. Can you guys think of some things that you reuse in the classroom?
- I think Reusing a really easy think to do in the classroom – for example – do you guys ever do crafts or make posters?
- You do? Do you use materials that might have gone in the garbage?
- Do you use materials that are brand new?
- Sometimes you can make something just a cool out of something reused as something new.
- After we discuss the last R I’m going to show you guys a very neat idea to reuse paper.

Reuse Craft (make paper)

21. Recycle
- Okay guys, our last R is what? That’s right – Recycle.
- Who wants to guess what the definition of Recycle is?
- Good job – Recycling is taking something that might have been garbage and making it into something new – totally transforming it, melting it down or chopping it up and reforming it into something different!
- Do you guys recycle? At school? At home? Great!

22. Yard Waste
- What about Yard Waste?
- Did you know that 30% of what goes to the Landfill is actually yard waste?
- What can we do about this? That’s right – instead of putting it in the garbage – put in in your Yard Trimmings Bin! That way it will get turned into compost!

23. Backyard Composting
- What’s even better than putting yard waste in the yard trimmings bin (because that takes lots of trucks to pick up etc)
- Backyard Composting!
- Composting is easy to do and helps you get great compost for your plants!

24. Worm Bin Composting
- What if you don't have a back yard?
- Did you know you can actually get worms to eat your garbage! – Worms will eat all of your kitchen scraps like vegetable peels and apple cores!

25. What can you do at school?
- Do you guys have any other ideas about making zero waste?
- What can we do at school?
**Mission: Zero Waste**

**School-wide Event Ideas:**

1. **Organize a Zero Waste Lunch**
   All students and teachers in the school would plan to bring a Zero Waste Lunch on a pre-arranged day that would be advertised by announcements on the P.A., notes home in personal planners, and posters out of reused materials.

2. **Create a School Compost Bin**
   Organize a school compost bin for items such as banana peels, apple cores, and used paper towels.

3. **Host a Zero Waste Swap Meet**
   Host a Swap Meet for students and families to exchange toys, clothes, sports equipment etc. (Have students bring a list, signed by a parent, of swappable items from home prior to event.)

4. **Organize a Zero Waste Clothes and Toy Drive for Charity**
   Organize a School Clothes Drive. Contact a local charity to see which items are needed. Focus on the fact that these items are not going to go in the garbage.

5. **Create a Zero Waste Art Depot**
   Collect “Reuse Items” that can be used to create art (e.g. bottle caps, bread tags, reused bows and ribbon, used wrapping paper, pieces of fabric etc.) Sort these items into clearly labelled reused containers and set aside an area in the supply room to make them easily accessible. Make a pledge that all art projects from now on will incorporate a reused item.

6. **Create a Zero Waste Display**
   Create displays of packaging, composting, and creations from used materials. Use handmade posters as a background. Exhibit science experiments that illustrate the challenges of solid waste management.
7. Organize a Bottle Drive
Organize a school Bottle Drive or Beverage Container Program. Visit Encorp.ca for more information.

8. Host a Zero Waste Fashion Show
Each class can submit a model and outfit made entirely from reused/recyclable materials. Invite a local dignitary to be the judge.

9. Conduct a Trivia Contest
Each class is responsible for creating some multiple-choice environmental trivia questions. The entire school can participate if the questions are read over the school PA system each day for a week. Collect each class’s answers at the end of the week and reward the class with the most answers right with the “Zero Waste Cup” – a trophy made out of reused items.

10. Have a Zero Waste Carnival
Host a carnival in the school gym complete with zero-waste displays, a swap meet, zero waste artwork and gifts for sale, zero waste games and more!

Zero Waste Game Ideas:

“Soap Bottle Bowling” – Gather ten dish detergent bottles and put 2-3 cm of sand in the bottom of each. Use a soccer or mini-basketball to bowl.

“Coffee Can Golf” – Attach together 4 empty coffee cans and mark with points of 5, 10, 15, and 20. Make a club from a stick poked into a chunk of polystyrene foam. Try to sink a ping-pong ball into the cans.

“Plastic Ring Toss” – Fill a long-necked bottle with sand. Cut 2 cm thick rings from various sizes of plastic bottles. Award 1 point for large rings, 5 for medium rings, and 10 point for small rings.

“Bottle Cap Bingo” – Variation: Use bread tags or buttons

“Organic Apple Bobbing” – Arrange for a donation of local organic apples for bobbing. The cores of these tasty treats can be collected for composting.
Appendix D:

Mission: Zero Waste

Voices of Nature Program:

ART School Music Programs—Voices of Nature

The Artist Response Team (ART) has developed music programs for elementary schools that use music as a cross-curricular tool for learning about ecological principles. The programs involve singer Holly Arntzen, along with artists, performers and presenters from across Canada.

Voices of Nature is a one-week intensive music residency. It is an opportunity to enhance a school’s art and science program. It brings music into the school, involves teachers (musical or not). Students take part in a concert and recording experience.

The format consists of environmental songs, children singing, guest speakers, humour and students talking about relevant issues. In the month prior to Holly’s arrival children learn songs. Then they rehearse with her for three days. On day four, a final concert occurs for family and friends. This is recorded, and the components are included in a radio show. The songs focus on the environment and the music program and can be led by a teacher in language arts, science or social studies. Resource materials such as CDs, educators’ handbooks and songbooks are donated to participating schools. Handbooks provide activities in science and social studies that are linked to song lyrics and fulfill learning outcomes.

If you would like to include your school as part of the Voices of Nature program, please contact producer Stephen Foster for details: (250) 544 4006, or www.voicesofnature.ca

Cost per school is negotiable and schools can recover program costs through sales of concert tickets and CDs.

Music...environment...education...action!