



2021 Campus Race to Zero Waste Case Study Competition

U.S. Military Academy at West Point

1. Contact info (name, department, school, email, phone)

COL Mindy Kimball
Department of Geography and Environmental Engineering
United States Military Academy at West Point
mindy.kimball@westpoint.edu
+1 845.938.5421

2. Focus of Case study

Implementation of campus-wide recycling infrastructure and review of sustainability education campaign throughout participation in the “Per Capita Classic” recycling competition

3. Detailed description of campaign or effort:

Throughout our involvement in the Campus Race to Zero Waste (CR2ZW) competition the U.S. Military Academy at West Point leveraged contracts between the Directorate of Public Works and the private waste management contractor, Marangi, to process and track recyclables collected. Marangi provided our Cadet Environmental Staff (consisting of 2 Brigade and 4 Regimental staff members) with weekly tonnage data on waste and single-stream recycling production across the entire military installation of West Point. Each week the Cadet Environmental Staff reported numbers via the Re-Trac system for the “Per Capita Classic” category of CR2ZW. Each data point submitted within Re-Trac was actual measured recyclable material weights rather than recycling estimates. The concentration of plastic products within the recycling (e.g., bottles and recyclable packing) was the only assumed value within the weekly reports. Concentrations varied between 20-40% throughout the competition and were based on observations by the reporting Environmental staffer each week.

Participation in the competition was in tandem with a year-long initiative by Brigade Environmental staff to obtain in-room recycling bins for each cadet barracks room. After some initial logistical challenges, the in-room bins were delivered and distributed to each room in Week 5 of the competition. Before and after arrival of the bins, Environmental staff published numerous informational recycling videos, PowerPoint slides, and posters as a part of their larger recycling awareness campaign. To get out ahead of concerns and resolve potential friction points with the newly implemented recycling system on post, Brigade Environmental Staff provided avenues for expression of public concern and program clarification. Such efforts included the dissemination informational sheets that answered frequently asked recycling questions, as well as the creation of an active a Microsoft Form for the submission of information on when

communal recycling containers are full. Overall, we believe the campaign has succeeded in both increasing recycling literacy among the Corps of Cadets as well as establishing an accessible means of recycling within cadet area.

4. Planning steps & timeline to implement:

Background/staging work:

- Recycling bins had been issued to the Corps in 2012, however, by 2020, most had been broken or lost. As a result, in-room recycling was not standardized or accessible amongst the Corps of Cadets.
- Recognizing this issue, in January 2020, Brigade and Regimental Environmental Staff initiated requests for in-room recycling bins for each Cadet barracks room. Though requested at the beginning of 2020, bureaucratic lag, the COVID-19 pandemic, and funding concerns resulted in significant delay of the plan's realization until the following year.

Work during CR2ZW Period:

- From the plan's inception in January 2020 until March 2021, both Cadet and Officer Environmental Staff worked together to make the request a reality. With the support of Officer leadership such as Colonel Kimball and Lieutenant Colonel Pfluger, Cadet Environmental Representatives within Brigade and Regimental positions educated Corps-wide leadership on the importance of establishing recycling infrastructure within the barracks and coordinated with Garrison supply services to deliver and distribute the bins. This process included the presentation of request and funding plans to the office of the Commandant of Cadets, communication with the Logistics Center on post for ordering and delivery of the bins, and the management of over 40 Environmental Staff members to ensure quick and effective bin distribution upon delivery. In the end, despite uncertainty and changes to the date of delivery, Environmental Staff members were able to acquire and distribute 28-quart recycling bins to every barracks room in the Corps of Cadets during Week 5 of the competition.
- Environmental staff reported accurate weekly recycling tonnage reports via the Re-Trac system in order to compete in the "Per Capita Classic" collegiate recycling competition for all 8-weeks. All reported numbers were derived from legitimate weights of recycling produced weekly on post and were provided by representatives of USMA's waste management contractor, Marangi Waste Management. The reported percent of plastic within the recycling produced each week ranged from 20-40% and was determined from weekly observation by the reporting environmental staff member. Each week the Brigade Environmental staff provided weekly recycling numbers and updated competition rankings to the Corps of Cadets via Company Environmental Representatives and informational slides shown in the dining hall.
- Throughout this same period, Environmental staff began a comprehensive awareness campaign to promote sustainability within Cadet life.
 - Environmental representatives created and posted flyers around Post detailing what NY State accepts/rejects as recyclables, how to best use existing communal e-waste (electronic) and single stream recycling bins, dining hall food waste production awareness, the best showering/washing/flushing techniques for water preservation, and a general appreciation for the natural world.
 - The Instagram accounts of the cadet-run sustainability clubs (e.g., [@gold2green.club](#)) and academic departments (e.g., [@usma_gene](#)) were utilized to share relevant environmental information such as sustainably tips and information on clothing drives, plant sales, river clean-up events, and environmental club meetings.

- With the help of the Cadet Media Group, Environmental staff created informational videos featuring the Brigade Environmental Officer that were displayed at school-wide events and formal dinners. Of professional quality, the videos focused on explaining how recycling works at West Point, where waste on post goes after it is put in communal bins, and dispelling myths about recycling in general.
- In anticipation of receiving in-room recycling bins, Environmental staff collected common questions from the Corps of Cadets and disseminated a frequently-asked-questions (FAQ) sheet that provided clarifying information on the environmental program, common misconceptions, and resources for further education.
- In late February 2021, “E-Concerns” QR codes were posted around Cadet area to provide a convenient avenue for complaints, questions, or alerts about the current status of our sustainability program. These were commonly used to report when 96-gallon communal recycling bins were overflowing.
- In response to the introduction of Styrofoam containers in the cadet dining hall (introduced due to a lack of workers available to clean real plates), Environmental staff shared educational flyers advocating against its use and provided dining hall administrators with recyclable container alternatives which were later adopted.
- On March 4th, during Week 5 of the “Per Capita Classic” competition, the previously requested in-room recycling bins were at last delivered and within two days, every single room had a 28-quart blue bin in their room to collect their recyclable items.
- Environmental staff continued (and continues) to identify and remediate friction points with the updated recycling program, such as working with maintenance administrators to identify areas in need of more communal recycling bins and working with cadets to streamline recycling collection.

5. Resources and stakeholders involved

As stated above, after initial approval, Brigade Environmental staff worked heavily with the network of Cadet and Officer Supply Staff on Post to purchase and coordinate delivery of the in-room recycling bins. The bins came out to a price of \$15,000 and were paid for by a donor fund for Cadet living standards. Marangi contractors were responsible for providing E-Waste receptacles and 96-gallon, roll-away, communal recycling bins which were located around Cadet area in order to hold recycling collected within barracks and academic buildings. The Department of Geography and Environmental Engineering contributed mentorship and provided seniority for interactions with Corps-wide officer leadership, when needed. Additionally, a Cadet-run sustainability club provided frequent voluntary assistance and helped considerably in the production of the awareness campaign deliverables, particularly with filming and editing shorter PSA-style clips.

6. Describe the Results of this campaign component

a. General results (ex: attracted attention of campus president, campus paper did a news story on the event, etc.)

The overarching recycling campaign carried out by Environmental Staff and motivated by participation in the “Per Capita Classic” was successful in establishing accessible recycling infrastructure within Cadet Area and promoting widespread awareness of best recycling practices. The numerous informational resources created as a result of the campaign increased the collective knowledge of the recycling stream, the extent of waste production on post, and the intricacies of what can and cannot be recycled within the single-stream bins.

- b. Specific measurable impact figures, if applicable (*Ex: Reduced contamination rate 13%, Gathered 316 pledges to recycle more, etc., 250 people engaged, etc.*)

Environmental Staff distributed 1,750, 28-quart recycling bins across post to ensure that every cadet barracks room had an in-room bin for recycling collection. Throughout the 8-week competition the post as a whole recycled a total of 86,660 lbs. of recycling with a cumulative per capita total of 15.52 lbs. per person. Per capita recycling peaked in Week 5 of the competition (the week of the bins' distribution) with each resident recycling an average of 3.55 lbs. of recycling. Per capita recycling was smallest in Week 2 of the competition with an average of only 0.67 lbs. of recycling per resident.

7. What would you do differently in the future?

In the future the Environmental staff hopes to do more to promote reuse and reduction as primary eco-friendly practices with recycling still encouraged as a contingent necessity when the production of waste is inevitable. This future campaign change is anticipated to lower the ecological impact of West Point as a whole and likewise bolster the environmental literacy of all residents on post (who in-turn would be more inclined to recycle when need be). Additionally, for future participation in the "Per Capita Classic" we hope to improve our ability to disseminate accurate and live rankings to the Corps of Cadets in order to better foster a shared sense of competition and encourage more widespread involvement.

8. What advice would you give to another college that wanted to do a similar effort?

I would advise them to take inventory of all resources available to them at an educational, administrative, or even personal level. More specifically, this could mean reaching out to established clubs on campus for help, seeking mentorship and assistance from interested professors or staff, or utilizing friend groups for manpower, creative solutions, or outreach. Like other aspects of public outreach, convenience is key for widespread environmental involvement. Consequently, I would advise that real change will require the environmental advocate to put in the work to make the sustainable choice as convenient and clear as possible to everyone they hope to reach. This in turn means that if a cultural change is desired, coordinators must explain the bigger picture and the "why" behind each action.

9. Photos and Graphics

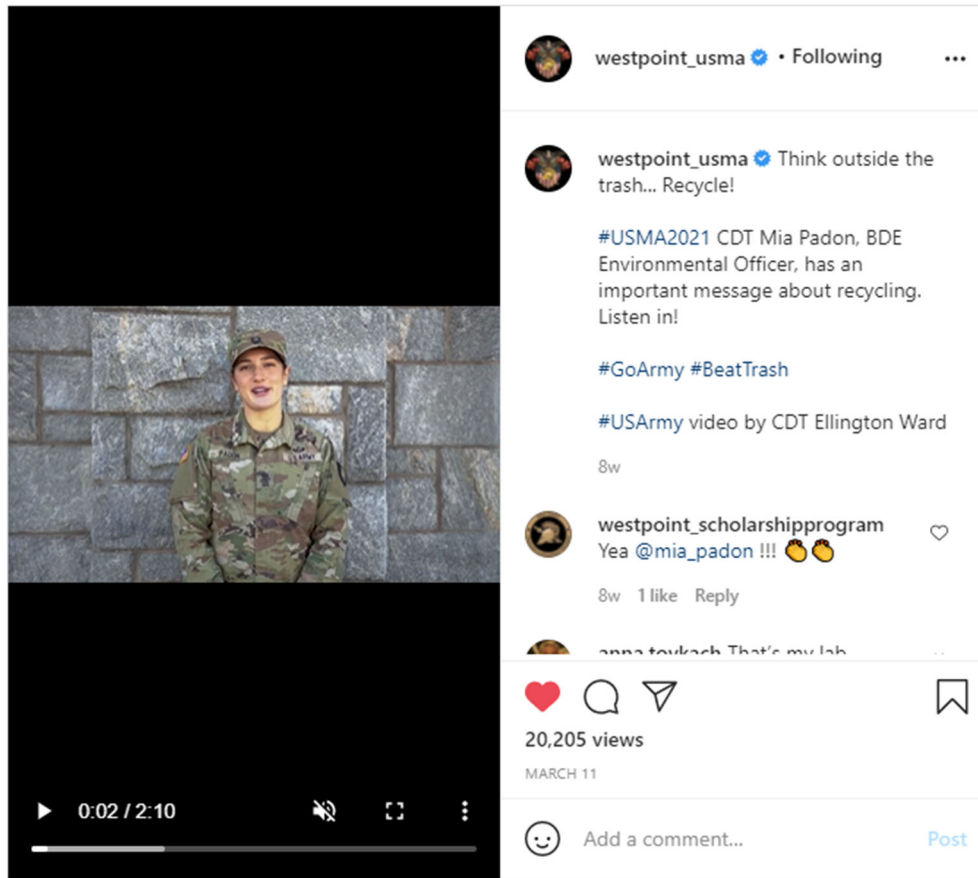


Figure 1. Informational Video About Recycling at USMA (cred. @westpoint_usma on Instagram)

CAMPUS RACE TO ZERO WASTE WEEK 5 RESULTS*

Recycling: **9.90 tons** (19,800 lbs)

Waste: **83.78 tons** (167,560 lbs)

Per Capita Recycling:** **3.55 lbs/person**

Ranking: **27 / 94 schools**

This is the highest we have ever been!

*Results are based on weekly poundage reports for the entire Post of West Point. Numbers were received directly from Marangi Waste Management and reported on the CRZW Website.
**Per capita recycling was calculated based on a total of 5,582 individuals on post who contribute to the waste stream. This includes cadets, staff, and faculty.

SCHOOL	RANK	LBS. PER CAPITA
Frostburg State University	16	10.924
Wofford College	17	10.787
Cornell University	18	10.654
Hartwick College	19	10.462
Skidmore College	20	10.326
Babson College	21	10.312
University of Mount Union	22	10.178
Georgia Institute of Technology	23	9.599
Syracuse University	24	9.170
Kent State University at Kent	25	9.048
SUNY at Purchase College	26	8.386
US Military Academy	27	8.115
Kansas State University	28	7.569

Schools **WE PASSED** this week:

- Kansas State University
- University of Rochester
- Xavier University of LA

Reduce your overall waste, and
when you can't:
Do your part and recycle what
you can!

POC: CDT Ian Morris (ian.morris@westpoint.edu)

Figure 2. Example of Weekly Competition Report Disseminated to the Corps of Cadets (cred. AY-2021 Environmental Staff)



Figure 3. Post from Department of Geography and Environmental Engineering Celebrating USMA's Success in the "Per Capita Classic" Competition (cred. [@usma_gene](#) on Instagram)

HAVE AN
E-CONCERN?

Scan this QR Code to report any comments or concerns about recycling, sustainability, or E20 Staff directly to Reg and BDE environmental representatives.




Figure 4. "E-Concern" Advertisement and QR Code (cred. AY-2021 Environmental Staff)

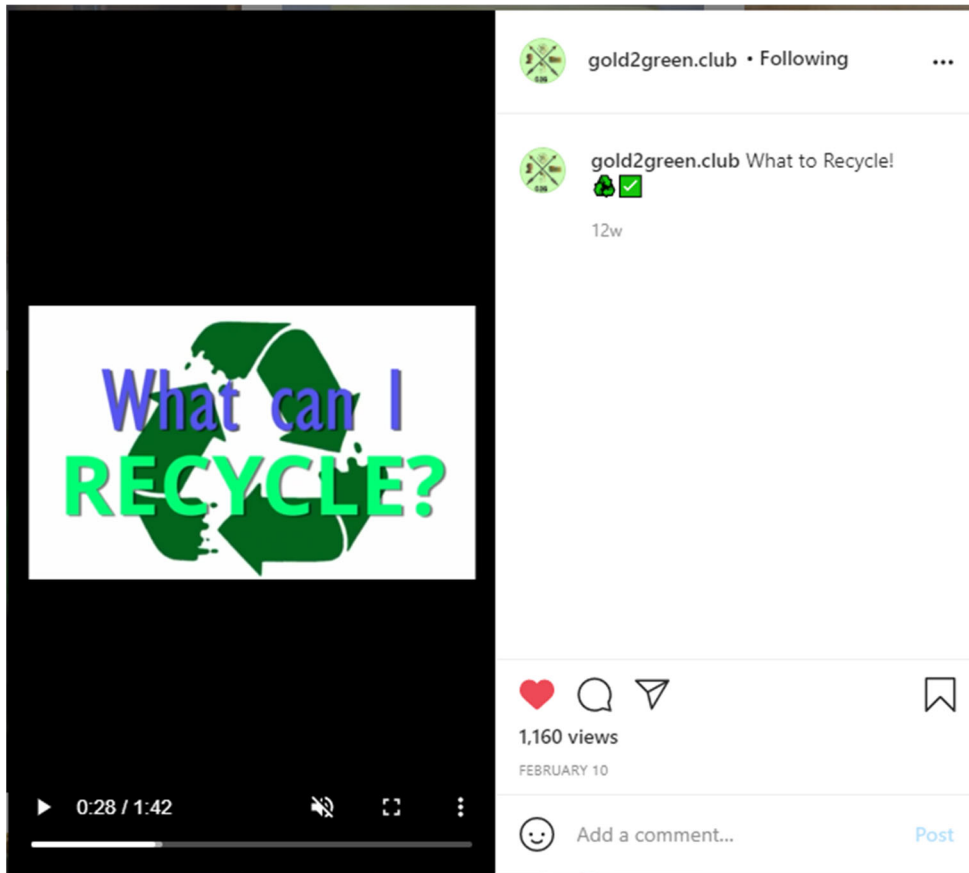


Figure 5. Informational Recycling Video Posted by Sustainability Club "Gold to Green" (cred. @gold2green.club on Instagram)

As a post we produce around **66 tons** of trash and recycling every week, that's the equivalent of....

			
133 Polar Bears	153,524 Cans of Soda	10.8 African Elephants	37 Midsized Cars
			
	776 Kegs of Beer		1200 Jennifer <u>Anistons</u>

Though we aren't the only ones on post, our habits **DO** make an impact.
Reduce where you can and think before you use!

Figure 6. Weekly Trash Production PSA Showcased in the Dining Hall to Bring Awareness to Waste Production on Post (cred. AY-2021 Environmental Staff)



Figure 7. Paper Use PSA Skit Created and Published by Sustainability Club "Gold to Green" (Cred. [@gold2green.club](https://www.instagram.com/gold2green.club) on Instagram)