

NEW HAMPSHIRE

Section 1: School Demographics

School Name

Mascoma Valley Regional High School

Principal's name

James Collins

School Address

27 Royal Road

Canaan, New Hampshire 03741

United States

[Map It](#)

Number of students (total enrollment)

325

Lowest grade

9

Highest grade

12

This school is:

- A public school

Please explain:

Number of students by grade level

Number (or percent) of students eligible for free or reduced lunch

Free lunch	Reduced lunch	Neither free nor reduced lunch
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30%	10%	
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Section 2: Background about school lunch

How many students buy lunch in the school's cafeteria?

31 to 50 percent

How many minutes do students have to eat lunch?

25

Are students allowed to eat lunch in rooms/buildings other than the cafeteria?

Yes

Are students allowed to leave campus for lunch?

No

Which students are allowed to leave campus for lunch?

Are there any times during the school year when breakfast or lunch is free to all students?

No

Please explain:

Who controls the portions and servings students receive?

Cafeteria staff portion items into servings (i.e fruit into cups) but students select items and number of servings themselves)

Please explain:

Does the school serve set meals (e.g. chicken nuggets with potatoes and carrots) or can students choose what they want from the menu?

The students receive sides with the entree, whether they want them or not

Please explain:

Are fruits/vegetables required with every meal?

Yes, fruits/vegetables are included in the price

In your teams' opinion, are students content with the meal options at school?

Neutral

Please explain:

What type of utensils do students use to eat?

Disposable utensils, such as traditional plastic

Please explain:

What type of plates/trays are used to serve the food?

Reusable plates or trays, such as plastic

Please explain:

Section 3: Food waste activities at the school

Does the school use any of the following waste reduction activities?

- Menus revised to reduce commonly wasted food items
- Procedures put in place to reduce food over-purchasing
- Procedures put in place to reduce food loss to expiration
- Food is served in the most efficient way possible to reduce food waste
- “Offer versus serve” policy in place

Please explain:

Has the school performed a food waste audit previously?

No, a waste audit has not been considered

Please explain:

Which of the following generates the majority of food waste at your school?

Student food waste

Please explain:

On average, do you think food waste is an issue at your school?

Yes, very important

Section 4: School Waste Data Form

School name

Mascoma Valley Regional High School

Date of audit

03/17/2017

Students in attendance on day of audit

309

Numbers of lunches served on day of audit

135

Menu served on day of audit

corn dogs, hot dogs, sweet potato fries, sliced apples

Waste type: Unopened food

A: Type of food	B: Number of items	C: Weight of empty bin	D: Total weight	E: Net weight (Total - Empty)
fruit sides	2		.4 lbs.	.4lbs
milk carton	1		.6	.6lbs
water	1		1.1	1.1 lbs

Total net weight of unopened food

2.1

Notes regarding unopened food

very little unopened food

Waste type: Food waste

A: Bin/Bag Number	B: Weight of empty bin	C: Total weight	D: Net weight (Total - Empty)	E: Picture taken of the bin? (Y/N)	F: Percent full
1	7.7 lbs	21.2	13.5 lbs.	yes	33%

Total net weight of food waste

13.5

Waste type: Liquid waste

A: Bin/Bag Number	B: Weight of empty bin	C: Total weight	D: Net weight (Total - Empty)	E: Picture taken of the bin? (Y/N)	F: Percent full
1	8.8lbs	11.1 lbs.	2.3	yes	1%

Total net weight of liquid waste

2.3

Waste type: Recycling

A: Bin/Bag Number	B: Weight of empty bin	C: Total weight	D: Net weight (Total - Empty)	E: Picture taken of the bin? (Y/N)	F: Percent full
1	13.1 lbs	18.9 lbs	5.8 lbs	yes	100%

Total net weight of recycling

5.8

Waste type: Other (Landfill)

A: Bin/Bag Number	B: Weight of empty bin	C: Total weight	D: Net weight (Total - Empty)	E: Picture taken of the bin? (Y/N)	F: Percent full
1	7.7 lbs	15.2 lbs	7.5 lbs	yes	90%

Total net weight of other wastes (landfill)

7.5

Notes regarding food, recycling, and other (landfill) wastes

not as much collected as was expected

Describe the process you used to establish clear guidelines for students to follow to sort their food waste.

Being a large project in which multiple parties were interested, our food audit was organized in conjunction with the Environmental Science class, Hailey Bissonette (composting extended learning outcome), FBLA, who helped promote and conducted public relations, and our LifeSmarts Team. Each group had individual defined goals on what they wanted to achieve with the food audit. Below are the steps that were taken by each group to make sure that the student body at Mascoma High School had clear guidelines to follow on why and how to sort their food on March 17th.

1. The first step in conducting the food audit was to meet with Mrs. Oliver (environmental science class teacher) set date of food audit as March 17. Her classes were looking at doing a project about composting so a food audit fit in with what the class project of trying to start a composting system. March 17th was set as the food audit date and a good day to use Green as the Theme.
2. Meeting with Principal Collins two weeks before scheduled food audit to explain the purpose and to get permission to conduct the audit during lunch on March 17th.
3. Meeting with cafe services two weeks prior to audit to let them know about the food audit and to see if they had any reservations or concerns about a food audit.
4. Meeting with custodians two weeks before audit date to ask them if they had any suggestions and how to keep their work to a minimum.
5. Meeting with Haley Bissonette (student) to discuss her Extended Learning Opportunity (ELO) on composting two weeks before scheduled audit.
6. Collected supplies (trash bin, scales, wood for scale, trash bags, aprons, goggles, gloves)
7. Google forms survey sent to student body for recycling attitudes pre audit 10 days before audit date, sent by environmental science class
8. Set up snapchat and facebook accounts (started posting daily post and contest information on how and why to separate food and trash a week before the audit week started) by the (environmental science class).

Announcement in the Daily Bulletin:

“ This Friday we will be sorting the trash during all lunches to measure the amount of food waste generated at Mascoma. This event is sponsored by Life Smarts and Mrs. Oliver's science classes. Please add us on Facebook and Snapchat to join our campaign. Our Facebook name is Christopher Compost our snapchat username is scoma.compost.

Anyone who friends us or watches our daily story will be entered in a drawing to win a free shamrock shake this Friday!

Thanks!

-The Compost Crew “

9. Made posters for each food bin that had a color code for each type of bin. Also made posters to go in hallways and places around the school to inform students about recycling and the reasons behind the

food audit.

10. Posters placed in hallways and restrooms the week of the audit starting on Monday and ending on Friday morning. Posters gave reasons to separate trash and other posters had the new disposal method and explained the five bins. Posters were also placed inside of each restroom where they would be seen by a captive audience, including, (toilet talk with torey), a small poster describing the food audit, set in place by the environmental science class.

11. During the week before the audit, FBLA members created 350 green lollipop carnations out of crepe paper to give out to students for correct disposal of food waste (FBLA)

12. Daily announcements every day for a week before the audit date concerning composting and the food audit. Below is the memo to the office to submit the announcements in the Daily Bulletin on a daily basis:

“ Hello

This week lifesmarts has to conduct a food audit in the cafeteria on Friday. Please run these announcements this week. If we have a snow day please run the missing announcement with the next day's announcement.

Monday

Friday, March 17 there will be a food audit during all lunches. Please help the mascoma lifesmart team earn points toward their national championship score by participating in the food audit. We will be measuring the amount of food and trash that is thrown away.

Tuesday

The lifesmarts team and the environmental science classes are doing a food audit in the cafe on Friday March 17. Please help out and be prepared to separate your food waste, trash, liquids, unopened food, and recyclables. The lifesmarts team will earn points toward their national competition score with your help.

Wednesday

During the food audit on Friday there will be five collection stations in the cafe during all lunches: food waste, liquid waste, trash, recyclables, and unopened food. Help the lifesmarts team score points by participating in the food audit during lunch.

Thursday

The lifesmarts team and the environmental science classes are doing a food audit in the cafe on Friday March 17. Please help out and be prepared to separate your food waste, trash, liquids, unopened food, and recyclables. The lifesmarts team will earn points toward their national competition score with your help.

Friday

Today during all lunches there will be a food audit. There will be five collection stations: food waste, liquid waste, unopened food, recyclables, and trash. Please help lifesmart's measure the different amounts that are thrown away each day from our school. “

13. On March 17th, Friday, the color coded food audit information posters, color coded collection bins, and signs were set up before lunches. Color coordinated Posters standing in front of color coded bins, five bins arranged and wrapped in different colored crepe paper for ease of finding correct disposal bin. Color coded bins coordinated with the color of each sign. Each one standing for a different bin: White-Untouched food, Red-food waste, Green-liquids, Blue-recycle, Pink-trash/land-fill. Also, one person was assigned to each bin to help organize the disposal correctly. After the disposal bins, one student handed out green carnations to everyone that correctly separated their waste. All food audit participants dressed in green for the holiday and the audit. (Happy St. Patrick's Day)

14. Weighed each bin at the end of the third and final lunch period using a scale and wood platform for balance. The custodians then emptied the bins and we then weighed the empty bins. After deducting the weight of the bin and wood to get accurate waste weight.

15. Met with cafe services to see if they had any input on how the audit went (or complaints), they gave free nachos to the students that helped out. The manager of the cafeteria answered the questions concerning the amount of lunches served, menu items, and other questions the survey asked about food services

16. After weighing the bins the custodians said that the cafe was messier than usual after the audit. More of a mess because they thought some kids didn't want to go up and have to sort each item into different bins.

17. The Monday after the food audit was completed a Google forms survey on student and faculty participation in the food audit was sent to all students/faculty and collected by environmental classes to be used in a proposal to the school board about composting and how well students perceived separating their trash into five different bins. (environmental science class)

18. Hailey Bissonette (Extended Learning Opportunity) used the research to propose continued collection of food waste and composting it or having a local hog farmer pick up discarded food waste for pig feed.

Upload photos

- [IMG_2012.JPG](#)
- [we-recycle.JPG](#)
- [sorting-food.jpg](#)
- [liquid-bin.JPG](#)
- [unopened-food-collection-table.jpg](#)
- [recycle-bin.JPG](#)
- [food-waste-bin.JPG](#)

- [land-fill-bin.JPG](#)
- [IMG_2010.JPG](#)
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Would your team be interested in being part of the food waste panel at Nationals?

Yes

Section 5: Critical Thinking

Based on your observations during the food waste audit, make three recommendations to your School Board to reduce food waste.

Based on the results of the food and waste collections of the food audit we have come up with some suggestions to present to our school board. At first, the amount of food and waste from lunch was less than what we thought it would be. We collected 13.5 pounds of food waste for 309 students in attendance on that day and only 2.3 pounds of liquid waste. The amount of waste going to the landfill was only 7.5 lbs. And the largest volume of waste collected was for recycling. But, when we calculated the amount of the school's yearly waste based on this one day of measurement our recommendations changed.

We calculated that in one year the high school would throw away over a ton of food and our combined waste would displace the size of a one car garage in the landfill. After 10 years this would be enough trash to fill a hole the size of two and a half large homes and weigh over 10 tons. The amount of liquid thrown away was approximately a quart, but over the course of a year this would be 45 gallons of liquid that needs to be treated before it goes back into the water system. And over 10 years this would be the equivalent of filling a six person hot tub with liquid waste.

We also observed that the majority of food waste was from the prepared lunch versus the ala carte selections. Students seemed to throw out more food that was served to them from the prepared lunch menu than the students that bought only a sandwich, fries, pizza, or other single items.

Our observations during the food waste audit led us to believe that the following recommendations should be made to the school board with the goal of reducing our school's total waste:

- Conduct a food audit once a quarter and post the results in the school and in the community to raise awareness in the school's population about the amount of waste (Also, more posters, announcements, rewards for reduction, community service hours, to promote less waste of food)
- The school should promote the use of packaging and containers that are biodegradable/photodegradable (use trash bags that will decompose at the landfill and instead of plastic eating utensils use biodegradable ones)
- More effective methods of using food waste (compost as much of the wasted food and sell the compost each year, and or have a local farmer pick up the food waste and use it as feed for their hogs)
- The Cafeteria should use a three bin recycling system for collection of 1) food waste and liquids, 2) recycling materials, 3) trash for landfill. There was very little food not opened or eaten, only four items.

Justify a school's role in teaching children about food waste and the impact food waste has on school budgets, the environment, and hunger in the community.

Schools use tax dollars to educate and feed students every day and the cost is very high. If more people would cut waste, there would be more money for education programs. Waste of materials, food, time, and energy used to transport food waste all cost money that could be saved if there was less waste. If a school could get enough people to equate that throwing away food and trash is actually throwing away money maybe people would start to think twice about their personal consumption and waste.

Additionally, if students could see what they throw away in the course of a year the sheer volume of trash may be enough to sway them to think twice about waste and the amount of money it takes to generate that much waste. The amount of food waste during one day was not very much for 300 people but when you look at the big picture and calculate that over the course of a year there would be an actual ton of waste generated. That is a lot of food and money going into the trash.

Currently, our school has 40% of students that receive free or reduced priced lunches. Saving money on the amount being thrown away could help those people by lowering their tax rates or putting more tax money into education programs instead of being thrown into the landfill. Also, teaching about how to reuse things and recycling can help individual families stretch their own dollars to buy more. Our community also has food banks that are always trying to get more food to feed people in need, so wasting food is does not help their cause. Education on saving resources and how much waste is actually generated can help families improve their own lifestyle.

The US Environmental Protection Agency has set a goal to reduce food waste by 50% by the year 2030. Based upon your experience conducting this food waste audit, will the US meet this goal? Explain why or why not.

Detail two or three findings or observations that surprised you. Describe how conducting this food waste audit has impacted you and your team, and the way you think about food in America.

One thing that surprised our team is the low amount of waste that was thrown away in the food audit on a daily basis, but when you calculate the food waste over a year span, the amount of food waste adds up. We estimated 3,780 pounds per year for total waste for our school, but when you add in the other schools in our district, it turns out to be quite a lot of food that we are wasting in our community every year. The same observation accounts for liquid waste, as mentioned above we estimated a net of 2.3 pounds of liquid waste per day, but if you factor the waste over a year, it seems to be an alarming waste of 414 pounds just for our school .

Another observation was that some students seemed nervous in participating in the food audit, as some students seemed nervous about using a new method of throwing out trash. Even with all of the posters and daily announcements that led up to the food audit it seems that the change in a daily routine was difficult to overcome for some people. We thought that the prize of the lollipop carnation would help ease the change and help with cooperation but there were still a couple of people that had friends take their trash and a couple even left their trays on the table. Overall it was not very many students but it seemed as if some were not willing to try something different the very first time. But, we also believe that the change of using more bins and sorting food would become second nature for people after a week or so of help.

It is very clear as a school and individuals that we are unaware about the amount of waste we are producing, so the first step is to increase the awareness in the school on how much food we are wasting. Our team has brainstormed some ideas to improve the situation. We have thought about asking our cafeteria services to provide a survey to teens asking information about their food preferences. The idea being we could try to eliminate the amount of unwanted food that ends up on student's plates everyday if the cafeteria would serve popular items. Also, allowing students to select their own portion size when getting hot lunch would save on waste but could also cause some to take too much.

Our team has also realized that there are major problems with food in America. Americans have too much convenience. Based on the amount of trash going to the landfill we saw that students throw away a lot of individual prepackaged food cartons. These were not recyclable and created a lot of trash that hurts the environment as well as making Americans appreciate the food they have less. Once we started thinking about the cost to individually package, transport, and then throw away into a landfill it seemed as there was a lot of costs not included in the convenience of the package. The use of fuels to package, distribution, and transportation to get rid of the packaging is also harmful to our environment. Therefore, we should think back to times like the Great Depression when we did not have enough food for everyone and where we did not waste food or resources. We need to try to be more conscious about our waste as individuals so that our personal decisions will help and not harm society.

What is one obstacle your team faced during the audit and how did you work to resolve it? If the issue went unresolved, what steps would you take to reevaluate your approach?

Bonus Question

Should all schools be required to do food waste audits on a regular basis? Why or why not? Support your answer.

Yes, we agree that all schools should be required to do a food audit at least once a year if not on a quarterly basis. The main reason is to show students and faculty how much waste we generate in a day and then in a year. We do not believe that many people think about where their trash ends up or how trash affects the town or society. Trash costs money and why throw away money. If students see how much they affect the town with the amount of trash they may think twice. Also, if people stop buying convenience packages the businesses would stop packing food in such small individual containers.

A food audit allows people to see the amount of waste they generate individually each day and then allows them to see how much trash is generated each year by the entire school. Once people can see or learn about the volume of things that are thrown away on a yearly basis they will start to think more about the cost and effects of waste. If a school can reduce their impact on the landfill by reducing food waste and trash then the savings can be demonstrated to the townspeople a savings in tax dollars that would not be needed to be spent.

Doing multiple food audits every year also would allow a school to track its progress. Perhaps improvements could be rewarded to encourage students to continue being eco-friendly and reduce waste. During our audit we handed out lollipops and pencils which seemed to help encourage students to take part in the audit.

The statistics from food waste audits over larger periods of time also allow students to see the bigger picture of what waste actually means. Students should learn the impact that waste has on our environment. Not only does waste usually end up in a landfill, but it must be processed which not only wastes money but also hurts the environment.

- Do food audits at least once a quarter = Better Idea Of What You Are Throwing Away
- People remember what they see more than what they hear
- People Need to See How Much They Throw Away (Get People To Think)
- Help Record Food Waste and Equate Food Waste to Money Waste
- Save Environment through less waste, less packaging, less transportation costs
- Individual's personal decisions and actions affect everyone